Anglo-Chinese School (Junior)
Anglo-Chinese School (Primary)

2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1 (BOOKLET A)
PRIMARY SIX

Name: _____ **( )** **Class: Primary 6** ___

Date: 24 August 2018 **Duration of Booklets A & B: 1 hour**

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 9 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. Calculators are not allowed in this paper.

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet (OAS). (20 marks)

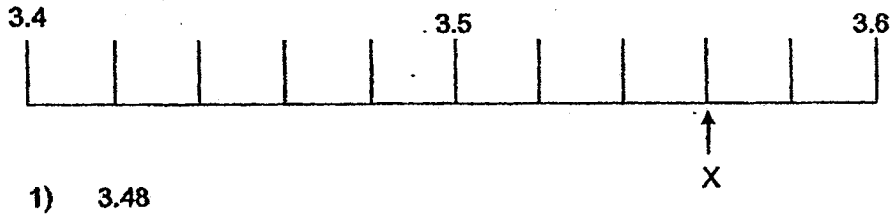
1. Find the value of $14 \times 5 - 4 \times 4 + 20 - 16$.

   1) 18
   2) 50
   3) 58
   4) 60

2. Express 2080 cm in m.

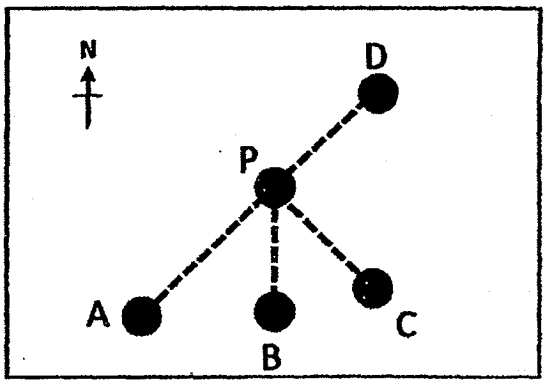
   1) 2.8 m
   2) 2.08 m
   3) 20.8 m
   4) 20.08 m

3. Part of a scale is shown below. What is the value of the reading at X?



   1) 3.48
   2) 3.53
   3) 3.56
   4) 3.62

4. The figure below shows the map of 5 places, labelled A, B, C, D and P. Which place is south-west of P?

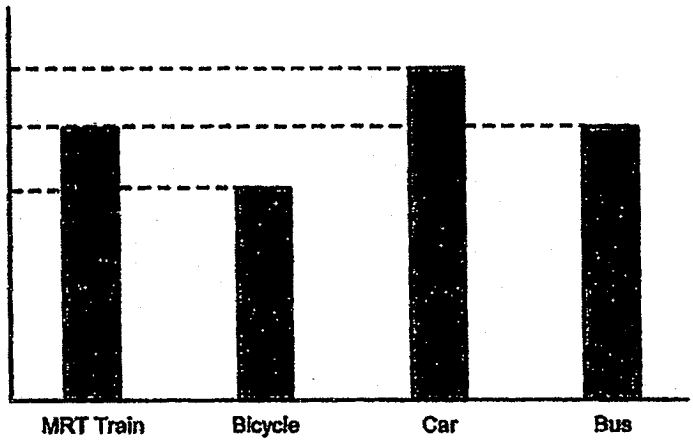


1) A
2) B
3) C
4) D

5. 4 bags of sugar cost $13.60. How much does 1 bag of sugar cost?

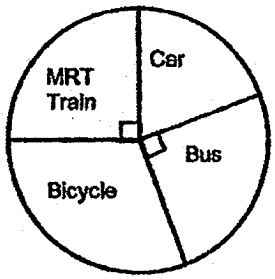
1) $3.20
2) $3.40
3) $6.40
4) $6.80

6. The bar graph shows the number of students who took different types of transport to school.

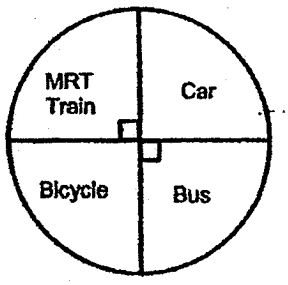


Which pie chart best represents the information in the bar graph?

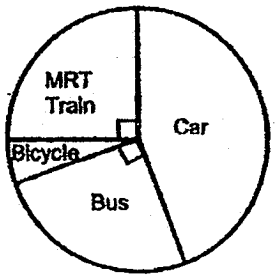
(1)



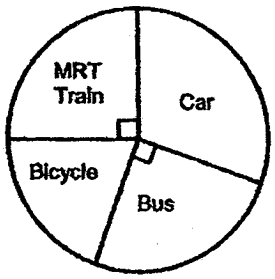
(2)



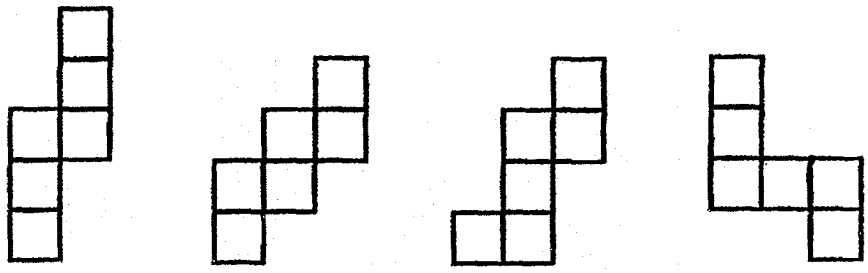
(3)



(4)



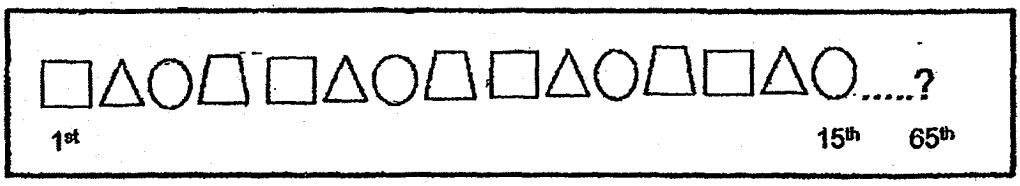
7. Which of the following 4 figures below is **NOT** the net of a cube?



(1) (2) (3) (4)

8 Tina used stickers of four different shapes to make a pattern. The first 15 stickers are shown below.

What is the shape in the 65th position?



1) 

2) 

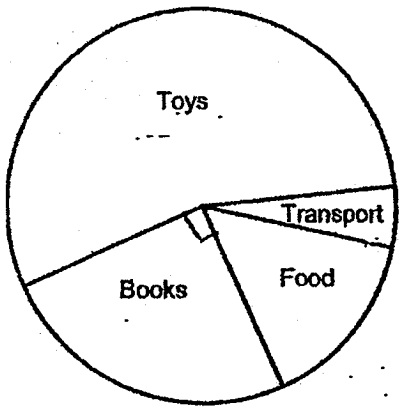
3) 

4) 

9. The length of each side of a square is an even number. Which one of the following can be the perimeter of the square?

1) 15 cm
2) 24 cm
3) 36 cm
4) 44 cm

10. The pie chart shows how Mathew spent his pocket money last week. $\frac{1}{4}$ of his money was spent on books and $\frac{1}{5}$ of his money was spent on food and transport. He spent 3 times as much on food as transport. What was the ratio of the amount of money Matthew spent on food to the amount he spent on toys?



1) 1 : 5
2) 3 : 4
3) 3 : 11
4) 5 : 11

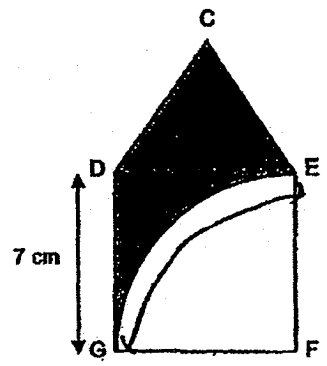
11. $\frac{1}{4}$ of a pole is painted white and $\frac{1}{2}$ of the remainder is painted red.

What fraction of the pole is not painted?

1) $\frac{1}{4}$
2) $\frac{3}{8}$
3) $\frac{1}{2}$
4) $\frac{5}{8}$

12. The figure below is made up of an equilateral triangle CDE and a square DEFG of length 7 cm with a quadrant in it. Find the perimeter of the shaded region. Take $\pi = \frac{22}{7}$.

1) 11 cm
2) 32 cm
3) 39 cm
4) 65 cm



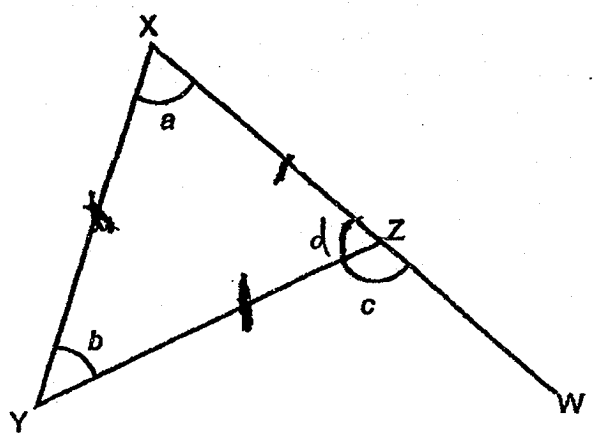
13. At 09 00, a lorry left Town X for Town Y travelling at a speed of 70 km/h. At the same time, a car left Town Y for Town X travelling at a speed of 90 km/h. The distance between Town X and Town Y is 480 km. At what time did the lorry and car pass each other?

1) 12 00
2) 13 00
3) 14 00
4) 15 00

14. A ribbon was first cut into 2 pieces in the ratio 1 : 3. The longer piece was then cut into two pieces in the ratio 3 : 2. The shortest piece was 20 cm shorter than the longest piece. What was the length of the ribbon before it was cut?

1) 40 cm
2) 80 cm
3) 90 cm
4) 100 cm

15. In the figure below, not drawn to scale, XYZ is an isosceles triangle where XZ = ZY. XZW is a straight line. Three angles are labelled as *a*, *b* and *c*.



Which of the following statements is true?

(1) $\angle a + \angle b = 180° - \angle c$

(2) $\angle b = \angle c$

(3) $\angle b = 180° - \angle a$

(4) $\angle c = 2\angle a$

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(5 marks)

16. $\frac{5}{8}$ of the children in a field are girls. There are 45 boys. How many girls are there?

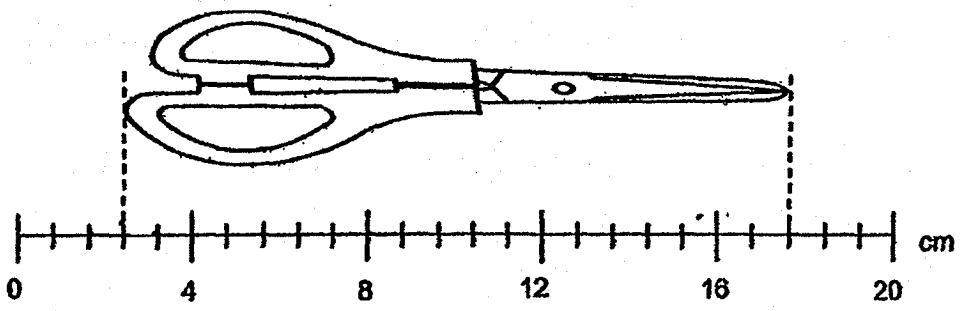
Ans : _____

17. The total volume of 8 identical cans of soda is 2.56 ℓ. What is the total volume of 2 cans of soda in millilitres?

Ans : _____ ml

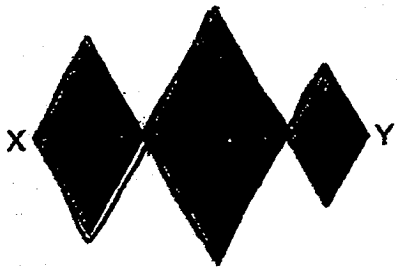
Sub-Total :

18. A pair of scissors is placed next to the scale. What is the length of the pair of scissors?



Ans : _____ cm

19. The shaded figure is made up of 6 equilateral triangles. The length of straight line XY is 21 cm. Find the perimeter of the shaded figure.



Ans : _____ cm

Sub-Total :

20. Jane and Susan had some beads. After Jane gave 23 beads to Susan, she had 30 more than Susan. How many more beads did Jane have than Susan at first?

Ans : _____

Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(20 marks)**

21. A is $2\frac{1}{3}$ times as large as B. Express B as a fraction of A.

Ans :_____

22 Participants of a competition must obtain at least a certain score to qualify for a prize. There were 120 participants. The table shows the number of participants for each score.

Score	Number of Participants
0	11
1	28
2	33
3	12
4	21
5 or more	15

40% of the participants won a prize. From the table, what was the lowest score for a participant to qualify for a prize?

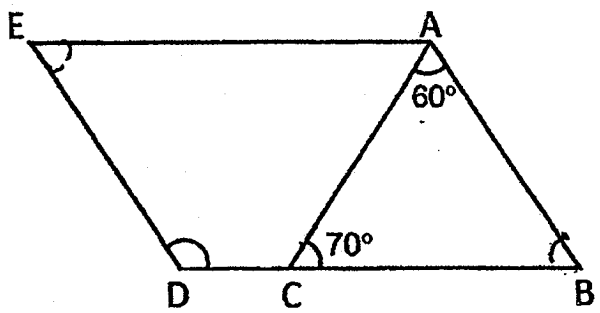
Ans : _____

Sub-Total :

23. The number of pears Mr Tay has is less than 50. If he sells his pears in packets of 4 or 7, he will have 3 pears left. How many pears does he have?

Ans : _____

24. In the figure below, not drawn to scale, ABDE is a parallelogram. $\angle ACB = 70°$ and $\angle BAC = 60°$. Find $\angle EDC$.



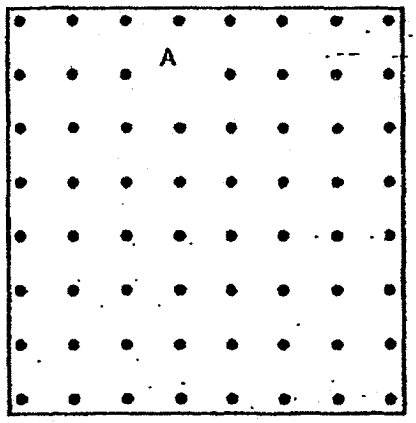
Ans : _____ °

Sub-Total :

25. Catherine and Daphne shared some money. Catherine had \$4d and Daphne had \$(2d + 80). Both of them had \$560 altogether. Find the value of d.

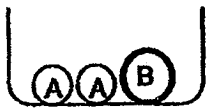
Ans : \$ _____

26. The grid below shows a straight line. Draw another straight line that is parallel to it and passes through the white dot marked as A. This line must start on a black dot and end on another black dot.



Sub-Total :

27. 3 objects A, B and C of different masses were placed in identical containers and weighed. Their mass was recorded. What was the mass of A? Give your answer in grams.



580 g

0.76 kg

1 kg 50g

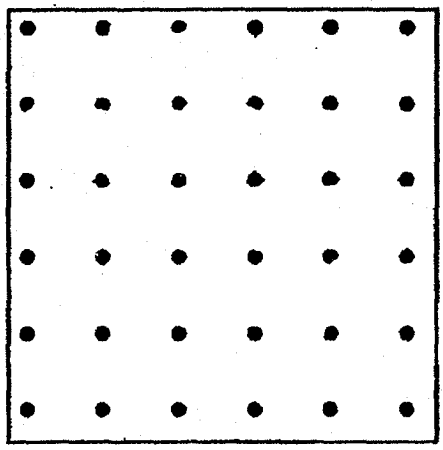
Ans : _____ g

28. The average mass of a group of 6 adults is 65 kg and the average mass of another group of 4 adults is 80 kg. What is the average mass of all the adults in the 2 groups?

Ans : _____kg

Sub-Total :

29. The figure below shows an incomplete net of a cuboid. Within the grid, draw a rectangle to complete the net.



30. During a sale, the price of a bag was $32 after a 20% discount. Henry was given a further discount of $4. What was the total percentage discount given?

Ans : _____ %

Sub-Total :

Anglo-Chinese School (Junior)
Anglo-Chinese School (Primary)

2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 2
PRIMARY SIX

Name: _____ ( ) **Class: Primary 6** ___

Date: 24 August 2018 **Duration of Paper 2: 1 hour 30 minutes**

_____
Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 16 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. You are allowed to use a calculator.

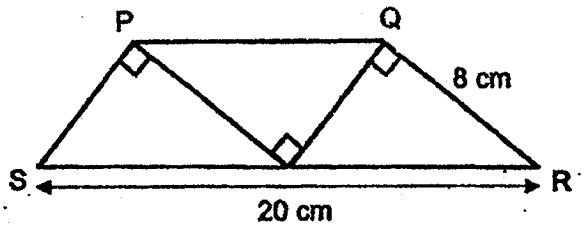
Paper 2 **Section A. Short Answers**	**10**	
Paper 2 **Section B. Problem Sums**	**45**	
Total Marks	**55**	

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

1. At a funfair, candies are only sold in packets of 9. Each packet is sold at $5. One candy is given free for every two packets bought. What is the maximum number of candies Peter will receive when he spent $25?

Ans : _____

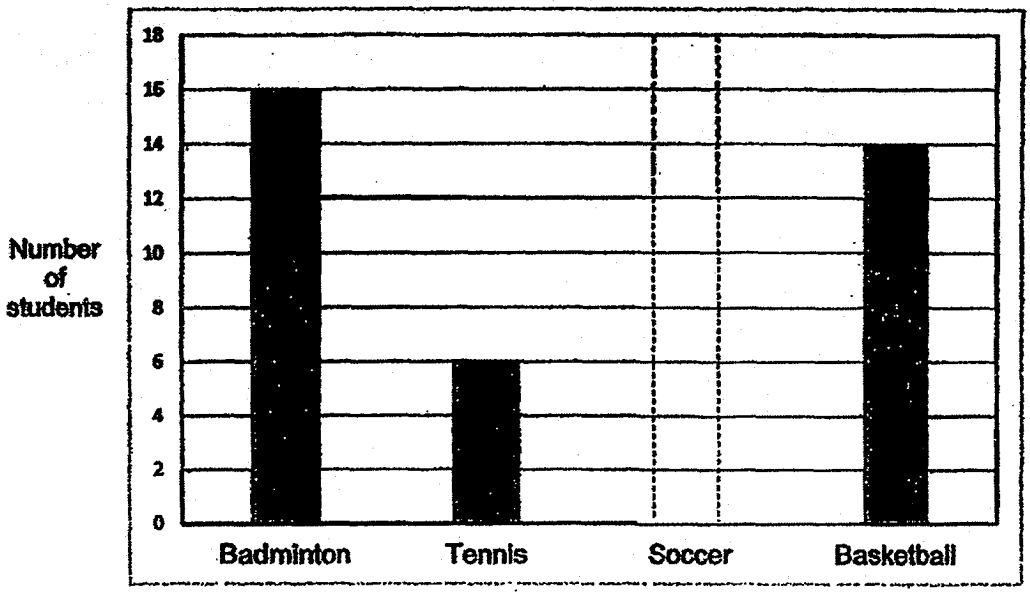
2. Mysha cut out three identical right-angled triangles. She joined them to form a figure PQRS as shown below. SR = 20 cm and QR = 8 cm. The perimeter of the figure PQRS is 44 cm. Find the area of the figure PQRS.



Ans : _____ cm^2

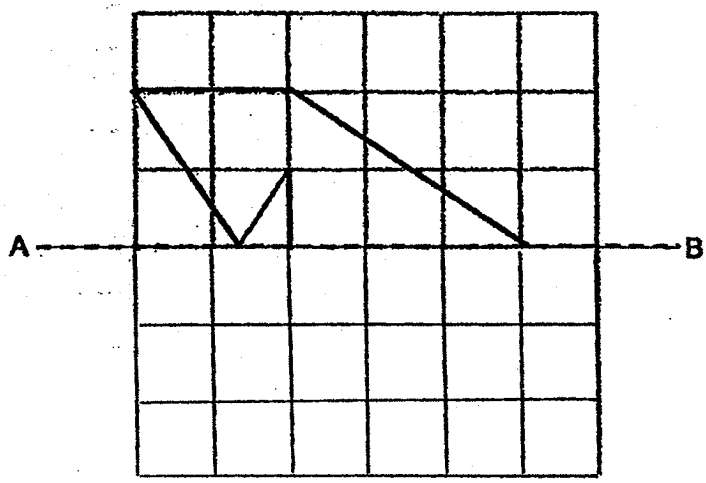
Sub-Total :

3. The bar graph shows the number of students playing in the various sports during the school's games day. $\frac{1}{4}$ of the students play soccer. Draw the bar that shows the number of students who play soccer.



Sub-Total :

4. In the figure below, draw 3 more straight lines to form a symmetric figure with AB as the line of symmetry.



Sub-Total :

5. Mrs Lee drew 3 squares to form a figure. The areas of the squares were in the ratio 1 : 4 : 13. She then shaded some parts of the figure as shown below. What is the ratio of the shaded parts to the unshaded part of the figure?

Ans : _____

Sub-Total :

For questions 6 to 17, show your working clearly question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

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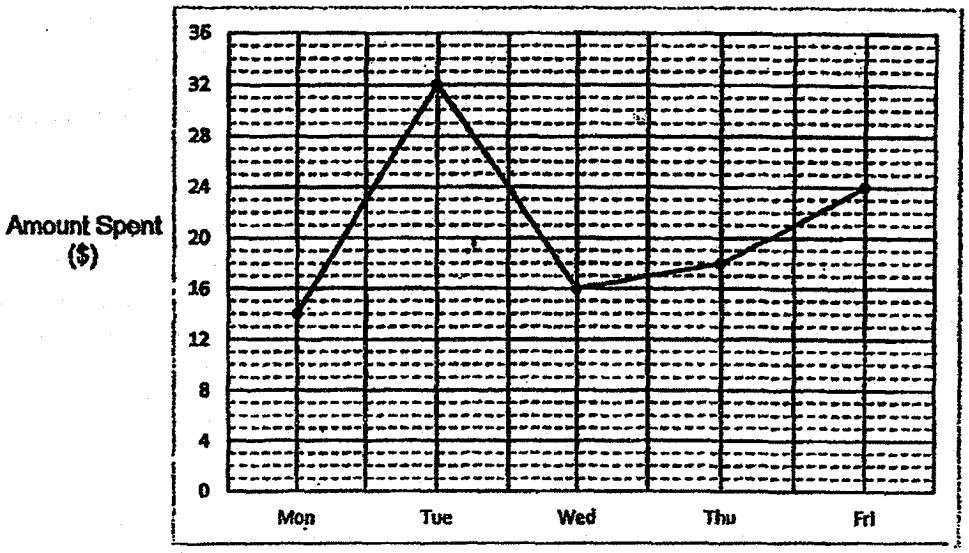
6. Tom had $\frac{4}{5}$ as many stamps as Michael. After Michael gave away $\frac{3}{7}$ of his stamps, Tom had 40 more stamps than Michael. How many stamps did Tom have?

Ans : _____. [3]

7. Susan received $40 each day for food and transport. She saved the rest of the amount of money after she spent on food and transport. The graph shows the daily amount of money she spent from Monday to Friday.



(a) What is the difference between the amount Susan spent on Wednesday and Friday?

(b) What was the total amount of money she saved on Monday and Tuesday?

(c) Write down all the days in which Susan saved more than half of her daily amount of money.

Ans : (a) _____ [1]

(b) _____ [1]

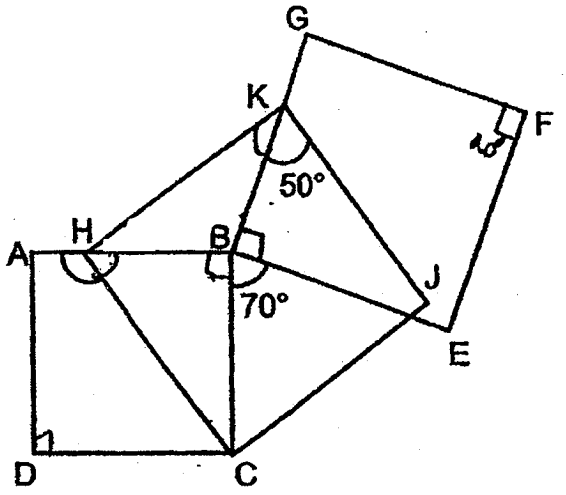
(c) _____ [1]

Sub-Total :

8. Ali and Sara started jogging from the same place in opposite directions along a straight path. Both of them did not change their speed. After jogging for 40 minutes, they were 7 km apart. Ali's average speed was 30 m/min faster than Sara's. How far did Ali jog?

Ans : _____ [3]

9. In the figure below, not drawn to scale, ABCD, HKJC and BGFE are squares. ∠BKJ = 50° and ∠CBE = 70°. Find ∠AHC.



Ans : _____ [3]

Sub-Total :

10. The table below shows the price of pencils and erasers sold at a bookshop.

Item	Price per item
Pencil	b cents
Eraser	$(b + 10)$ cents

(a) Azhar bought 3 pencils and 1 eraser. How much did he spend? Give your answer in terms of b.

(b) Raman paid \$5.50 for 8 pencils and a number of erasers. If $b = 35$, how many erasers did he buy?

Ans : (a) _____ [1]

(b) _____ [2]

Sub-Total :

11. A total of $1 332.50 was collected from the sales of adult and child tickets to a concert. $635.50 more was collected from the sale of the adult tickets than the child tickets. Each child ticket cost $3.50 less than an adult ticket. There were twice as many adult tickets sold as the child tickets. Find the total number of children who went to the concert.

Ans : _____ [4]

12. Michael uses identical shaded and unshaded triangles to form figures that follow a pattern as shown below.

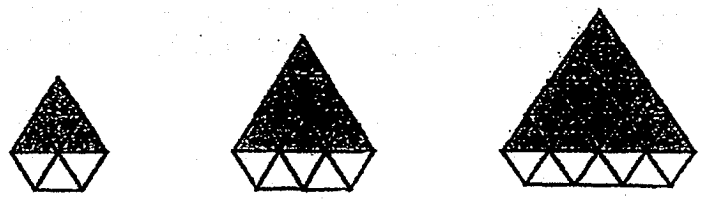


Figure 1 Figure 2 Figure 3

(a) The table shows the number of shaded and unshaded triangles for the first three figures. Complete the table for Figure 4.

Figure Number	1	2	3	4
Number of shaded triangles	4	9	16	
Number of unshaded triangles	3	5	7	
Total number of shaded and unshaded triangles	7	14	23	

[1]

(b) A figure in the pattern has a total of 529 shaded triangles. What is the Figure Number?

(c) Another figure in the pattern has a total of 63 unshaded triangles. What is the total number of shaded and unshaded triangles in this figure?

Ans : (b)_____ [1]

(c)_____ [2]

13. Ramesh had a rectangular block of wood 9 cm by 4 cm by 7 cm. He painted all the faces of the block.

(a) What is the total painted area?

(b) Ramesh cut the block into 1-cm cubes.
How many of these cubes have only 1 of their faces painted?

Ans : (a)_____ [2]

(b)_____ [2]

Sub-Total :

14. Jerry, Ken and Leon shared some stamps. Jerry took 408 stamps. Ken took $\frac{1}{4}$ of the remainder. Leon had 24% of the total number of stamps. How many stamps did the 3 boys have altogether?

Ans : _____ [4]

Sub-Total :

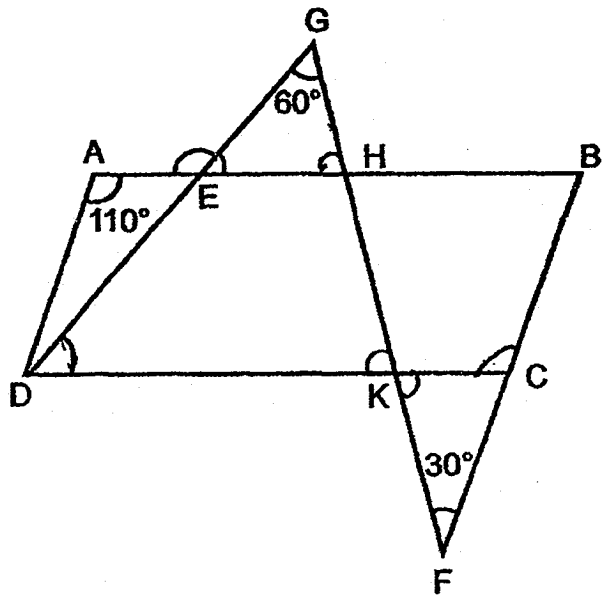
15. A group of girls sold an average of 60 balloons at a carnival. Then 2 boys joined the group. The two boys sold a total of 165 balloons. After the two boys joined the group, the average number of balloons sold by all the boys and girls became 65. How many girls were there in the group?

Ans : _____ [4]

16. In the figure below, not drawn to scale, ABCD is a parallelogram. GED, GHKF and BCF are straight lines. $\angle DAE = 110°$, $\angle EGH = 60°$ and $\angle KFC = 30°$.

(a) Find $\angle KCF$

(b) Find $\angle AEG$

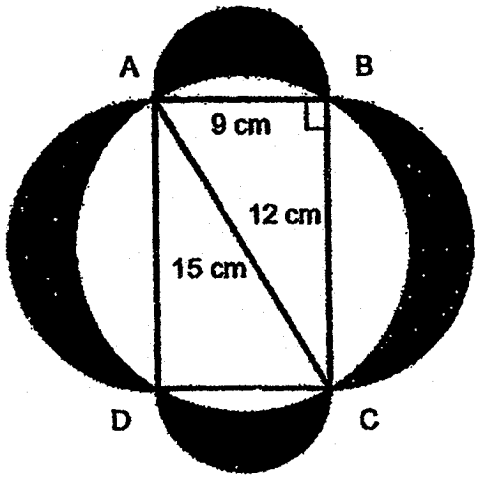


Ans : (a) _____ [2]

(b) _____ [3]

Sub-Total :

17. The figure is made up of four semi-circles and a rectangle ABCD. AB = 9 cm, BC = 12 cm and AC = 15 cm. Find the total area of the shaded parts. Take $\pi = 3.14$.



Ans : _____ [5]

End of Paper 2

ANSWER KEY

YEAR	:	2018
LEVEL	:	PRIMARY 6
SCHOOL :	:	ANGLO-CHINESE
SUBJECT :	:	MATHEMATICS
TERM	:	PRELIMINARY EXAMINATION

Paper 1

Q1	3	Q4	1	Q7	4	Q10	3	Q13	1
Q2	3	Q5	2	Q8	1	Q11	2	Q14	4
Q3	3	Q6	4	Q9	2	Q12	2	Q15	4

Q16 75 girls

Q17 640 ml

Q18 15.2 cm

Q19 84 cm

Q20 76 beads

Q21 $\frac{3}{7}$

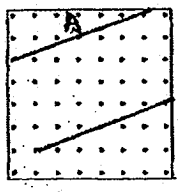
Q22 3

Q23 31 pears

Q24 130°

Q25 $80

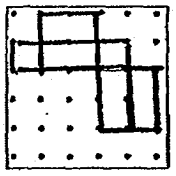
Q26



Q27 145 g

Q28 71 kg

Q29



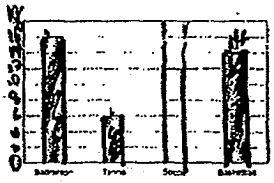
Q30 30%

Paper 2

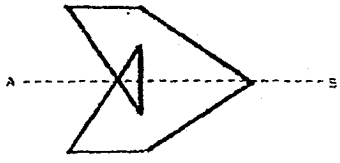
Q1 $9 \times 5 = 45$
$45 + 2 \Rightarrow$ **47 candies**

Q2 $44 - 30 = 14$
$14 - 8 = 6$
$\frac{1}{2} \times 8 \times 6 = 24$
$24 \times 3 \Rightarrow$ **72 cm²**

Q3



Q4



Q5 **Shaded parts $\rightarrow 1 + (13 - 4) = 10$**
Unshaded part $\rightarrow 4 - 1 = 3$
$S : U \Rightarrow \underline{10 : 3}$

Solutions to Word Problems

ACS Paper Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Let number of stamps Michael had at first = 35u (multiple of 5, 7)

Number of stamps Tom had = $\frac{4}{5}$ x 35u = 28u

Number of stamps Michael gave away = $\frac{3}{7}$ x 35u = 15u

At last, number of stamps Michael had = 35u – 15u = 20u

Difference in number of stamps between Michael & Tom = 28u - 20u = 8u

8u = 40

u = 40 ÷ 8 = 5

Number of stamps Tom had = 28u = 28 x 5 = 140

Ans: 140

---

7. a)

Difference in spending between Wednesday and Friday = 24 – 16 = $8

b)

Total amount of spending on Monday and Tuesday = 32 + 14 = $46

Total amount of savings on Monday and Tuesday = 40 + 40 – 46 = $34

c)

Days when spending are below $20 are Monday, Wednesday and Thursday.

Ans: (a) $8
(b) $34
(c) Mon, Wed and Thurs.

---

8. Extra distance travelled by Ali = 30 x 40 = 1200 m

Distance Sara jogged = (7000 – 1200) ÷ 2 = 2900m

Distance Ali jogged = 2900 + 1200 = 4100m = 4.1 km

Ans: 4.1 km

---

9. ∠ BKH = 90 – 50 = 40°

∠ HBK = 360 – 90 – 90 – 70 = 110°

∠ BHK = 180 – 40 – 110 = 30°

∠ BHC = 90 – 30 = 60°

∠ AHC = 180 – 60 = 120°

Ans: 120°

---

10. a)

Cost of 3 pencils and 1 eraser = 3b + b + 10 = 4b + 10 cents

b)

Cost of 8 pencils = 8b = 8 x 35 = 280 cents = $2.80

Cost of erasers = 5.50 – 2.80 = 2.70

Cost of each eraser = 35 + 10 = 45 cents = $0.45

Number of erasers = 2.70 ÷ 0.45 = 6

Ans: (a) 4b + 10 cents
(b) 6

---

11. Children ticket sales = (1 332.50 – 635.50) ÷ 2 = $348.50

Adult ticket sales = 348.50 + 635.50 = $984

Let number of children = u

Number of adults = 2u

Extra adult ticket cost due to $3.50 extra = 2u x 3.5 = 7u

Total adult ticket cost = 2 x children ticket cost + 7u =

2 x 348.50 + 7u = 984

7u = 984 – 697 = 287

u = 287 ÷ 7 = 41

Number of children who went to concert = 41

Ans: 41 children

---

12. a)

Figure number = n

Number of shaded triangles = (n+1) x (n+1)

Number of unshaded triangles = 2n + 1

For Figure 4.

Number of shaded triangles = 5 x 5 = 25

Number of unshaded triangles = 4 x 2 + 1 = 9

Total number of triangles = 25 + 9 = 34

b)

(n+1) x (n+1) = 529 = 23 x 23

n + 1 = 23

n = 23 – 1 =22

c)

unshaded triangles = 2n + 1 = 63

2n = 62

n = 62 ÷ 2 = 31

Number of shaded triangles = n+1) x (n+1) = 32 x 32 = 1024

Total triangles for Figure 31 = 63 + 1024= 1087

Ans: (a) 25, 9, 34
(b) 22
(c) 1087

---

13. a)
Total painted area = 9 x 7 x 2 + 9 x 4 x 2 + 4 x 7 x 2 = 254 cm^2
b)
Number of 1-cm cubes with 1 face painted = (9-2) x (7-2) x 2 + (9-2) x (4-2) x 2 + (7-2)x (4-2) x 2 = 118

Ans: (a) 254 cm^2

(b) 118

---

14. $\frac{3}{4}$ of remainder = 24% of total stamps

$\frac{1}{4}$ of remainder = 24 ÷ 3 = 8% of total stamps

Percentage of Jerry's stamps = 100 – 24 – 8 = 68%

68% → 408 stamps

1% → 6

100% → 6 x 100 = 600

Ans: 600

---

15. Excess amount the boys sold = 165 – 65 – 65 = 35

Difference in averages = 65 – 60 = 5

Number of girls = 35 ÷ 5 = 7

Ans: 7

---

16. a)

$\angle KCB = 110°$

$\angle KCF = 180 – 110 = 70°$

b)

$\angle CKF = 180 – 70 – 30 = 80°$

$\angle EHG = \angle DKH = \angle CKF = 80°$

$\angle GEH = 180 – 60 – 80 = 40°$

$\angle AEG = 180 – 40 = 140°$

Ans: (a) 70°

(b) 140°

17. Area of 4 semi-circles = π x 4.5 x 4.5 + π x 6 x 6 = 56.25π cm^2

Area of rectangle = 9 x 12 = 108 cm^2

Area of large circle = π x 7.5 x 7.5 = 56.25π cm^2

Shaded area = 56.25π + 108 - 56.25π = 108 cm^2

Ans: 108 cm^2

CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION (2018)

PRIMARY SIX

MATHEMATICS

PAPER 1

(BOOKLET A)

Name : _____( )

Class : Primary 6 _____

Date : 24 August 2018

Total Time for Booklets A and B: 1 hour

15 questions

20 marks

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS) provided.

The use of calculators is **NOT** allowed.

Booklet A and B consist of 14 printed pages excluding the cover page.

Questions **1** to **10** carry **1** mark each. Questions **11** to **15** carry **2** marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. All diagrams are not drawn to scale. (20 marks)

---

1. 3 ones, 6 tenths and 7 thousandths is _____.

   (1) 0.367

   (2) 3.067

   (3) 3.607

   (4) 3.670

---

2. What is the value of 10 ÷ 5000?

   (1) 500

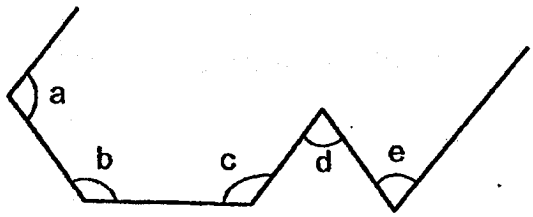
   (2) 50

   (3) 0.02

   (4) 0.002

---

3. A wire is bent to form the figure below. Which angles are larger than a right angle?



   (1) ∠d and ∠e

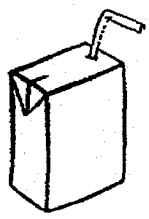
   (2) ∠a, ∠b and ∠c

   (3) ∠a, ∠c, ∠d and ∠e

   (4) ∠a, ∠b, ∠c, ∠d and ∠e

---

4. Ming bought a packet of chocolate drink from the school canteen.
Which one of the following is likely to be the volume of chocolate drink in the packet?



(1) 2 ml

(2) 20 ml

(3) 200 ml

(4) 2000 ml

---

5. There are 32 apples in a carton. 24 of them are green while the rest are red. What is the ratio of the number of red apples to that of green apples in the carton?

(1) 1 : 3

(2) 3 : 1

(3) 3 : 4

(4) 4 : 3

---

6. Which one of the following is smaller than $\frac{3}{8}$?

(1) $\frac{1}{2}$

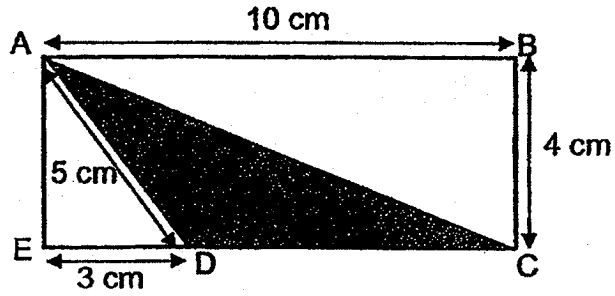
(2) $\frac{6}{16}$

(3) $\frac{9}{23}$

(4) $\frac{12}{33}$

---

7. In the figure below, ABCE is a rectangle with AB = 10 cm and BC = 4cm. ED = 3 cm and AD = 5 cm. Find the area of the shaded triangle.



(1) 14.0 cm^2

(2) 17.5 cm^2

(3) 20.0 cm^2

(4) 25.0 cm^2

---

8. 120 girls and 80 boys went to a camp. What percentage of the children were girls?

(1) 30%

(2) 40%

(3) 60%

(4) 96%

---

9. Justin has the same number of twenty-cent coins and fifty-cent coins. Their total value is $42. How many coins does Justin have altogether?

(1) 60

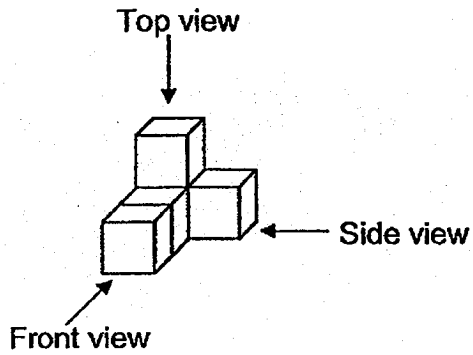
(2) 120

(3) 147

(4) 294

---

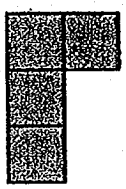
10. The following solid consists of 5 identical cubes.
Which one of the following shows the top view of the solid?



(1) 

(2) 

(3) 

(4) 

11. A pair of shoes was sold at a discount of 20%. Its original price before discount was \$85. What was the price of the pair of shoes after discount?

(1) \$17

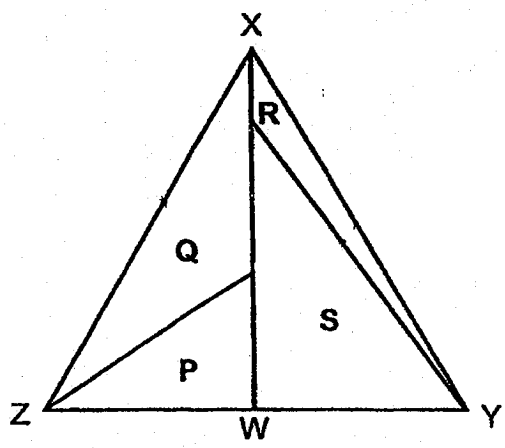
(2) \$52

(3) \$68

(4) \$102

---

12. An isosceles triangle is made up of four triangles P, Q, R and S. XZ = XY. The line XW divides the isosceles triangle into 2 equal parts. The ratio of area P to area Q is 2 : 3 and the ratio of area Q to area R is 4 : 1.



What fraction of the area of the isosceles triangle is area S?

(1) $\frac{17}{40}$

(2) $\frac{17}{20}$

(3) $\frac{3}{40}$

(4) $\frac{3}{20}$

---

13. Ali had some money to buy stickers from a stationery shop. He wanted to buy 12 stickers but was short of $2. He bought 3 stickers and had a remainder of $2.50. How much money did Ali have at first?

(1) $1.50

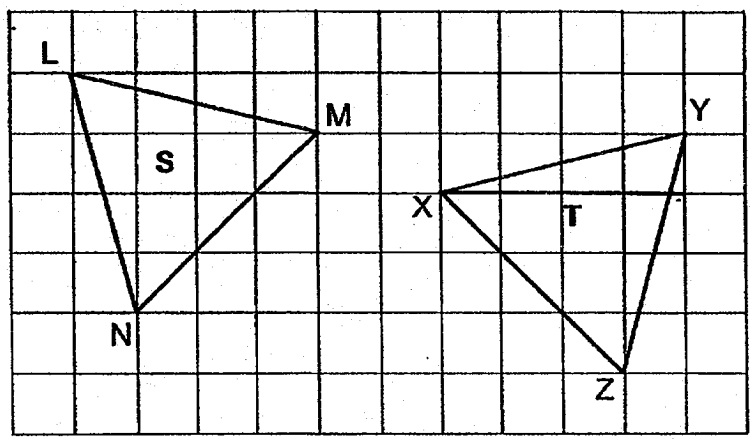
(2) $3.40

(3) $6.00

(4) $4.00

---

14. Two figures S and T are shown in the square grid below.



Based on what is shown in the square grid, which of the following statement(s) is/are true?

Statement A : $\angle NLM = \angle XYZ$

Statement B : Both figures S and T are identical isosceles triangles.

Statement C : Line LN is parallel to line XZ.

(1) A only

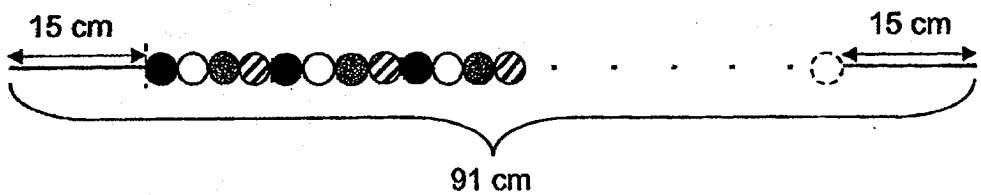
(2) B only

(3) A and B only

(4) B and C only

---

15. Polly threads circular beads on a string 91 cm long in a straight line. The beads follow a repeated pattern without gaps between them as shown below. Each bead has a radius of 0.5 cm and is black, white, grey or striped. The first bead and the last bead are positioned 15 cm from the respective ends of the string. What is the colour of the last bead?



(1) ●

(2) ○

(3) ●

(4) ⊘

END OF BOOKLET A

CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION (2018)

PRIMARY SIX

MATHEMATICS

PAPER 1

(BOOKLET B)

Name : _____( )

Class : Primary 6 _____

Date : 24 August 2018

Total Time for Booklets A and B: 1 hour

15 questions

25 marks

Booklet A	
Booklet B	
Total	

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of calculators is **NOT** allowed.

Booklet A and B consist of 14 printed pages excluding the cover page.

Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (5 marks)

Do not write in this space

16. Find the value of $2 - \frac{2}{3} - \frac{3}{5}$

Ans:_____

17. Find the value of 40.4 x 50.

Ans:_____

18. A ruler cost twice as much as an eraser. The cost of two rulers and an eraser was $7. What was the cost of an eraser?

Ans:$_____

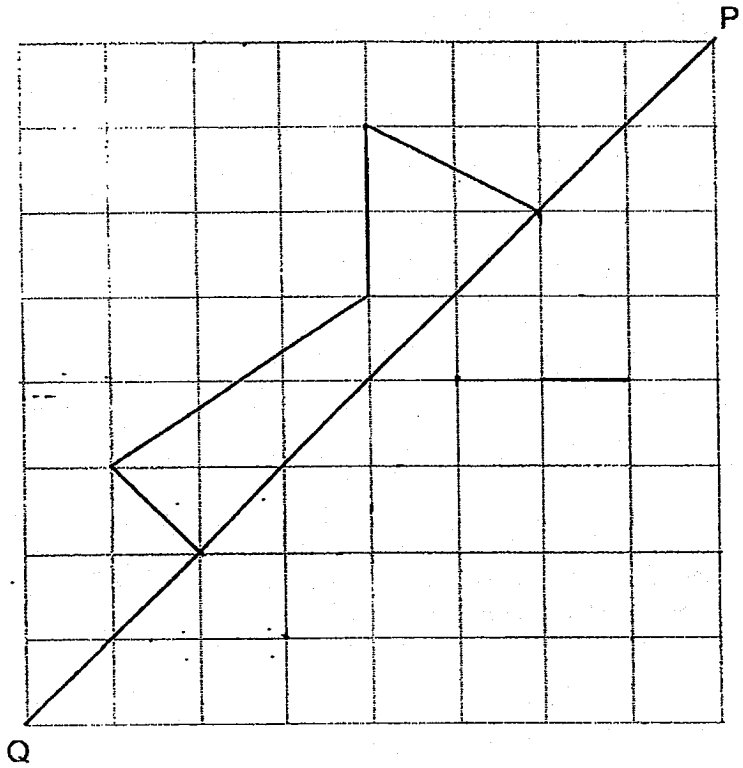
(Go on to the next page)

Do not write in this space

19. Rani gave $\frac{1}{8}$ of a bar of chocolate to a friend. She broke the remainder equally into 14 pieces. What fraction of the bar of chocolate was 1 such piece? Give your answer as a fraction in the simplest form.

Ans:_____

20. Complete the symmetric figure below with PQ as the line of symmetry.



5

Total marks for questions 16 to 20

(Go on to the next page)

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale.

(20 marks)

Do not write in this space

21. Muthu completed his game at 4.10 p.m. He played the game for 1 hour and 45 minutes. What time did Muthu start his game?
Give your answer in 24-hour clock format.

Ans:_____

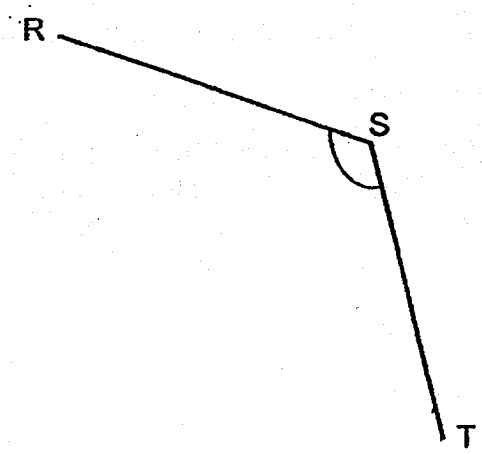
22. What is the value of $\frac{17p}{3} - 4p + 1$ when $p = 6$?

Ans:_____

(Go on to the next page)

23. (a) On the figure below, draw a line UT such that UT is perpendicular to ST.

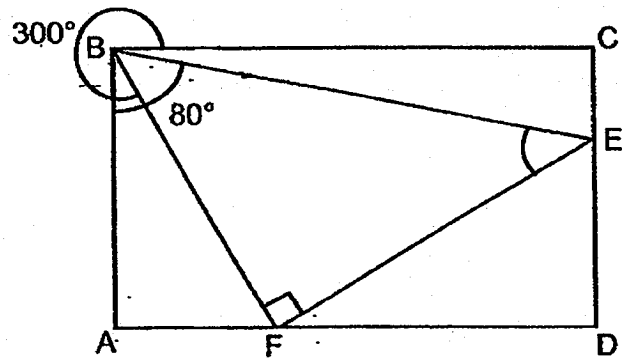
Do not write in this space



(b) Measure and write down the size of ∠RST.

Ans:_____°

24. In the figure, ABCD is a rectangle and BEF is a right-angled triangle. ∠FBC = 300° and ∠ABE = 80°. Find ∠BEF.

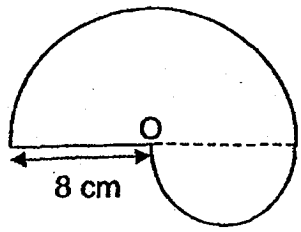


Ans:_____°

(Go on to the next page)

25. The figure below is made up of two semicircles. O is the centre of the larger semicircle of radius 8 cm. Find the perimeter of the figure. Leave your answer in terms of π.

Do not write in this space



Ans:_____ cm

26. John packs his clothes into a box and it weighs 11 kg. His mother packs her clothes into an identical box and it weighs 29 kg. His mother's clothes weigh thrice as much as John's clothes. What is the mass of the box?

Ans:_____ kg

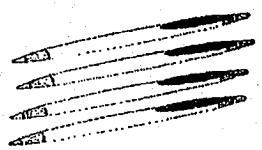
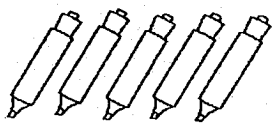
(Go on to the next page)

27. Mrs Lim bought some almonds and pistachios. She used an equal amount of almonds and pistachios. She had $\frac{1}{3}$ of the almonds and $\frac{4}{7}$ of the pistachios left. What was the ratio of the nuts used by Mrs Lim to the nuts that were left?

Do not write in this space

Ans:_____

28. A stationery shop had the following promotion.

Pencils	Highlighter Pens
	
4 for $3	**5 for $6**

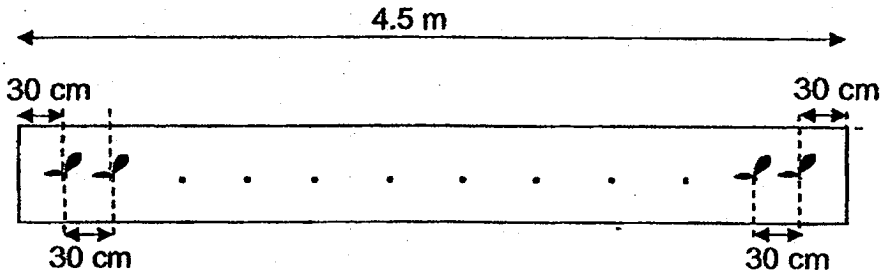
How many pencils cost as much as 20 highlighter pens?

Ans:_____

(Go on to the next page)

Do not write in this space

29. A row of seedlings was planted in a rectangular pot that was 4.5 m long. Each seedling was planted ~~30 cm away from the edges of the pot and at~~ 30 cm apart from each other. How many seedlings were planted in the pot?



Ans:_____

30. Farm Y has only ducks and cows. There is a total of 20 ducks and cows on the farm. These animals have a total of 56 legs.

Statement (a) and (b) are either true, false or not possible to tell from the information given above. For statement (a) and (b), put a tick (✓) in the correct column.

Statement		True	False.	Not possible to tell
(a)	The total number of legs the cows have is equal to the total number of legs the ducks have.			
(b)	There are more ducks than cows on the farm.			

Total marks for questions 21 to 30

END OF BOOKLET B
END OF PAPER 1

20

CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION (2018)

PRIMARY SIX

MATHEMATICS

PAPER 2

Name : _____ ( )

Class : Primary 6 _____

Date : 24 August 2018

Total Time: 1 h 30 min

17 questions

55 marks

Parent's Signature: _____

Paper 1 Booklet A	20
Paper 1 Booklet B	25
Paper 2	55
Total Marks	100

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

This booklet consists of 16 printed pages excluding the cover page.

Questions **1** to **5** carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (10 marks)

Do not write in this space

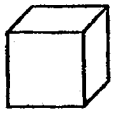
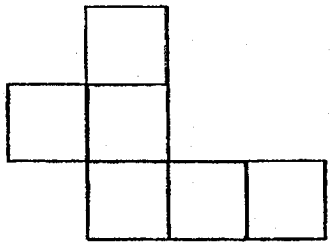
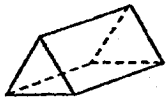
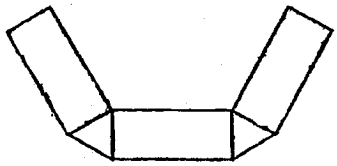
1. The table below shows the prices of ice pops sold at a shop.

Number of ice pops	Price
First 5 ice pops	30 ¢ each
Every additional ice pop	25 ¢ each

Halim paid $3.50 for some ice pops. How many ice pops did Halim buy?

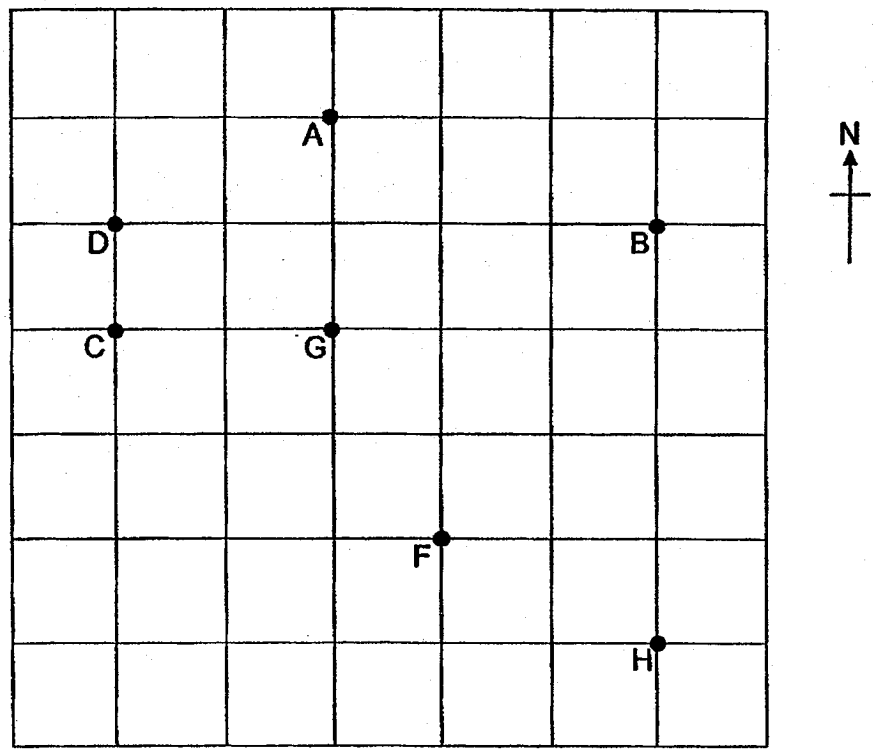
Ans:_____

2. The nets drawn for the solids below are incorrect.
For each net, shade the two parts that overlap each other when each net is folded.

Solid	Net
 cube	
 Prism	

3. A, B, C, D, F, G and H are points on the square grid.

Do not write in this space



(a) Which direction is point G from point H?

(b) Gabriel is at one of the points shown on the square grid. He is facing point B. When he makes a $\frac{1}{4}$-turn in a clockwise direction, he faces point C. Which point is he at?

Ans: (a) _____

(b) _____

Do not write in this space

4. Jane bought some sweets. She could pack the sweets into bags of 6 or 9 with no remainder. When the sweets were put into bags of 10, there were 4 sweets left over. What was the smallest possible number of sweets Jane bought?

Ans:_____

5. A group of 5 friends rented a badminton court and took turns to play badminton. At any time, there were 4 people playing badminton on the court. Each person got to play for a total of 96 min. How long did the group of friends rent the badminton court for?

Ans:_____ min

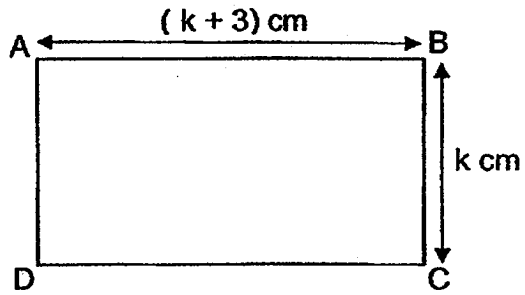
(Go on to the next page)

For questions **6** to **17**, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(45 marks)

Do not write in this space

6. The following figure ABCD is a rectangle.



(a) What is the perimeter of rectangle ABCD?
Express your answer in terms of *k* in the simplest form.

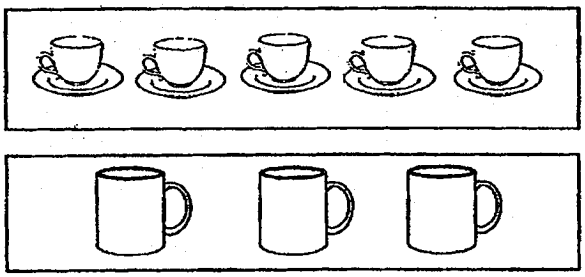
(b) The perimeter of the rectangle is 20 cm. What is the length of AB?

Ans: (a) _____ [1]

(b) _____ [2]

7. Ted prepared a pot of coffee to fill 5 cups completely without any remainder. Brad made a similar pot of coffee to fill 3 mugs completely without any remainder. 1 such mug could hold 130 ml of coffee more than a cup. How much coffee can 1 such pot hold?

Do not write in this space



Ans:_____ [3]

8. At 9 a.m., Edison started running from point A towards point B at a speed of 120 m/min. At 9.05 a.m., Jun Wei started running from point A towards point B and passed Edison at 9.20 a.m. Both boys did not change their speeds throughout. At what speed did Jun Wei run?

Do not write in this space

Ans:_____ [3]

9. Guthrie's younger brother accidentally doodled on her results slip with a black marker as shown below. Part of her Mathematics and Science marks could not be seen.

Do not write in this space

Results Slip

English	78
Mathematics	8[redacted]
Science	6[redacted]

Her average score for the three subjects was 76 marks. What was the greatest possible difference in marks between her score for Mathematics and Science?

Ans:_____ [3]

10. Lucian and Jie Ming had the same number of game cards. After Jie Ming lost 16% of his game cards to Lucian, Jie Ming had 48 cards fewer than Lucian. How many game cards did Lucian and Jie Ming have altogether?

Do not write in this space

Ans:_____ [3]

11. The figure below shows a rhombus, ABCD drawn on a square grid.

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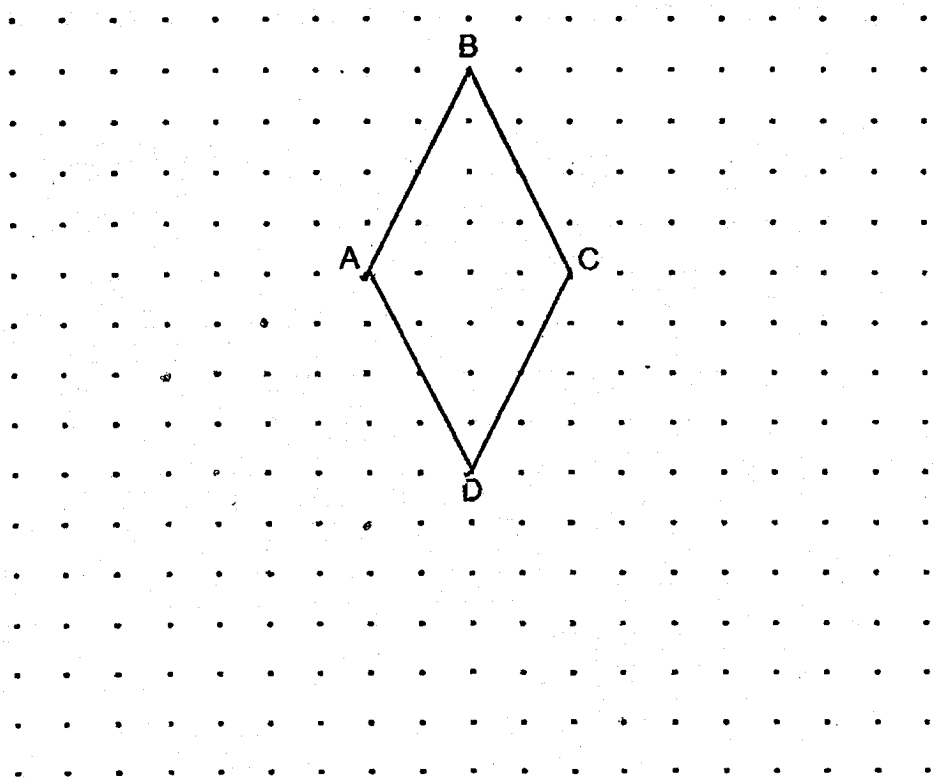


[2]

(a) CDEF is a trapezium with only 1 pair of parallel sides. It has the same area as rhombus ABCD. Draw CDEF on the grid above such that it does not overlap rhombus ABCD.

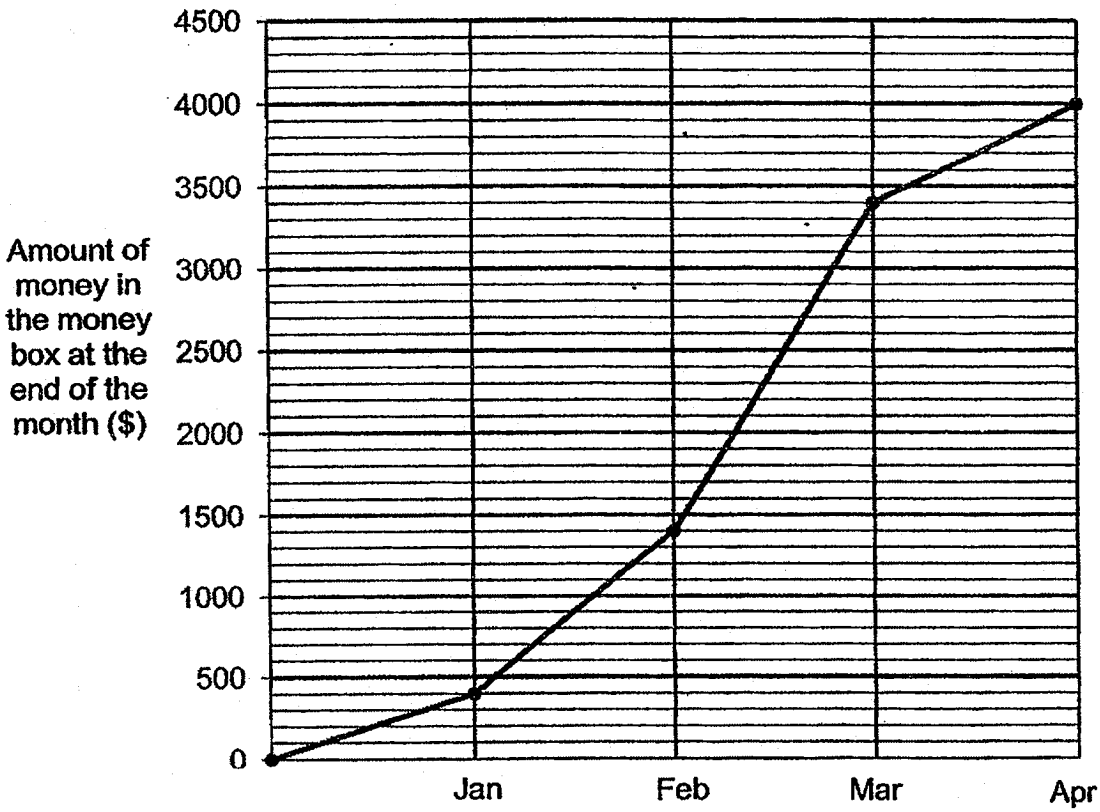
(b) ADXY is a square. Draw ADXY on the grid above such that it does not overlap rhombus ABCD.

(c) What fraction of the area of square ADXY is the area of rhombus ABCD? Express your answer in the simplest form.

Ans: (c)_____ [2]

12. Suresh started a savings plan by putting money into a money box from January to April. There was no money in the money box at first. The line graph shows the amount of money in the money box at the end of each month.

Do not write in this space

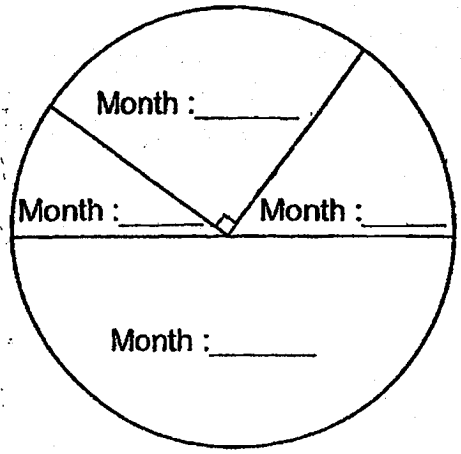


(Go on to the next page)

continue from question 12

Do not write in this space

The amount of money Suresh put into the money box in each month can be represented by the pie chart below.



[2]

(a) Label each part of the pie chart with the month that represents the amount of money Suresh put into the money box in that month.

(b) Find the percentage increase in the amount of money Suresh put into the money box from January to February.

Ans: (b) _____ [2]

13. Mr Lee bought some fruits. $\frac{1}{3}$ of the fruits were apples, $\frac{1}{8}$ of the remainder were pears and the rest were oranges.

Do not write in this space

(a) What was the ratio of the number of apples to the number of pears to the number of oranges?

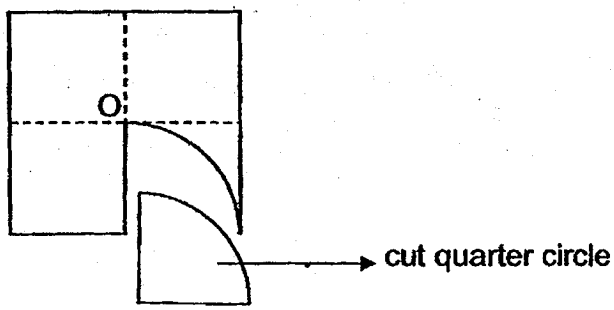
(b) Mr Lee's neighbour gave him another 36 oranges. The ratio of the total number of oranges he had at the end to the total number of fruits he bought was 4 : 3. How many fruits did Mr Lee buy?

Ans: (a)_____ [1]

(b)_____ [3]

14. Ling cut a quarter circle from a square piece of paper as shown below. O is the centre of the square paper. The perimeter of the cut quarter circle is 50 cm. The perimeter of the remaining piece of the square paper is 134 cm.

Do not write in this space



(a) Find the radius of the cut quarter circle.

(b) Find the area of the remaining piece of the square paper.
(Take $\pi = \frac{22}{7}$)

Ans: (a) _____ [2]

(b) _____ [2]

15. The pupils at a camp are divided equally into Team A and Team B. In Team A, there are 18 more boys than girls. In Team B, there are 8 more girls than boys.

Do not write in this space

(a) How many more boys are there in Team A than in Team B?

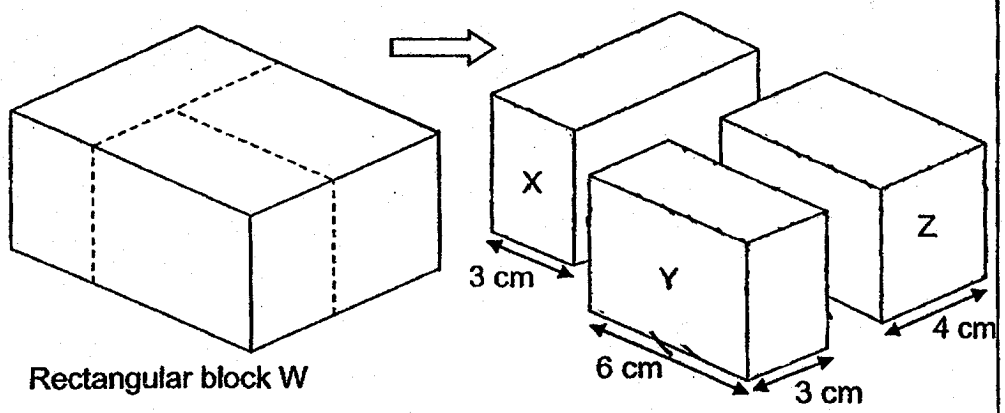
(b) There are 37 boys at the camp. How many girls are there at the camp?

Ans: (a) _____ [1]

(b) _____ [3]

16. James painted all the faces of rectangular block W before it was cut along the dotted lines into smaller blocks X, Y and Z of equal height as shown below.

Do not write in this space



(a) Of the three smaller rectangular blocks X, Y and Z, which block had the most volume and which block had the least volume?

(b) The total length of all the edges of block Y was 56 cm. What was the height of each block?

(c) Find the total area of the unpainted faces of blocks X, Y and Z.

Ans: (a) Most _____

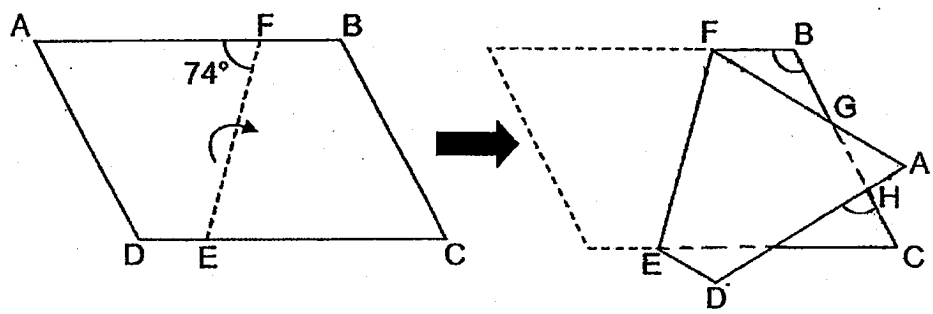
Least _____ [1]

(b) _____ [2]

(c) _____ [2]

17. Ganesh has a piece of paper in the shape of a parallelogram ABCD with $\angle AFE = 74°$. He folded the paper along the line EF as shown below. BF = BG.

Do not write in this space



Before folding

After folding

(a) Find $\angle FBG$.

(b) Find $\angle CHD$.

Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER 2

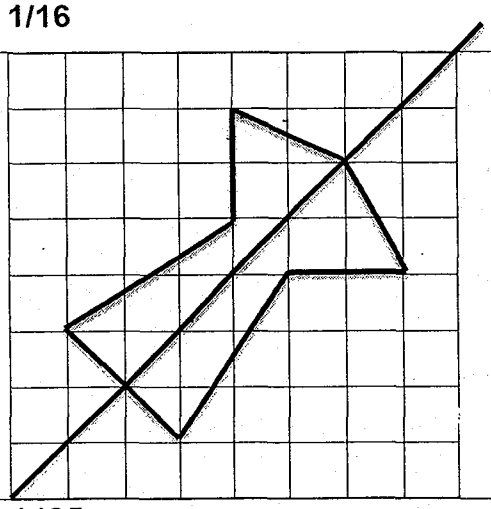
SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	4	2	3	1	4	1	3	2	4

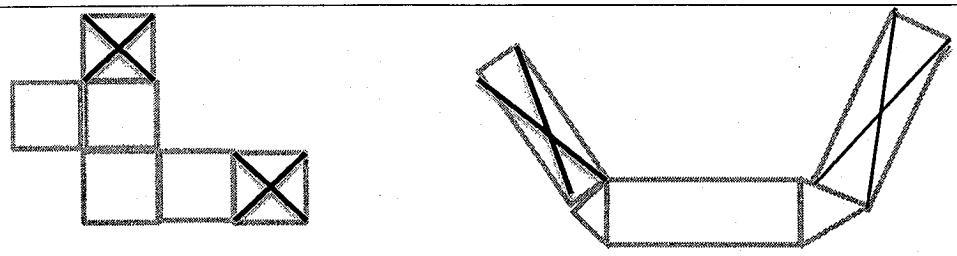
Q 11	Q12	Q13	Q14	Q15
3	1	4	3	1

PAPER 1 BOOKLET B

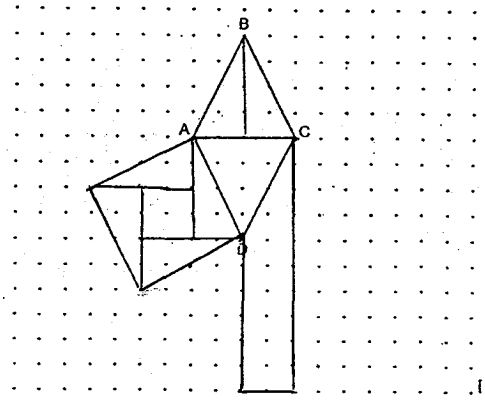
Q16)	**11/15**
Q17)	**2020**
Q18)	**$1.40**
Q19)	**1/16**
Q20)	
Q21)	**1425**
Q22)	**11**
Q23)	**122°**
Q24)	**40°**
Q25)	**(12Π + 8)**
Q26)	**2kg**
Q27)	**12 :11**
Q28)	**32**

Q30)	a)False b)True

PAPER 2

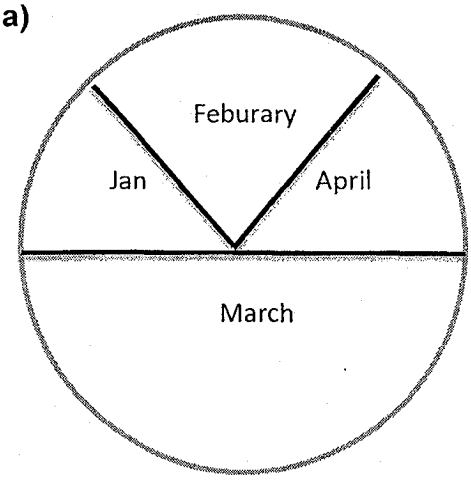
Q1)	30c x 5 = $1.50 $3.50 – $1.50 = $2.00 $2.00 ÷ $0.25 = 8 5 + 8 = 13
Q2)	
Q3)	a)North-West b)D
Q4)	54
Q5)	Total = 96 min x 5 = 480min Rented time = 480 ÷ 4 = 120 min
Q6)	a)Perimeter = (K + 3) + K + K + (K+3) = (4K+6)cm b)4K + 6 = 20cm 4K = 14cm 1K = 3.5cm AB = 3.5cm + 3cm = 6.5cm
Q7)	2 cups = 390ml 1 cup = 390 ÷ 2 =195ml 5 cups = 195ml x 5 = 975ml 1 pot = 975ml
Q8)	Distance from A to meet = 120m/min x 20min = 2400m Time J.W took = 15min In 15min ,J.W run 2400m Sped of J.W = 2400m ÷ 15 min = 160m/min
Q9)	Avg = score = 76 Total score = 76 x 3 = 228 Math+ Sci = 228 – 78 = 150 Ans : 28
Q10)	116u – 84u = 32u 32u = 48 1u = 1.5 200u = 300

Q11) a)b)



c)4/5

Q12) a)



b)Janurary = 400
100% = 400
1% = 4
1000 – 400 = 600
600 ÷ 4 = 150%

Q13) a)4 : 1 : 7
b)16u – 7u = 9u
9u = 36
1u = 36 ÷ 9 = 4
12u = 4 x 12 = 48

Q14) a)6u = 134cm – 50cm = 84cm
1u = 14cm
b)Area of quad = 22/7 x 14 x 14 x ¼ = 154
14 x 14 = 196cm2
196 x 4 = 784cm2
784 – 154 = 630cm2

Q15) a)13
b)27

Q16)	a)Most = Z Least = Y b)5cm c)535
Q17)	a)180° – 74° – 74° = 32° 32° x 2 = 64° 180° – 64° = 116° b)180° – 116° = 64° 180° – 52° – 64° = 84°

HENRY PARK PRIMARY SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ ( )

Parent's Signature

Class: Primary 6_____

_____

Marks:

Paper 1	Booklet A	20
	Booklet B	25
Paper 2		55
Total		100

Total Time for Booklets A and B: 1 hour

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.
You are **not** allowed to use a calculator.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.
(20 marks)

---

1 Express 3.025 as a mixed number in the simplest form.

(1) $3\frac{1}{4}$

(2) $3\frac{2}{5}$

(3) $3\frac{1}{25}$

(4) $3\frac{1}{40}$

2 Simplify $12 + 10y - 5 - 9y + 2$

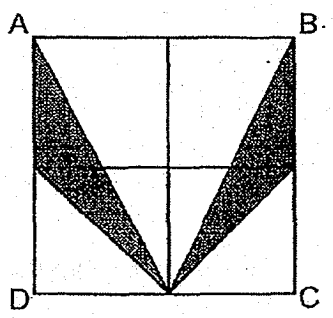
(1) $5 + y$

(2) $9 - y$

(3) $9 + y$

(4) $19 - y$

3 In the figure below, ABCD is made up of **four identical** squares.
What fraction of the figure is shaded?



(1) $\frac{1}{8}$

(2) $\frac{1}{2}$

(3) $\frac{1}{3}$

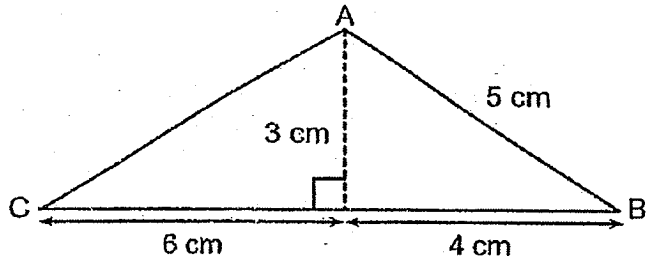
(4) $\frac{1}{4}$

(Go on to the next page)

4 Which of the following is the same as 2030 cm?

(1) 2 m 30 cm
(2) 2 m 3 cm
(3) 20 m 30 cm
(4) 20 m 3 cm

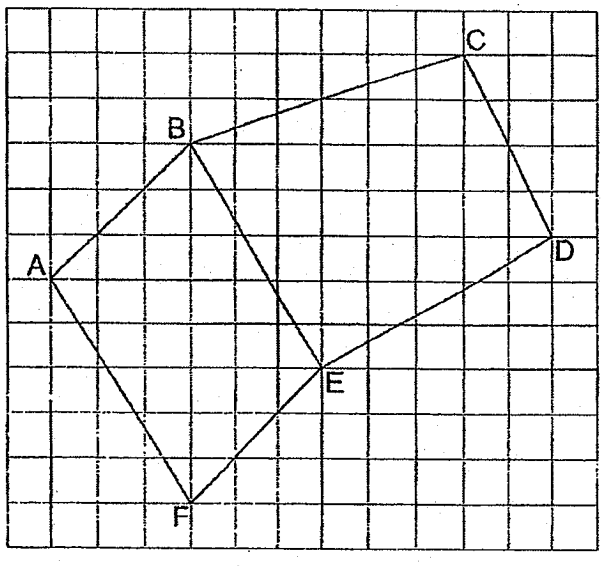
5 What is the area of triangle ABC shown below?



(1) 15 cm^2
(2) 18 cm^2
(3) 30 cm^2
(4) 36 cm^2

6 In the square grid below, which two lines are perpendicular to each other?

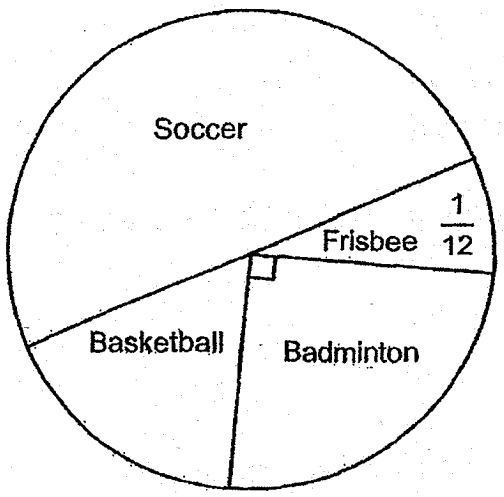
(1) AF and BE
(2) BE and ED
(3) ED and DC
(4) EF and AF



(Go on to the next page)

*Use the information below to answer questions **7** and **8**.*

The pie chart shows the different games a number of students played during recess. Half of the students played soccer.



7 What fraction of the students played basketball?

(1) $\frac{5}{12}$

(2) $\frac{1}{6}$

(3) $\frac{1}{3}$

(4) $\frac{1}{4}$

8 There were 75 more students who played soccer than frisbee. How many students played badminton?

(1) 15
(2) 30
(3) 45
(4) 90

(Go on to the next page)

9 Joan baked a pie. She ate $\frac{1}{6}$ of it and her sister ate $\frac{1}{4}$ of the remainder.

What fraction of the pie was left?

(1) $\frac{3}{8}$

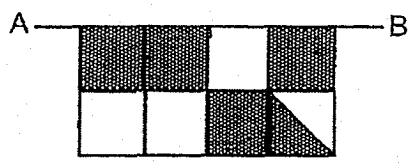
(2) $\frac{5}{8}$

(3) $\frac{5}{12}$

(4) $\frac{7}{12}$

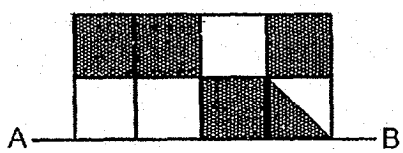
(Go on to the next page)

10 The bottom half of a symmetric figure is shown below. AB is the line of symmetry.

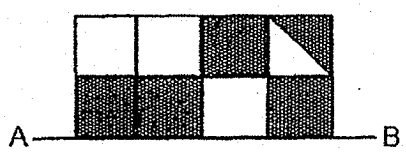


Which one of the following completes the symmetric figure?

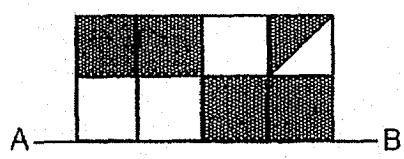
(1)



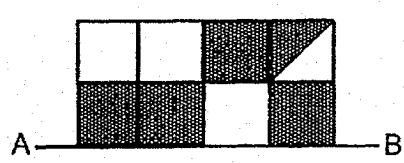
(2)



(3)



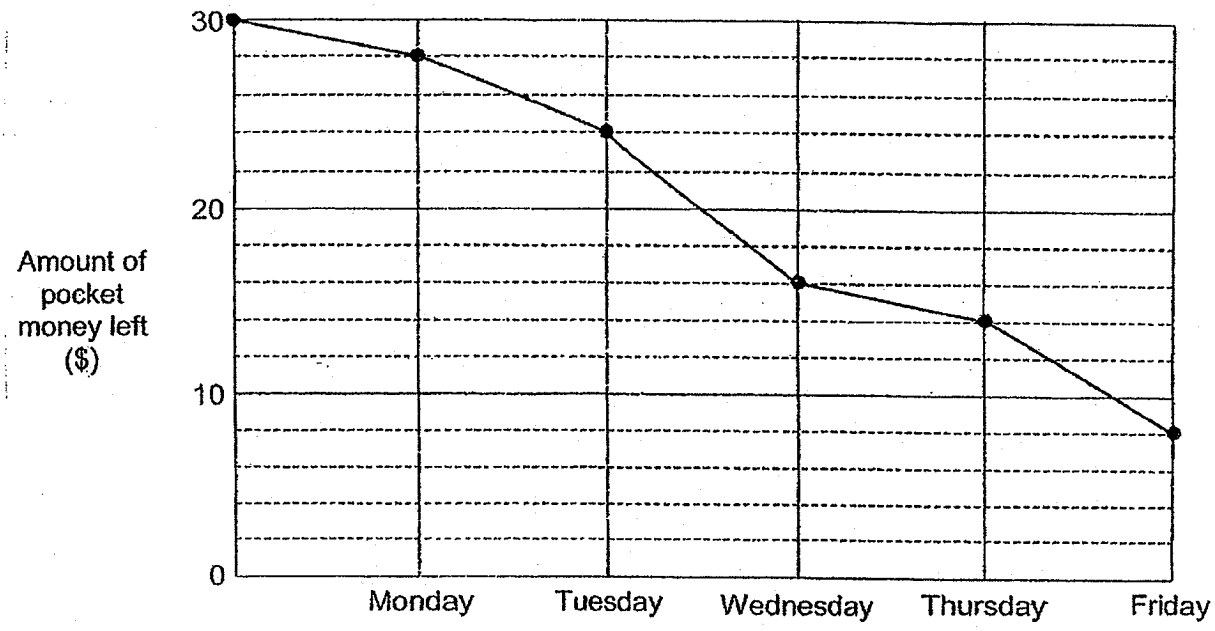
(4)



(Go on to the next page)

*Use the information below to answer questions **11** and **12**.*

Tom received $30 each week for his pocket money. The line graph below shows the amount of pocket money he had left at the end of each day.



11 On which day did Tom spend the most amount of money?

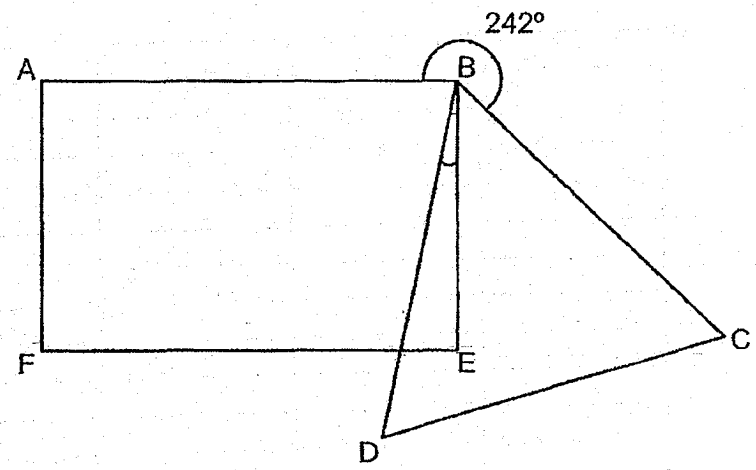
(1) Tuesday
(2) Wednesday
(3) Thursday
(4) Friday

12 What was the average amount of pocket money that Tom spent each day from Monday to Friday?

(1) $4.40
(2) $12
(3) $20
(4) $22

(Go on to the next page)

13 In the figure, ABEF is a rectangle, BCD is an equilateral triangle and $\angle ABC = 242°$. Find $\angle DBE$.



(1) 28°
(2) 30°
(3) 32°
(4) 58°

14 Adam and Bella had the same number of stamps. **After** Adam gave Bella $\frac{1}{6}$ of his stamps, Bella had 84 stamps. How many stamps did Adam have at first?

(1) 60
(2) 70
(3) 72
(4) 98

(Go on to the next page)

15 A family of 8 adults and 5 children went for the high tea buffet at Royal Café. What is the least amount of money the family had to pay?

<u>Royal Café High Tea Buffet</u>

Adult price : $22.50
Child price : $11.10

Promotion!
For 3 paying adults, 2 children dine free!

(1) $179.10

(2) $191.10

(3) $213.30

(4) $235.50

(Go on to Booklet B)

HENRY PARK PRIMARY SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ( )

Class: Primary 6_____

/ 25

Total Time for Booklets A and B: 1 hour

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

You are **not** allowed to use a calculator.

Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(5 marks)

Do not write in this space

16 Find the value of $\frac{85 - 7a}{4}$ when $a = 5$. Express your answer as a decimal.

Ans: _____

17 Find the value of $\frac{4}{5} \div \frac{3}{7}$

Ans: _____

18 A number with 3 decimal places is 7.9 when rounded to 1 decimal place. What is the greatest possible value of this number?

Ans: _____

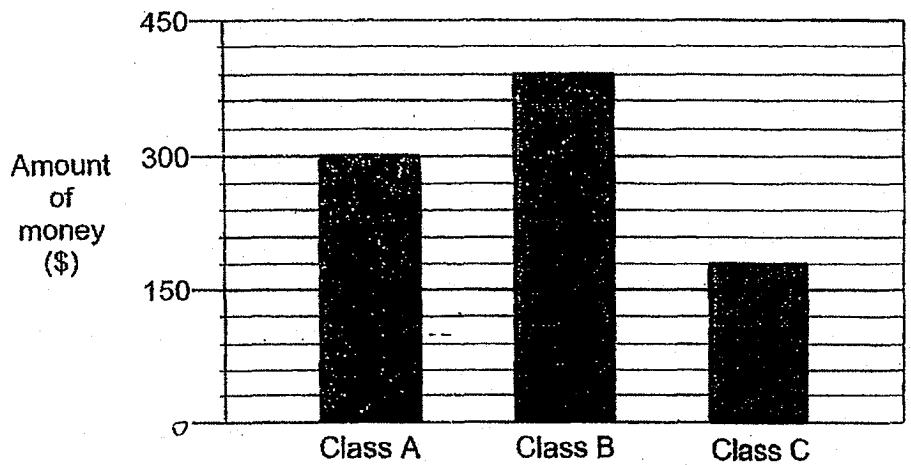
(Go on to the next page)

Do not write in this space

19 The ratio of the length to the breadth of a cuboid is 3 : 1. The ratio of the height to breadth of the cuboid is 4 : 3. Find the ratio of the length to the height of the cuboid.

Ans: _____

20 The graph shows the amount of money collected by 3 classes for a charity.



What was the total amount of money collected by the 3 classes?

Ans: $ _____

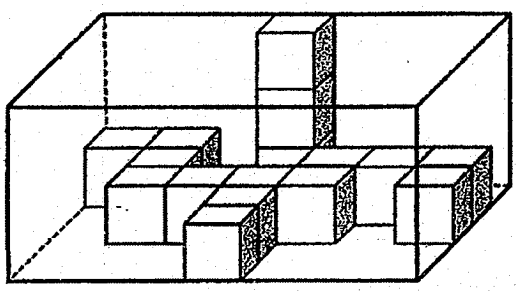
(Go on to the next page)

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(20 marks)

Do not write in this space

21 The figure shows a rectangular box partly filled with 1-cm cubes. What is the capacity of the rectangular box?



Ans: _____ cm^3

22 The airmail rates to Country X and Country Y are shown below.

Mass Step	Country X	Country Y
First 20 g or part thereof	$1.25	$0.75
Every additional 10 g or part thereof	$0.30	$0.45

Jayen sent a letter weighing 18 g to Country X and a letter weighing 41 g to Country Y. How much did he pay altogether?

Ans: $ _____

(Go on to the next page)

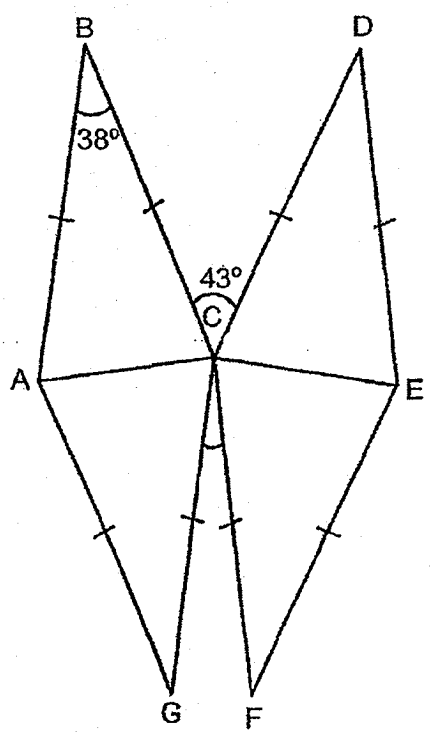
Do not write in this space

23 The receipt below shows the cost of 3 dresses Mrs Koh bought. The cost of Dress C was 20% of the total cost of the 3 dresses. Find the total cost of the 3 dresses.

Dress A	\$136
Dress B	\$104
Dress C	\$

Ans: \$ _____

24 In the figure, ABC, CDE, EFC and CGA are identical isosceles triangles. $\angle ABC = 38^\circ$ and $\angle BCD = 43^\circ$. Find $\angle GCF$.

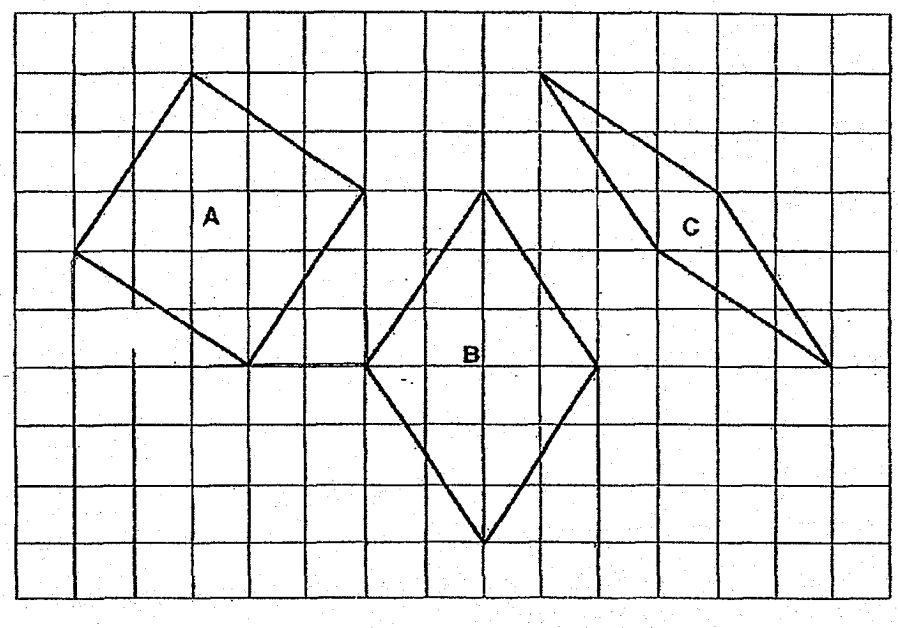


Ans: _____ °

(Go on to the next page)

25 Three rhombuses, A, B and C are shown in the square grid below.

Do not write in this space



Each statement below is either **true, false** or **not possible to tell** from the information given. For each statement, put a tick (✓) in the correct column.

	Statement	True	False	Not possible to tell
(a)	Rhombus A has the same perimeter as Rhombus C.			
(b)	Rhombus A has the same area as Rhombus B.			

(Go on to the next page)

Do not write in this space

26 Figure 1 is a parallelogram. Figure 2 is made up of 7 such parallelograms. The perimeter of Figure 2 is 180 cm. What is the length of the side AB of the parallelogram?

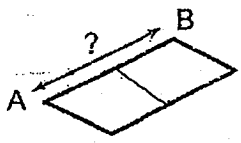


Figure 1

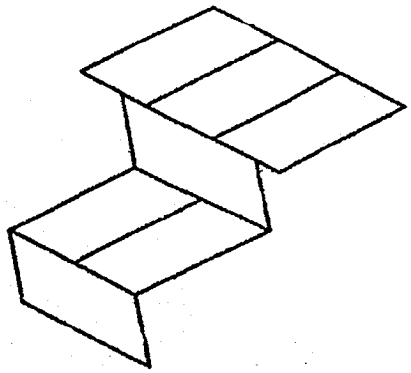


Figure 2

Ans: _____ cm

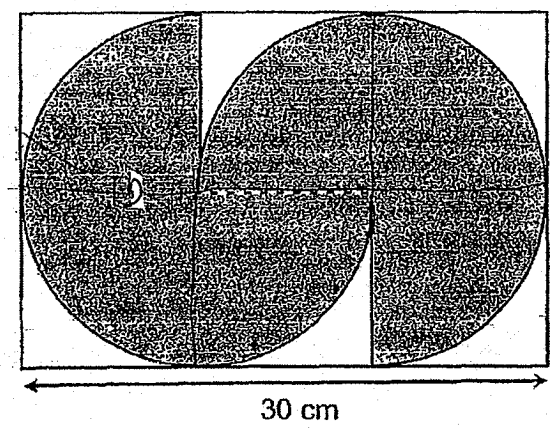
27 The average of three different 2-digit numbers is 30. Find the largest possible sum of two of the numbers.

Ans: _____

(Go on to the next page)

28 The figure shows 2 identical three-quarter circles on a rectangle. Given that the length of the rectangle is 30 cm, find the area of the unshaded parts of the figure. (Take $\pi = 3.14$)

Do not write in this space



Ans: _____ cm^2

(Go on to the next page)

29 Figure 1 shows a cuboid measuring 5 cm by 7 cm by 10 cm. The base of the cuboid is shaded. Figure 2 shows the net of the cuboid.

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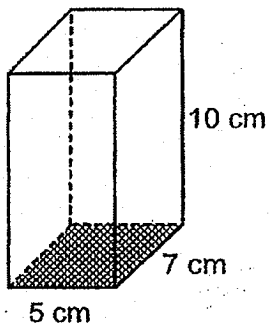


Figure 1

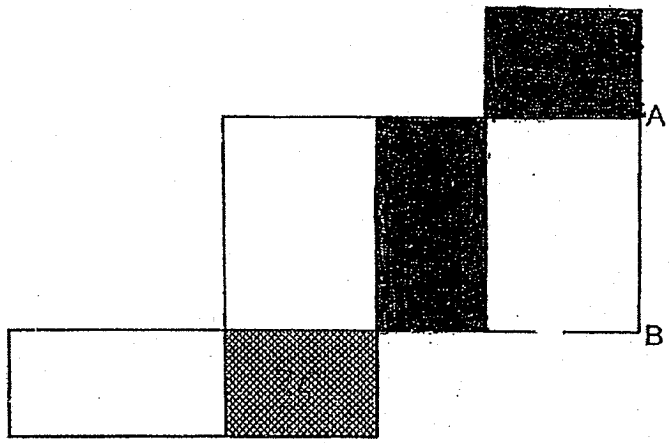


Figure 2

(a) Find the length of side AB of the net in Figure 2.

(b) Shade two more faces in Figure 2 so that the total shaded area of the net is 120 cm^2.

Ans: (a) _____ cm

(Go on to the next page)

30 Mr Tan is between 30 and 70 years old. This year, his age is a multiple of 6. Next year, his age will be a multiple of 7. How old is Mr Tan this year?

Do not write in this space

Ans: _____ years

End of Paper 1

HENRY PARK PRIMARY SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 2

Parent's Signature

_____

Name: _____ ( )

Class: Primary 6___ _____

/ 55

Time for Paper 2: 1 hour 30 minutes

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are allowed to use a calculator.

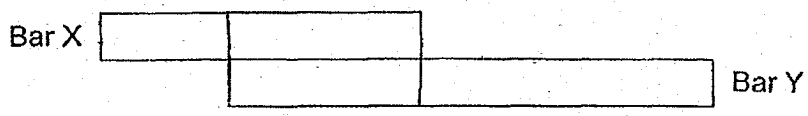
Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

Do not write in this space

1 $\frac{3}{5}$ of the length of Bar X is glued to $\frac{2}{5}$ of the length of Bar Y as shown.

Find the ratio of the length of Bar X to the length of Bar Y. Express your answer in the simplest form.



Ans: _____

(Go on to the next page)

2 Seven places of interest, A, B, C, D, E, F and G, of a town are shown in the square grid below.

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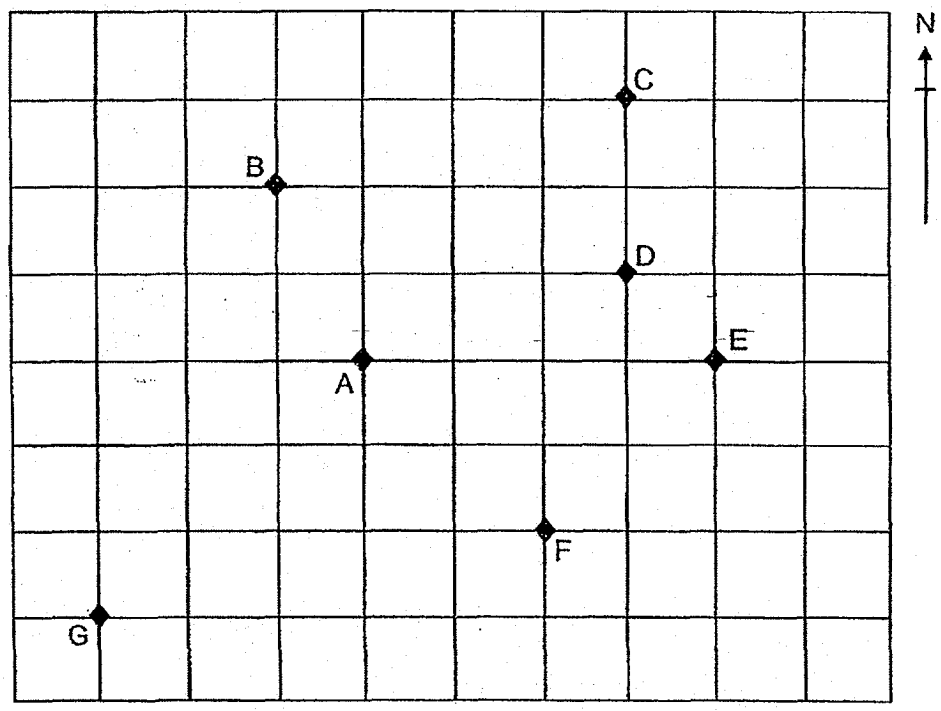


(a) In which direction is D from E?

(b) Mr Lee is at one of the places of interest. He is facing C. When he turns 270° anti-clockwise, he faces F. Which place of interest is Mr Lee at?

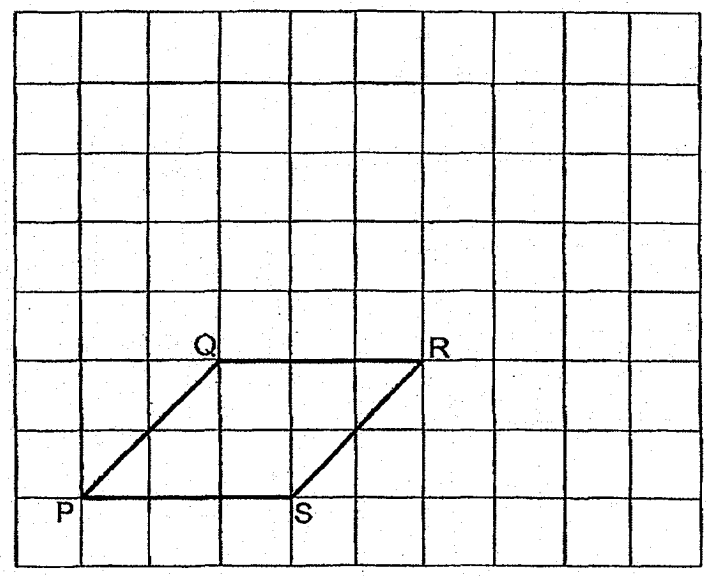
Ans: (a) _____

(b) _____

(Go on to the next page)

3 The figure below shows a parallelogram PQRS drawn on the square grid.

Do not write in this space



(a) Draw an isosceles triangle PXY in the square grid such that PX is twice of PS, PX = XY and ∠PXY is 90°.
Triangle PXY does not overlap with parallelogram PQRS.

(b) What is the ratio of the area of triangle PXY to the area of parallelogram PQRS? Express your answer in the simplest form.

Ans: (b) _____

(Go on to the next page)

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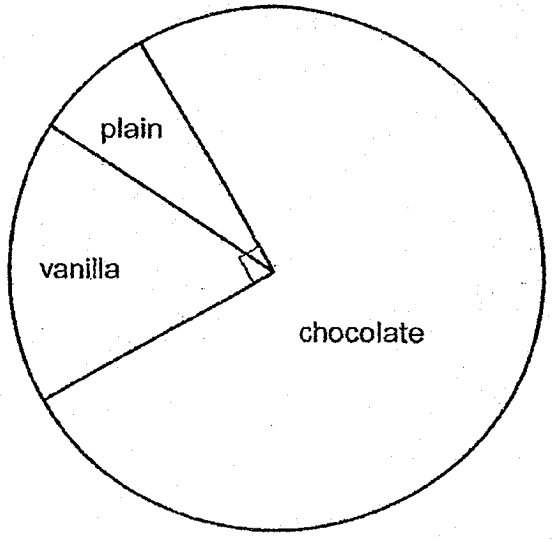
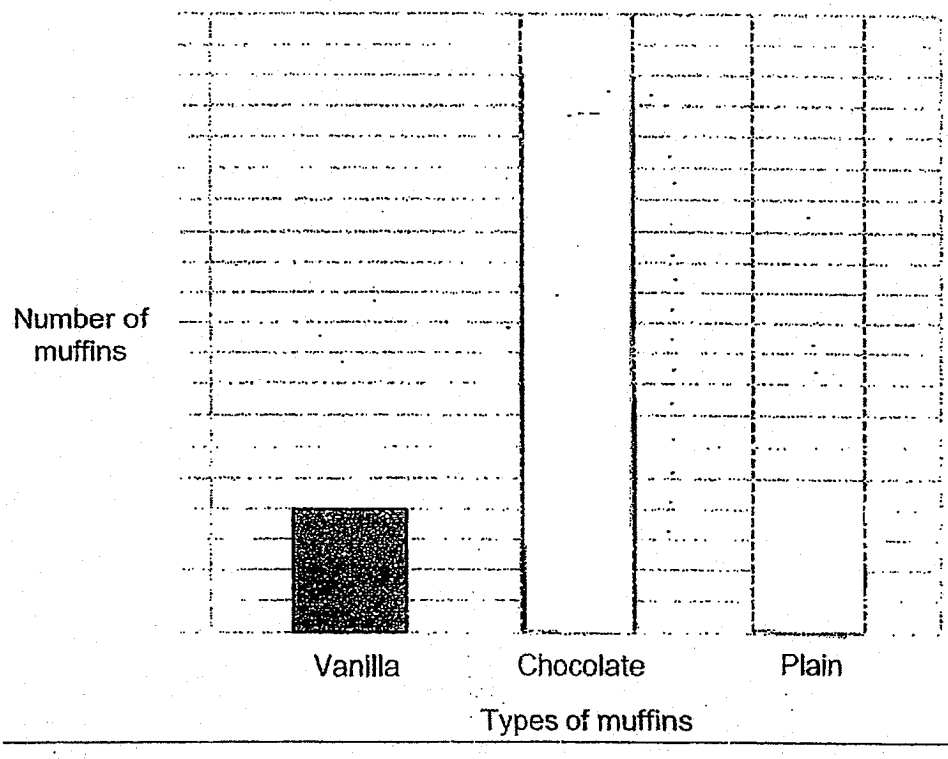
4 The pie chart below shows the different types of muffins in a bakery.

$\frac{1}{4}$ of the muffins were either vanilla or plain.

There were twice as many vanilla muffins as plain muffins.



The different types of muffins are also represented by the bar graph below. Draw the bars for the number of chocolate muffins and plain muffins.



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5 In the figure, ABCD is a trapezium, ABC is an isosceles triangle, $\angle ADC = 84^\circ$ and $\angle ABC = 104^\circ$. Find $\angle CAD$.

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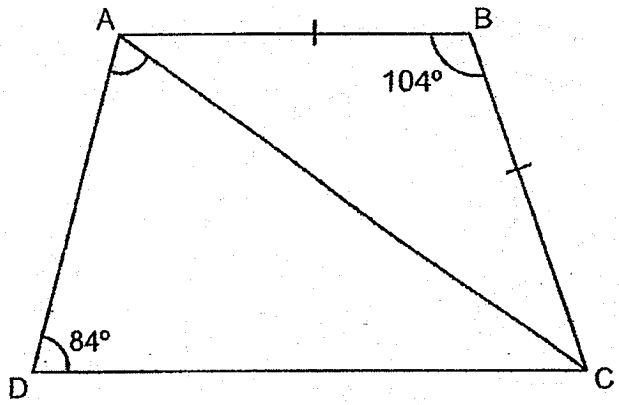

Ans: _____ °

(Go on to the next page)

For questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question and part-question.

(45 marks)

Do not write in this space

6 Ali, Ben and Chen have an average of 42 stamps. Ali has y stamps, Ben has 4 times as many stamps as Ali and Chen has 27 stamps less than Ben.

(a) Find the number of stamps Chen has in terms of y.

(b) How many stamps does Ali have?

Ans: (a) _____ [1]

(b) _____ [2]

7 The ratio of the volume of water in Jug A to the volume of water in Jug B is 8 : 3. After 50 ml of water was poured from Jug A to Jug B, Jug A had twice amount of water as Jug B. How much water was there in Jug B in the end?

Ans: _____ [3]

(Go on to the next page)

Do not write in this space

8 25% of the coins in a coin box are 50-cent coins, 35% are 20-cent coins and the rest are 10-cent coins. The total amount of money in the box is $28.20. How many 10-cent coins are there in the box?

Ans: _____ [3]

9 At a minimart, rice is sold in bags of different masses as shown below.

Mass per bag	Cost per bag
1-kg	$4.40
2-kg	$8.05
5-kg	$19.90

What is the least amount of money that a customer has to pay to buy 16 kg of rice?

Ans: _____ [3]

(Go on to the next page)

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10 Figure 1 is made up of 5 identical rectangles. The area of Figure 1 is 375 cm^2. The rectangles are rearranged into Figure 2. Find the perimeter of Figure 2.

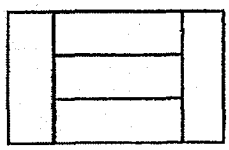

Figure 1

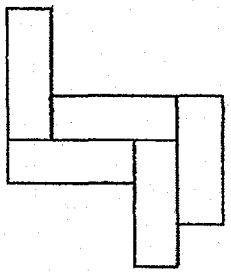

Figure 2

Ans: _____ [3]

11 Aisyah and Jenny competed in a 200-m race. Both did not change their speeds from start to finish. Aisyah ran at 8 m/s and Jenny ran at a speed 3 m/s slower than Aisyah. How far was Jenny from Aisyah when Aisyah reached the finishing line?

Ans: _____ [3]

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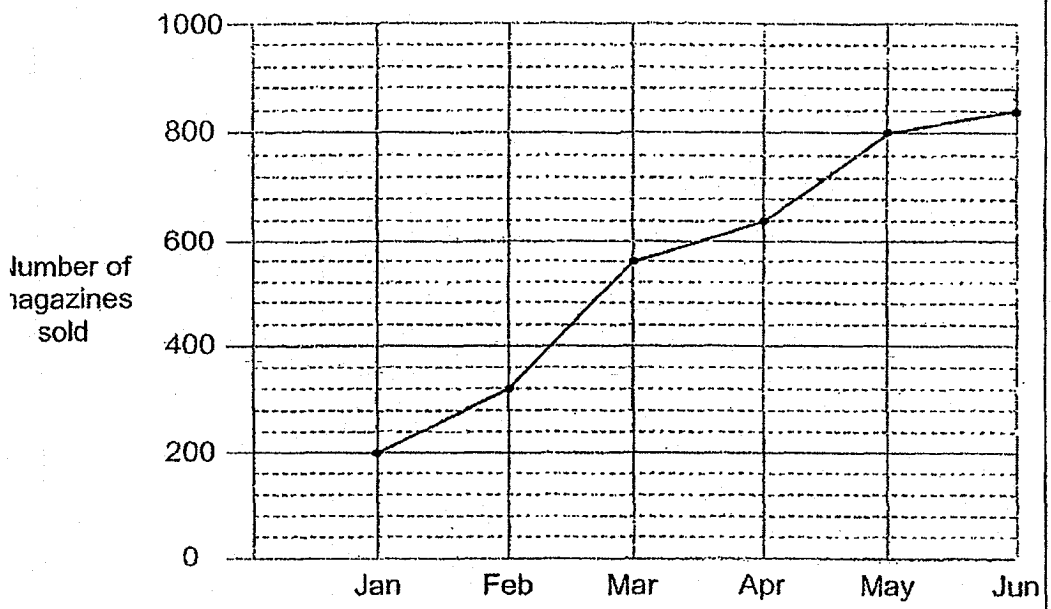
12 The graph below shows the number of magazines sold each month by a new publishing company from January to June.



(a) What was the percentage increase in the number of magazines sold in March compared to January?

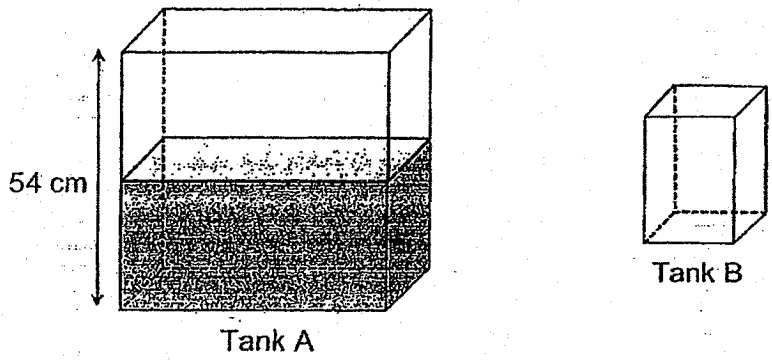
(b) What was the average increase in the number of magazines sold per month from January to June?

Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

13 Two rectangular tanks, A and B, are shown below. The height of Tank A is 54 cm. After Annie poured 41 472 cm^3 of water into an empty Tank A, it was $\frac{4}{9}$ filled as shown below.



(a) Find the base area of Tank A.

(b) After Annie poured some water from Tank A into an empty Tank B, the height of the water level in Tank A decreased to 21.5 cm. Given that the base area of Tank B is 270 cm^2, find the height of the water level in Tank B.

Ans: (a) _____ [1]

(b) _____ [3]

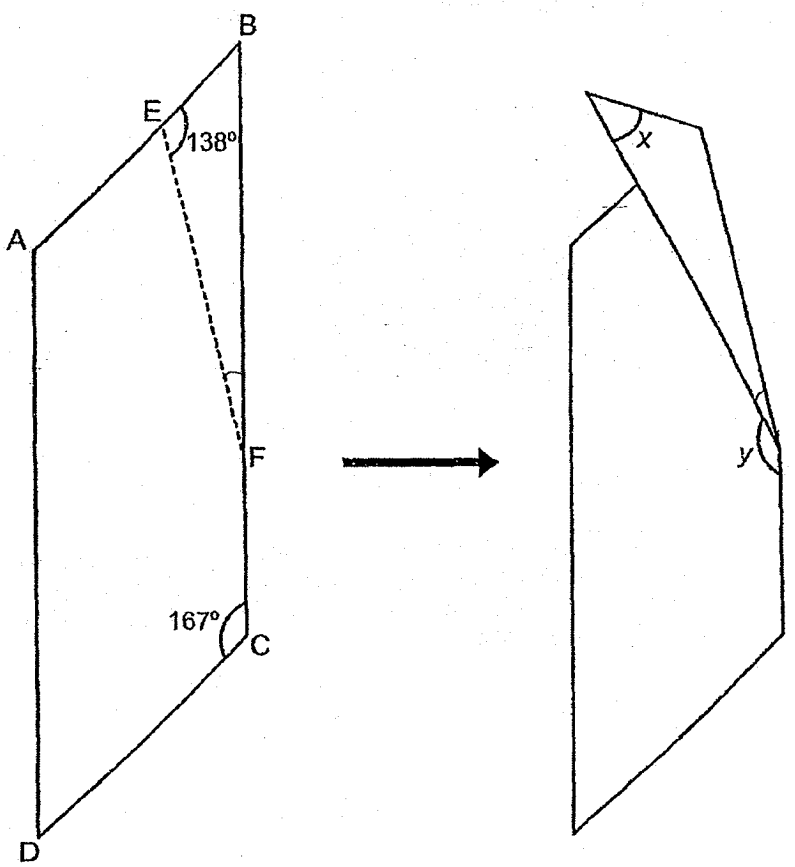
Do not write in this space

(Go on to the next page)

14 Shiva has a piece of paper, ABCD, in the shape of a parallelogram. He folded it along the line EF as shown below. Given that $\angle BCD = 167°$, $\angle BEF = 138°$, AEB and BFC are straight lines, find:

(a) $\angle x$,

(b) $\angle y$.



Before folding

After folding

Ans: (a) _____ [1]

(b) _____ [3]

Do not write in this space

(Go on to the next page)

15 In the figure below, ABCD is a rectangle and BCX is a quarter circle. The length of BC is 28 cm. The total area of the shaded parts of the figure is 514 cm^2. Find the area of the unshaded part CXY of the figure.

(Take $\pi = \frac{22}{7}$)

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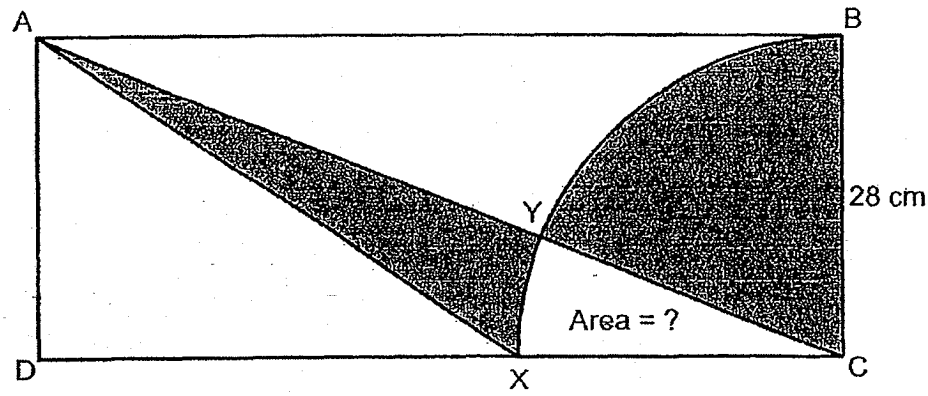

Ans: _____ [5]

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16 $\frac{3}{8}$ of Abby's savings was \$100 more than $\frac{1}{3}$ of Betty's savings. After Abby spent $\frac{5}{8}$ of her savings and Betty spent $\frac{1}{2}$ of her savings, Betty had \$30 more than Abby. Find Betty's savings at first.

Ans: _____ [5]

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17 Farah uses black and white buttons to form figures that follow a pattern. The first four figures are shown below.

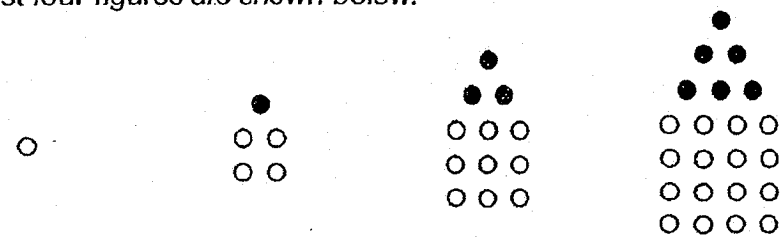


Figure 1 Figure 2 Figure 3 Figure 4

(a) The table shows the number of black and white buttons used for each figure. Complete the table for Figure 5.

Figure Number	**1**	**2**	**3**	**4**	**5**
Number of black buttons	0	1	3	6	
Number of white buttons	1	4	9	16	
Total number of buttons	1	5	12	22	

[1]

(b) A figure in the pattern has a total of 176 black and white buttons. What is the Figure Number?

(c) A figure in the pattern has 784 white buttons. How many black buttons are there in that figure?

Ans:(b) Figure _____ [2]

(c) _____ [2]

End of Paper 2

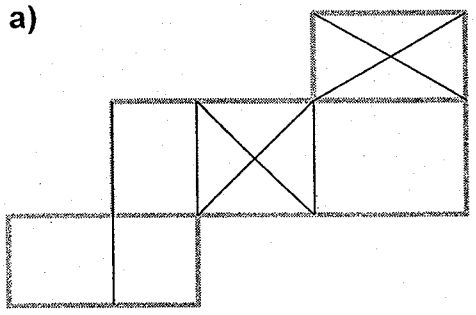
SCHOOL : HENRY PARK PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	3	4	3	1	2	2	3	2	4

Q 11	Q12	Q13	Q14	Q15
2	1	3	3	2

PAPER 1 BOOKLET B

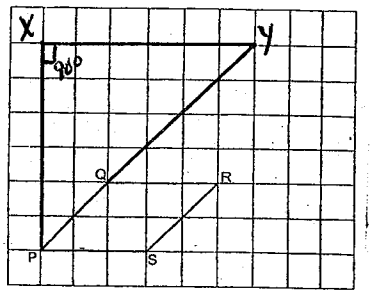
Q16)	12.5
Q17)	28/15
Q18)	7.949
Q19)	9:4
Q20)	$870
Q21)	7 X 3 X 5 = 105cm3
Q22)	1.25 + 0.75 + 0.45 x 3 = $3.35
Q23)	$300
Q24)	33°
Q25)	a)True b)False
Q26)	20cm
Q27)	80
Q28)	129cm2
Q29)	**a)**  **b)10cm**
Q30)	48 years

PAPER 2

Q1) 10 : 15
2 : 3

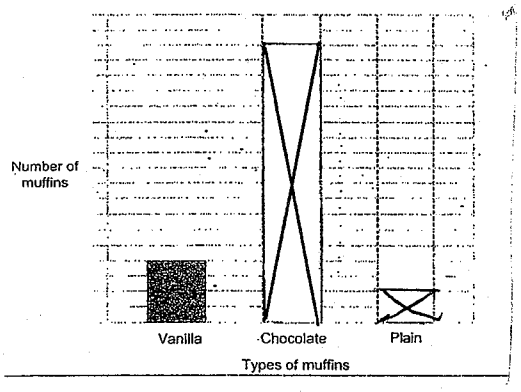
Q2) a)North-west
b)A

Q3) a)



b)3 : 1

Q4)



Q5) $\angle BAD = (180° - 104°) \div 2 = 38°$
$\angle CAD = 180° - 84° - 38° = 58°$

Q6) a)$(4y - 27)$
b)$9y - 27 = 126$
$9y = 153$
$Y = 153 \div 9 = 17$

Q7)

A	B	C
8u x 3 = 24u	3u x 3 = 9u	11u x 3 = 33u
– 50	+ 50	
22u	11u	11u x 3 = 33u

2u = 50
u = 50 ÷ 2 = 25
25 x 11 = 275ml

Q8) 48

Q9)	3 5kg + 1 1kg = 3 x 19.90 + 4.40 = $64.10 2 5kg + 3 2kg = 2 x 19.90 + 3 x 8.05 = $63.95
Q10)	375÷ 5 = 75 3u = 75 U = 75÷2 = 25 U = $\sqrt{25}$ = 5 (30+25) x 2 = 110 cm
Q11)	8 – 5 =3 200÷ 8 x 3 = 75m
Q12)	a)560 – 200 = 360 360/200 x 100 = 180% b)120 + 240 + 80 + 160 + 40 = 640 640÷5 = 128
Q13)	a)41472÷4 x 9 = 93312 93312÷54 = 1728cm2 b)54 x 4/9 = 24 24 – 21.5 = 2.5 2.5 x 1728 = 4320 4320÷270 = 16cm
Q14)	a)∠180° – 167° = 13° ∠BFE = 180° – 138° – 13° = 29° ∠180° – 29° x 2 = 122°
Q15)	A + X = 28 x 28 x ½ = 392 B + X = 28 x 28 x 22/7 x ¼ = 616 A + B + 2 X = 1008 A + B = 514 2X = 1008 – 514 = 494 X = 494÷2 = 247cm2
Q16)	8u x 3/8 – 100 = 1/3 x (6u+60) 3u – 100 = 2u + 20 U = 120 120 x 6 + 60 = $780
Q17)	a)10 , 25 , 35 b)11 c)378

Index No. ☐☐☐☐☐ – ☐

Maha Bodhi School
2018 Preliminary Examination
Primary 6
Mathematics
Paper 1
(Booklet A)

Name : _____ ( )

Class : Primary 6 _____

Date : 7 August 2018

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES:

1. Write your Index No. in the boxes at the top right hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. The use of calculators is **NOT** allowed.

This booklet consists of **8** printed pages.

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)
All diagrams are not drawn to scale.

---

1. Which one of the following is equal to 60 thousands, 40 tens and 15 ones?

   (1) 604 015
   (2) 600 415
   (3) 60 415
   (4) 6415

2. How many eighths are there in $2\frac{3}{4}$?

   (1) 22
   (2) 20
   (3) 11
   (4) 10

3. 3040 g is the same as _____.

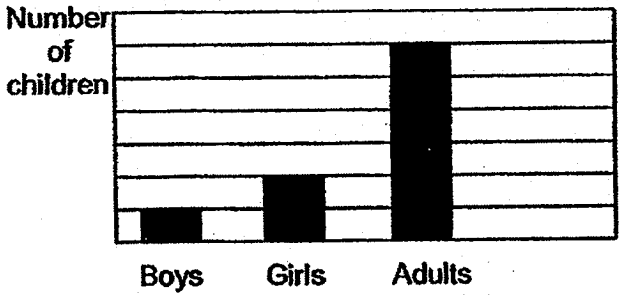
   (1) 3 kg 4 g
   (2) 3 kg 40 g
   (3) 30 kg 4 g
   (4) 30 kg 40 g

4. Melvin and Ramesh took part in a race. Melvin ran at 5 m/s and took 15 seconds. Ramesh ran at 3 m/s. What was the time taken by Ramesh?

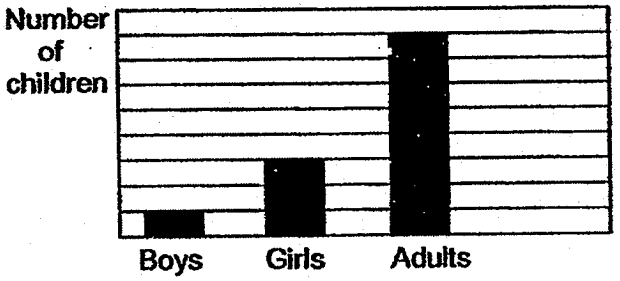
   (1) 15 s
   (2) 25 s
   (3) 45 s
   (4) 75 s

5. There are twice as many boys as girls. There are twice as many adults as children. Which one of the following bar graphs shows the above information correctly?

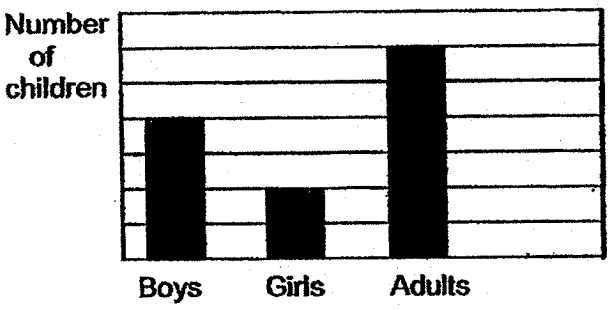
(1)



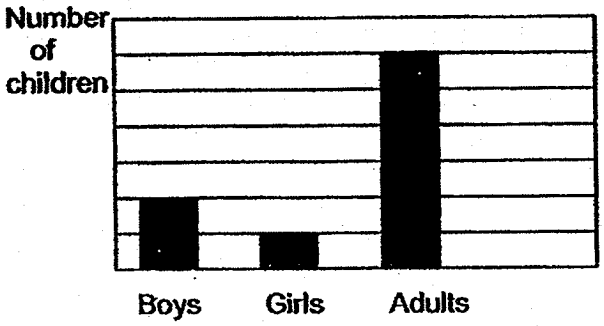
(2)



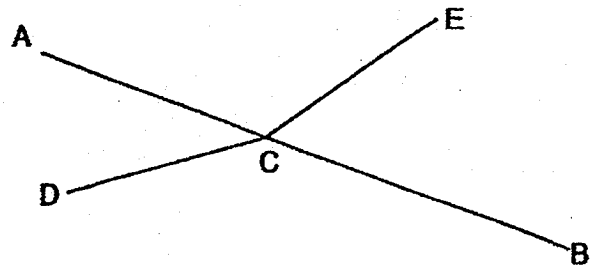
(3)



(4)



6. In the diagram below, AB, CD and CE are straight lines.



Which one of the following statements about the angles is true?

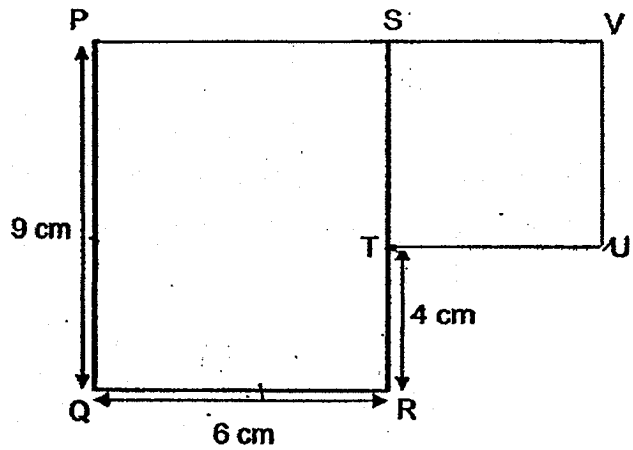
(1) $\angle ACD = \angle ECB$

(2) $\angle ACE = \angle BCD$

(3) $\angle ECB + \angle BCD = 180^\circ$

(4) $\angle ACE + \angle ECB = 180^\circ$

7. The figure below is made up of Rectangle PQRS and Square STUV. What is the perimeter of the figure?



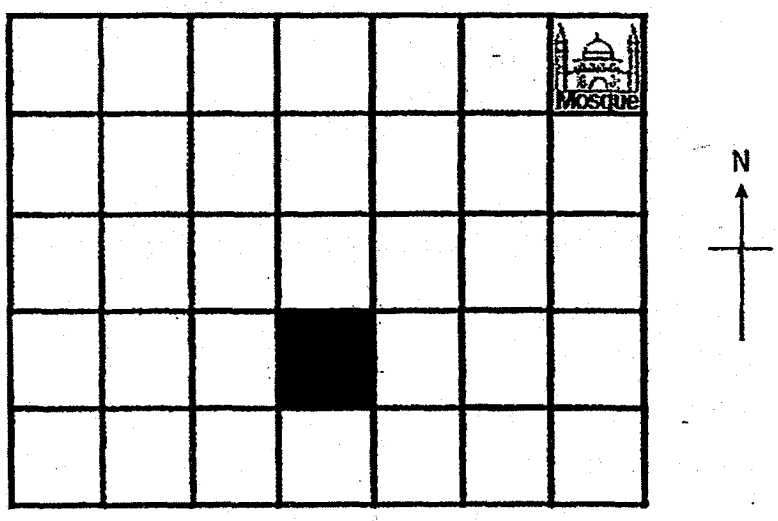
(1) 19 cm

(2) 34 cm

(3) 40 cm

(4) 45 cm

8. In the diagram below, the shaded square is _____ of the mosque.

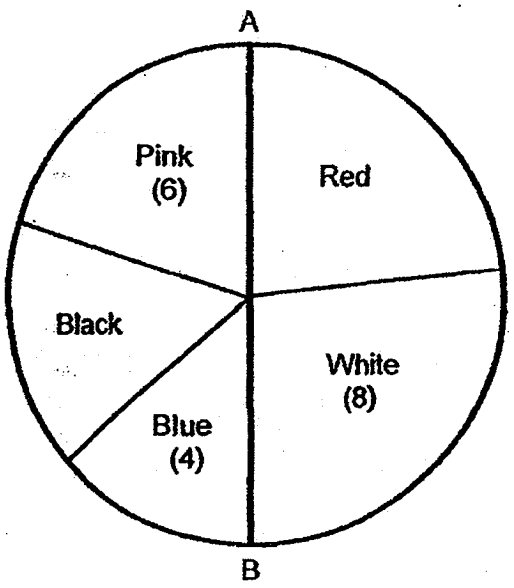


(1) north-east
(2) north-west
(3) south-east
(4) south-west

9. A car left Village A and travelled at an average speed of 70 km/h towards Town P. A coach left Village B and travelled at an average speed of 50 km/h towards Town Q. Village A and Village B are 10 km apart. How far apart are the two vehicles one hour after the drivers have started their journeys?

(1) 100 km
(2) 110 km
(3) 120 km
(4) 130 km

10. 30 students in a class were asked to choose a colour for their class T-shirt. Their responses are shown in the pie-chart below. AB is a straight line.



How many more students chose Red than Black?

(1) 5

(2) 2

(3) 7

(4) 12

11. A solid cuboid of height 5 cm has a square base of side 4 cm. What is its volume?

(1) 20 cm^3

(2) 40 cm^3

(3) 80 cm^3

(4) 100 cm^3

12. $48 \div \boxed{\ ?\ } = 0.048 \times 100$

What is the missing number in the box?

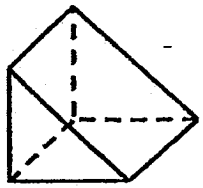
(1) 1
(2) 10
(3) 100
(4) 1000

13. John spent $50 of his allowance and saved the rest. When he increased his spending by 10%, his savings decreased by 20%. How much was his allowance?

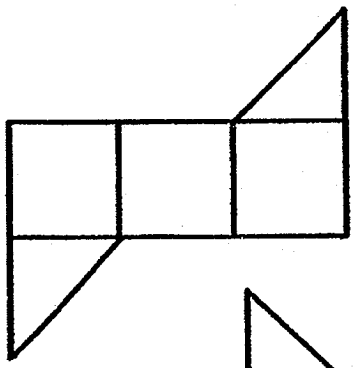
(1) $44
(2) $55
(3) $75
(4) $80

14. A cube was cut into 2 halves to form the solid figure below.

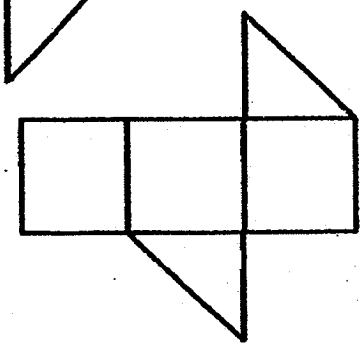
Which one of the following is a possible net of the solid figure?



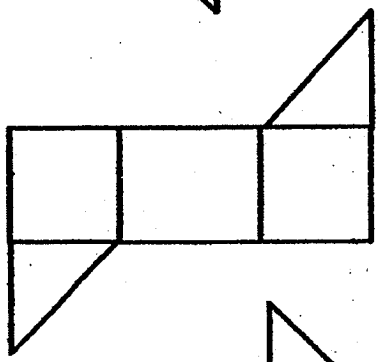
(1)



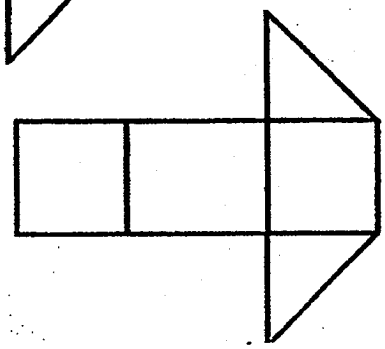
(2)



(3)

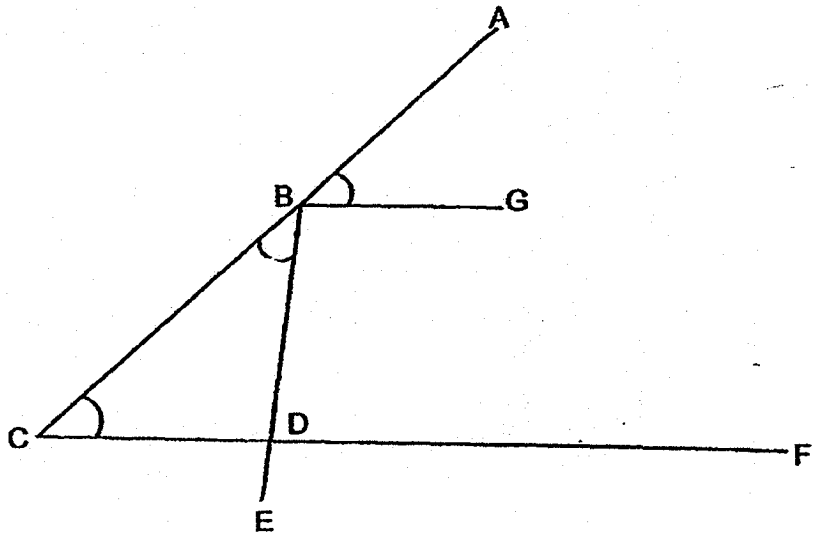


(4)



15. 4 straight lines are connected to form the diagram shown below.

$\angle ABG = \angle EBC = \angle ACF = 41°$.



The students in a class then made the following statements:

- $\angle GBC + \angle BCF = 180°$
- $\angle GBD = \angle BDF$
- $BE \perp BG$
- $BG \parallel CF$
- $BD \perp CF$

How many of the above statements are true?

(1) 5

(2) 2

(3) 3

(4) 4

Index No. ☐☐☐☐☐ – ☐

Maha Bodhi School
2018 Preliminary Examination
Primary 6
Mathematics
Paper 1
(Booklet B)

Name : _____ ( ) Marks: ___ / 20

Class : Primary 6 _____

Date : 7 August 2018

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES:

1. Write your Index No. in the boxes at the top right hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.
6. The use of calculators is **NOT** allowed.

This booklet consists of 7 printed pages.

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (5 marks)
All diagrams are not drawn to scale.

---

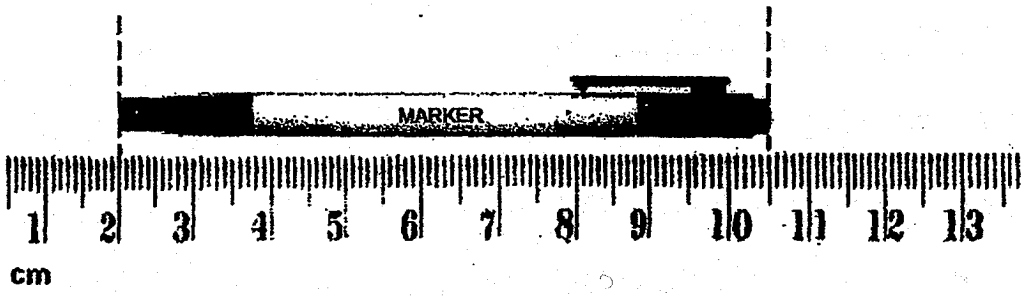
16. How many common factors are there in 24 and 32?

Ans: _____

17. Find the value of $\frac{3}{10} \div 12$. Give your answer in its simplest form.

Ans: _____

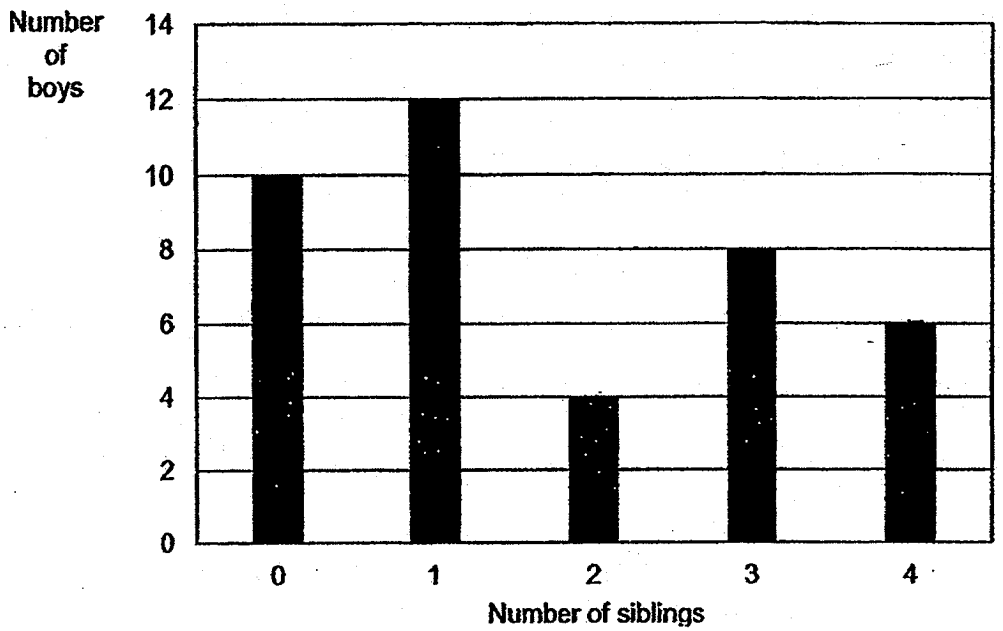
18. What is the length of the marker shown below?



Ans: _____cm

/3

19. A survey was conducted on a group of 40 boys to find out the number of siblings they have. The results of the survey are shown in the bar graph below.



Based on the results, how many boys have the greatest number of siblings?

Ans: _____ boys

20. Mr Wee baked $5n$ cookies. He gave 8 cookies to each of his pupils and had n cookies left. Express the number of pupils Mr Wee had in terms of n.

Ans: _____ pupils

/2

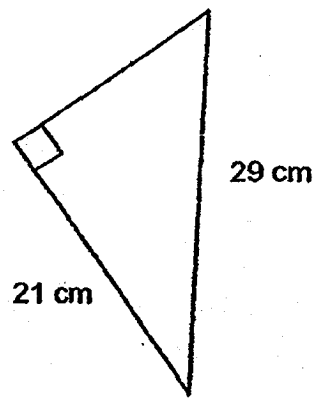
Questions 21 to 30 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (20 marks)
All diagrams are not drawn to scale.

---

21. A ribbon was 70.1 cm long at first. Alice gave away some of the ribbon and the remaining ribbon was then cut into 6 equal pieces of length 8.7 cm each.
Find the length of ribbon that was given away.

Ans: _____ cm

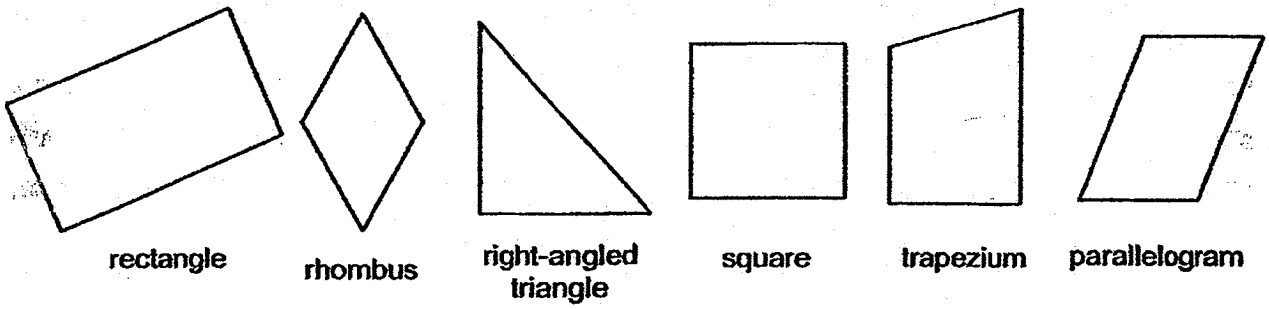
22. The perimeter of the right-angled triangle shown below is 70 cm.
What is the area of the triangle?



Ans: _____ cm^2

/ 4

23. Look at the 6 geometrical figures shown below.
How many of them have both perpendicular and parallel lines?



Ans: _____

24. Mr Wong had some red bowls and 76 blue bowls. He broke 8 red bowls and 6 blue bowls. He had 120 bowls left. How many red bowls did Mr Wong have at first?

Ans: _____ red bowls

25. Karen had 12 litres of fruit punch at first. Her friends drank $\frac{1}{4}$ of it.
Karen then gave $\frac{1}{2}$ litre of the remaining fruit punch to her neighbours.
How much fruit punch did Karen have in the end?

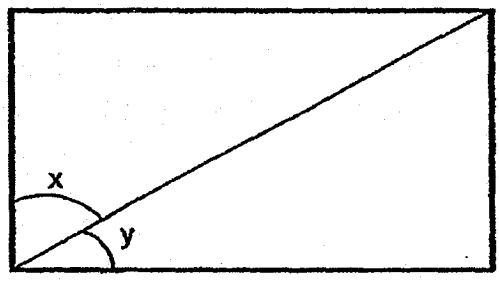
Ans: _____ litres

/ 6

26. At a fruit stall, the price of a mango is $\frac{3}{4}$ the price of a rock melon. The price of a guava is half the price of a mango. What is the ratio of the price of a rock melon to the price of a mango to the price of a guava?

Ans: _____

27. In the rectangle shown below, $\angle x = \frac{3}{2}$ of $\angle y$. Find $\angle x$



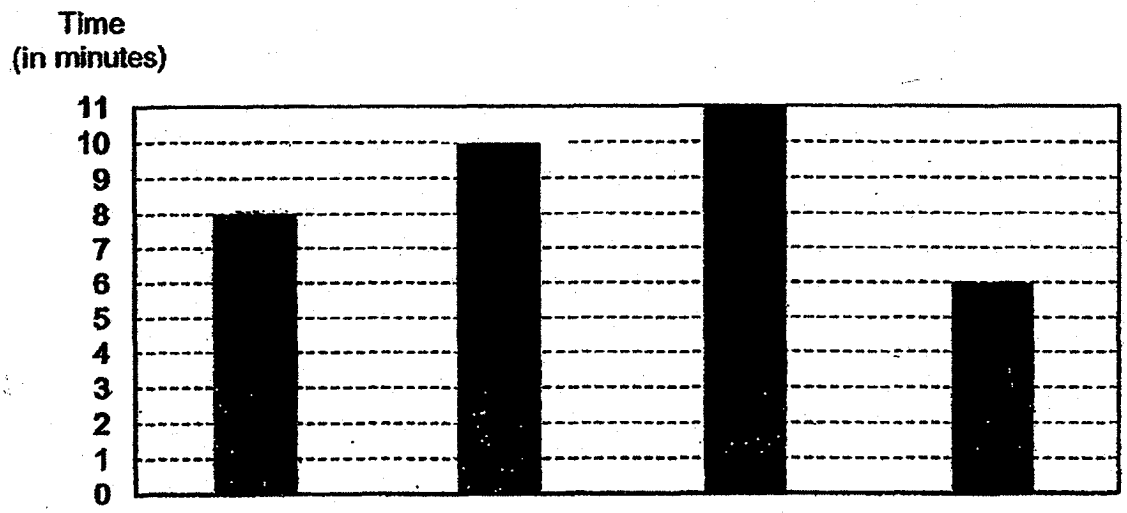
Ans: _____ °

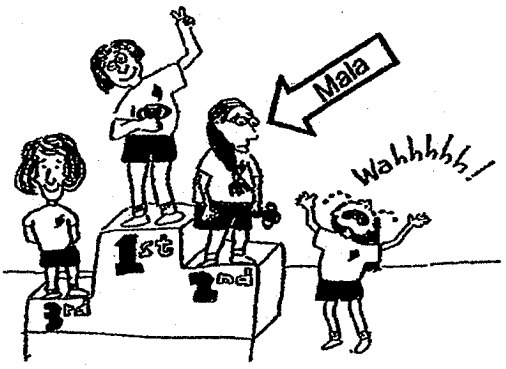
28. Yi Ting is *m* years old. Her father is 4 times her age and 2 years older than her mother. How old was Yi Ting's mother when Yi Ting was born?
Express your answer in terms of m in the simplest form.

Ans: _____ years old

/ 6

29. The bar graph below shows the timing (in minutes) taken by 4 girls to complete a 800 m race.





Write down the time taken by Mala to complete the race.

Ans: _____ min

/ 2

30. There were 30 questions in a quiz. For the first 10 questions, Jay took 2 minutes to answer each question. He took thrice as long for each of the remaining questions. The quiz lasted 30 minutes. What is the most number of questions Jay could have answered?

Ans: _____ questions

/ 2

Index No. | | | | | | – | |

Maha Bodhi School
2018 Preliminary Examination
Primary 6
Mathematics
Paper 2

Name : _____ ( )

Class : Primary 6 _____

Date : 7 August 2018

Duration: 1 h 30 min

INSTRUCTIONS TO CANDIDATES:

1. Write your Index No. in the boxes at the top right hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

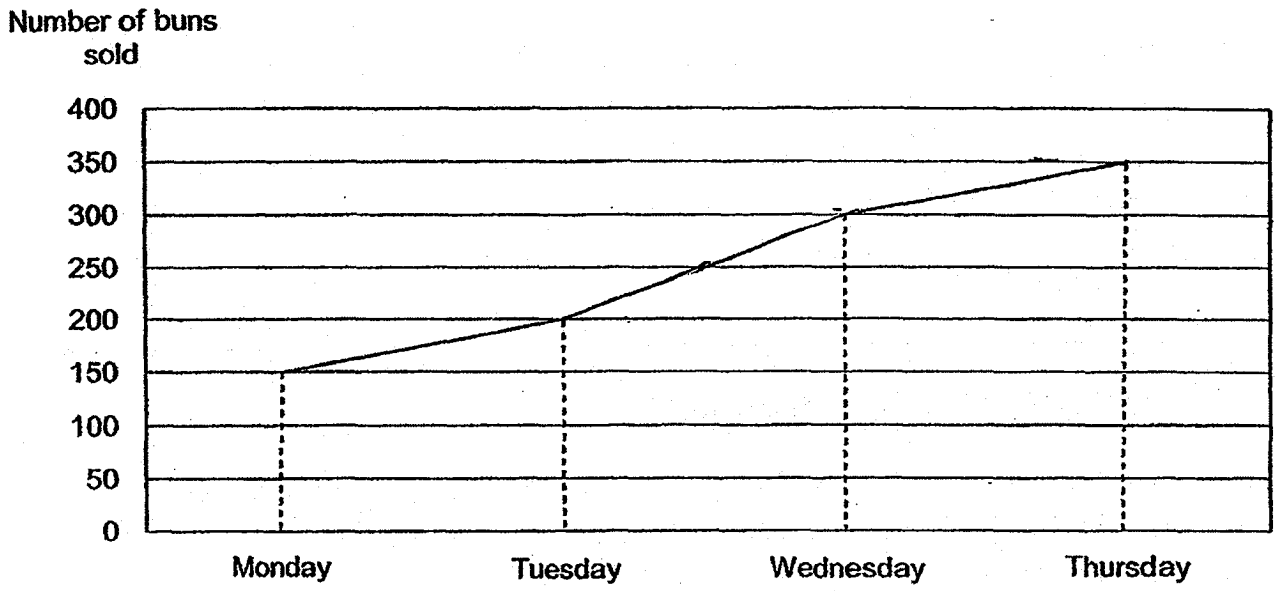
Paper	Booklet	Marks Obtained	Max Marks
1	A		20
	B		25
2	-		55
Total			**100**

This booklet consists of **13** printed pages.

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)
All diagrams are not drawn to scale.

---

1. The line graph below shows the number of buns sold from Monday to Thursday.



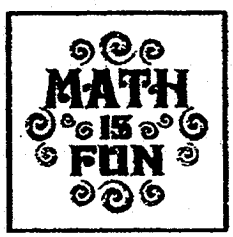
On average, how many buns were sold over the 4 days?

Ans: _____ buns

/ 2

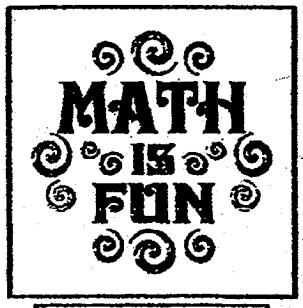
2. Two types of poster are sold at the prices shown.

Small



$2.20 per poster

Large

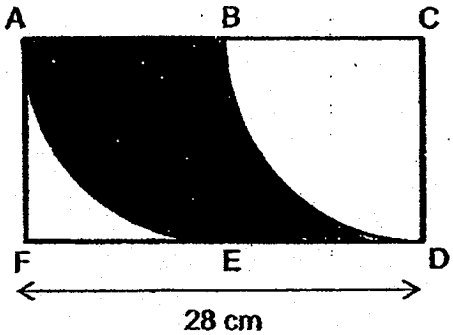


$2.80 per poster

Yuting paid $80.60 for some small and large posters. She bought 2 more large posters than small posters. How many small posters did she buy?

Ans: _____ small posters

3. In the figure below, ACDF is a rectangle of length 28 cm made up of two identical squares. A quarter circle is drawn in each square. What is the perimeter of the shaded part? (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

/ 4

4. Liming had a piece of wire $15x$ cm long. He formed a triangle with sides measuring x cm, $3x$ cm and 18 cm, with part of the wire. What is the length of the remaining wire? Express your answer in terms of x in the simplest form.

Ans: _____ cm

5. A barrel of oil has a mass of 3.1 kg when it was $\frac{1}{4}$ full. The same barrel of oil has a mass of 8 kg when it was $\frac{5}{6}$ full. What was the mass of the barrel of oil when it was completely full?

Ans: _____ kg

/ 4

For questions **6** to **17**, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)
All diagrams are not drawn to scale.

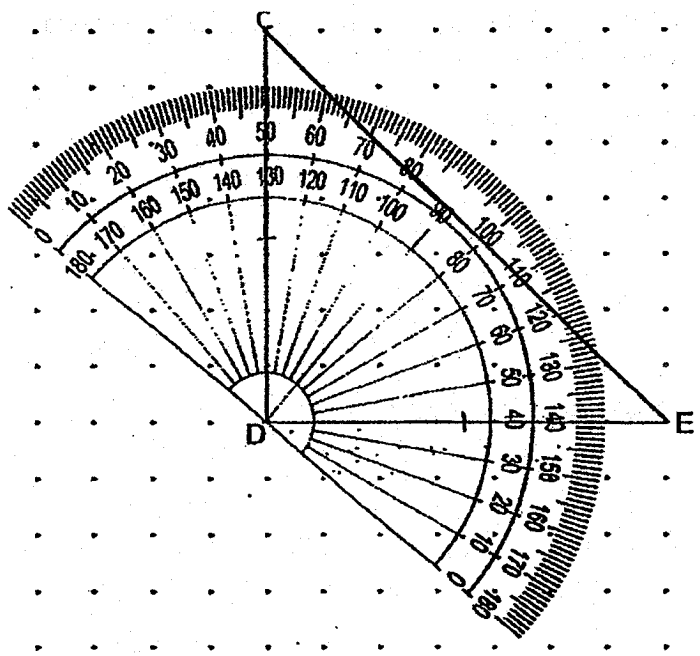
---

6. CDE is a right-angled isosceles triangle. CD is perpendicular to DE.

   The line DE has been drawn for you.

   (a) Using the protractor in the dot paper below, draw and label Triangle CDE. [2]

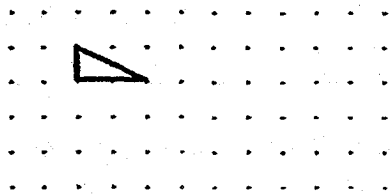
   (b) Measure ∠DEC.



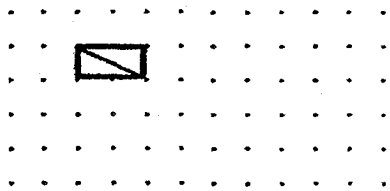
Ans: (b)_____ [1]

/3

7. A unit shape in the form of a right-angled triangle is drawn in the dot paper below.

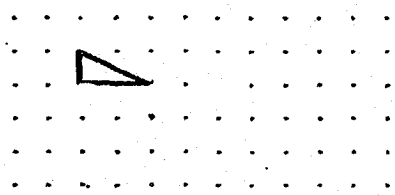


A quadrilateral formed when 2 such unit shapes are joined together as shown below has 2 lines of symmetry,



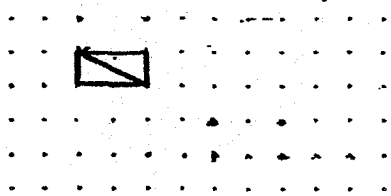
Using the **smallest** number of unit shapes, a pencil, ruler and the given dots, form another 3 **different** quadrilaterals in the dot paper below such that:

(a) the quadrilateral formed has no line of symmetry



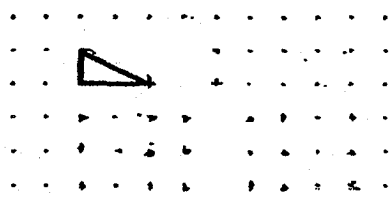
[1]

(b) the quadrilateral formed has one line of symmetry



[1]

(c) the quadrilateral formed has four lines of symmetry



[1]

8. Mr Sim takes $\frac{3}{4}$ h to travel from his home to Town A at an average speed of 64 km/h. If he wants to reach Town A 15 minutes earlier, at what speed must he travel?

Ans:_____ [3]

9. A rectangular tank measuring 112 cm by 80 cm is filled with water to a height of 14 cm. When 28.8 litres of water is removed, the water level drops to $\frac{2}{5}$ the height of the container. What is the capacity of the tank?

Ans: _____ [4]

77

10. Sharul was given $20 on Monday.

He recorded the fraction of the money he had that was spent that day.

The next day, he would bring the amount left from the day before to school and record the fraction of this amount of money that was spent. He repeated this daily.

The table below shows the fraction of his money that he spent on 3 days.

Date Day	13 August Monday	14 August Tuesday	15 August Wednesday	16 August Thursday
Fraction Spent	$\frac{1}{10}$	$\frac{1}{3}$	$\frac{1}{4}$	
Amount left	$18	(a)		(b)

(a) What was the amount of money Sharul had left on Tuesday?

(b) Sharul spent $2 on Thursday.

What fraction of the money he had on Thursday was spent?

Ans: (a) _____ [2]

(b) _____ [2]

/ 4

11. Siti has some 20-cent coins and 50-cent coins in the ratio 3 : 4. The total value of all the coins is $52. What is the value of all her 20-cent coins?

Ans: _____ [3]

12. Ali, Bob and Carl shared a sum of money.
Ali received 40% of the total amount that Bob and Carl received.
Bob received 80% of what Carl received.
Bob received $96 more than Ali.
Find the sum of money shared by the 3 boys.

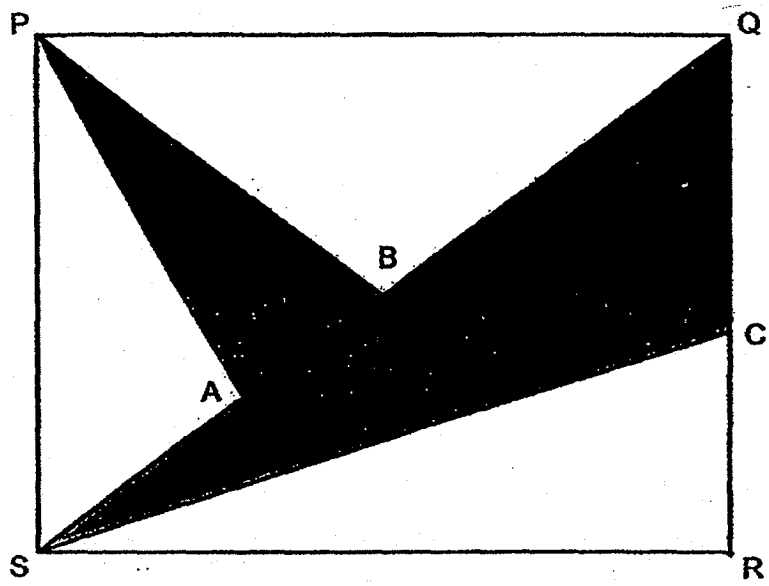
Ans: _____ [3]

/ 6

13. In the rectangle shown below, PQ = 28 cm and QR = 21 cm.

The ratio of SA : AB : BQ = 3 : 2 : 5, CR is $\frac{3}{4}$ of QC and PB = QB.

What fraction of the rectangle PQRS is shaded?



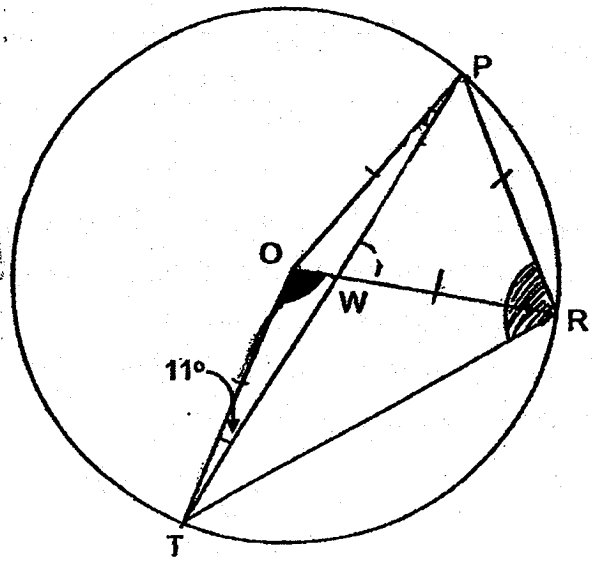
Ans: _____ [4]

/ 4

14. In the diagram below, Triangle OPT, Triangle OPR and Triangle OTR are inside a circle with O being the centre of the circle. OR = PR and ∠PTO = 11°.

(a) Find ∠TOR

(b) Find ∠PRT



Ans: (a)_____ [2]

(b)_____ [2]

4

15. The teacher told the class that the average marks for a test was 82 marks.
However, Nicole was absent for the test.
The table below shows the average marks before Nicole took the test.

	Boys	Girls
Number	20	
Average marks	79	86

After Nicole had taken the test, the teacher changed the average marks for the girls and announced that the final average marks for the class was 82.5 marks.

(a) How many marks did Nicole score for the test?

(b) What was the average marks scored by the girls finally?
Give your answer correct to 1 decimal place.

Ans: (a)_____ [2]

(b)_____ [2]

/ 4

16. The members of the Computer Club are divided into 2 groups.

There are 12 more members in Group A than in Group B.

The ratio of the number of boys in Group B to that of Group A is 3 : 4

$\frac{3}{4}$ of the girls in the Computer Club are in Group B.

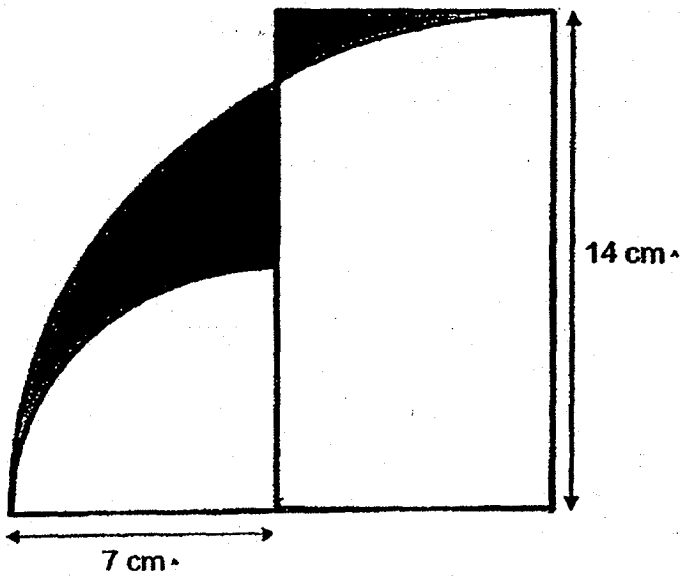
There are 138 members in the Computer Club.

How many boys are there in Group A?

Ans: _____ [5]

/ 5

17. The figure shows two quarter circles and a rectangle. The radius of the big quarter circle is 14 cm. The radius of the small quarter circle is 7 cm. What is the difference in area between the two shaded parts X and Y? (Take $\pi = \frac{22}{7}$)



Ans: _____ [5]

/ 5

Remember to check your work! Every mark counts.
~ End of Paper ~

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : MAHA BODHI SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

PAPER 1 BOOKLET A

Q1	3	Q2	1	Q3	2	Q4	2	Q5	4
Q6	4	Q7	3	Q8	4	Q9	2	Q10	2
Q11	3	Q12	2	Q13	3	Q14	3	Q15	2

PAPER 1 BOOKLET B

Q16) 4

Q17) $\frac{1}{40}$

Q18) 8.5cm

Q19) 6

Q20) $(\frac{n}{2})$

Q21) 8.7 x 6 = 52.2
70.1 – 52.2 = <u>17.9cm</u>

Q22) 29 + 21 = 50
70 – 50 = 20
$\frac{1}{2}$ x 20 x 21 = <u>210cm^2</u>

Q23) 3

Q24) $76 - 6 = 70$
$120 - 70 = 50$
$50 + 8 = \underline{58}$

Q25) Remaining fruit punch → $\frac{3}{4} \times 12$
$= 9$ litres
Ans: $9 - \frac{1}{2} = 8\frac{1}{2}$ litres

Q26) 8 : 6 : 3

Q27) $3 + 2 = 5$
$90 \div 5 = 18$
$18 \times 3 = \underline{54^{\circ}}$

Q28) Father → $M \times 4$
$= 4m$
Mother → $(4m - 2)$
$4m - 2 - m = \underline{(3m - 2) \text{ years old}}$

Q29) 8 min

Q30) First 10 qn → 10×2
$= 20$min
Remaining time left → $30 - 20$
$= 10$min
Time taken for ea remaining qn → 2×3
$= 6$min
$10 \div 6 \approx 1$ qn
$10 + 1 = \underline{11}$

PAPER 2

Q1) $150 + 200 + 300 + 350 = 1000$
$1000 \div 4 = \underline{250 \text{ buns}}$

Q2) $2.80 \times 2 = 5.60$
$80.60 - 5.60 = \$75$
1 set → $2.20 + 2.80$
$= \$5$

Number of sets → 75 ÷ 5
= <u>15</u>

Q3) 28 ÷ 2 = 14

$\frac{1}{2} \times \frac{22}{7} \times 28 = 44cm$

44 + 14 + 14 = <u>72cm</u>

Q4) Length of remaining wire → 15x – x – 3x – 18
= <u>(11x – 18)cm</u>

Q5) 7 units → 8 – 3.1
= 4.9kg
1 unit → 4.9 ÷ 7
= 0.7kg
Mass of barrel of oil → 8kg + (0.7kg x 2)
= <u>9.4kg</u>

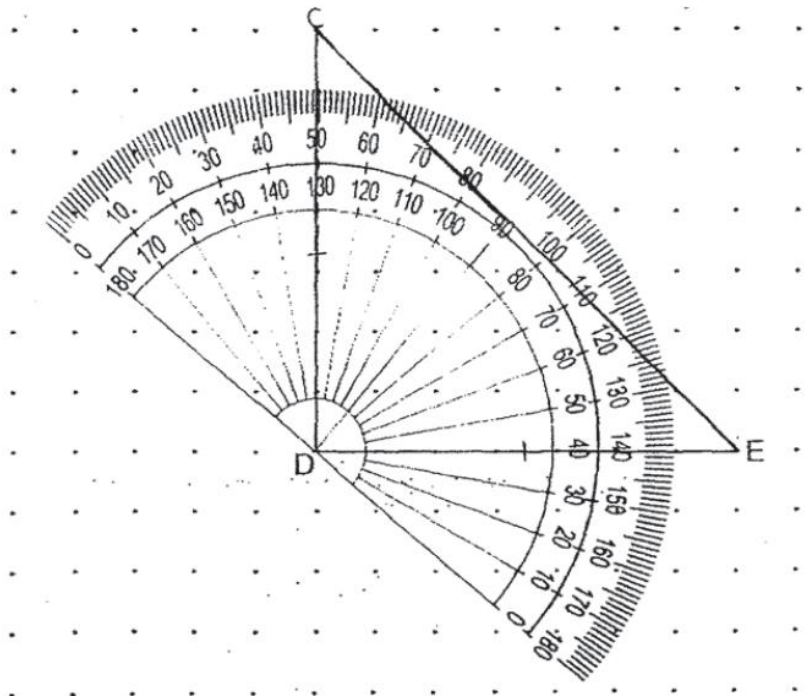
Solutions to Word Problems

Maha Bodhi Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

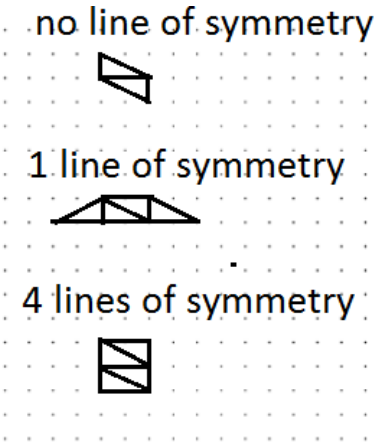
6. a)



b) ∠ DEC = 45 °

Ans: (a) as shown
(b) 45 °

7.



Ans: As shown .

---

8. Distance travelled = $\frac{3}{4}$ X 64 = 48 km

Expedited time = 45 min – 15 min = 30 min = 0.5 h

New speed = 48 ÷ 0.5 = 96 km / hr

Ans: 96 km / hr

---

9. Volume of water at first = 112 x 80 x 14 = 125 440 cm^3 = 125.44 litres

Volume of water at last = 125.44 – 28.8 = 96.64 litres

$\frac{2}{5}$ of water → 96.64 litres

$\frac{1}{5}$ of water → 96.64 ÷ 2 = 48.32 litres

$\frac{5}{5}$ of water → 48.32 x 5 = 241.6 litres

Ans: 241.6 litres

---

10. a)

Amount left on Tuesday = 18 x $\frac{2}{3}$ = $12

b)

Amount left on Wednesday = $\frac{3}{4}$ x 12 = $9

Fraction spent on Thursday = 2 ÷ 9 = $\frac{2}{9}$

Ans: (a) $12
(b) $\frac{2}{9}$

---

11. Ratio of value of 20-cent coins to 50-cent coins → 3 x 0.2 : 4 x 0.5 → 0.6 : 2 →

3u : 10u

3u + 10u = 52

13u = 52

u = 52 ÷ 13 = 4

Value of 20-cents coins = 3 x 4 = $12

`

Ans: $12

---

12. Let Carl's amount = 100u

Bob's amount = 0.8 x 100u = 80u

Ali's amount = 0.4 x (100u + 80u) = 72u

Difference between Bob and Ali's amount = 80u – 72u = 8u = $96

u = 96 ÷ 8 = 12

Total amount of money = 100u + 80u + 72u = 252u = 252 x 12 = $3024

Ans: $3024

---

13. Area of PBQ = $\frac{1}{4}$ x 28 x 21 = 147 cm^2

CR = $\frac{3}{7}$ x 21 = 9 cm (3/4 + 4/4 = 7/4)

Area CRS = 9 x 28 x $\frac{1}{2}$ = 126 cm^2

AS = $\frac{3}{10}$ x QS

Area of PAS = $\frac{3}{10}$ x 28 x 21 x $\frac{1}{2}$ = 88.2 cm^2

Shaded area = 28 x 21 – 147 – 126 – 88.2 = 226.8 cm^2

Rectangular area = 28 x 21 = 588

Fraction of shaded area = 226.8 ÷ 588 = $\frac{27}{70}$

Ans: $\frac{27}{70}$

---

14. a)

$\angle TOP = (180 – 11 - 11) = 158°$

$\angle TOR = 158° – 60 = 98°$

b)

$\angle ORT = (180 – 98) \div 2 = 41°$

$\angle PRT = 60 + 41 = 101°$

Ans: (a) 98°

(b) 101°

15. a)

Total difference between boys marks and average marks = (82-79) x 20= 60

Difference between girls average and class average = 86 – 82 = 4

Number of girls = 60 ÷ 4 = 15

Total increase in average = 0.5 x (20 + 15) = 17.5

Nicole's marks = 82.5 + 17.5 = 100

b)

Total marks scored by girls = 86 x 15 + 100 =1390

Average marks of girls = 1390 ÷ 16 = 86.875 ≈ 86.9

Ans: (a) 100

(b) 86.9

---

16. Number of members in Group B = (138 – 12) ÷ 2 = 63

Number of Group A members = 63 + 12 = 75

Ratio of boys in Group B to those in Group A = 3 : 4 → 54 :72

Ratio of girls in Group B to those in Group A = 3 : 1 → 9 : 3

Ratio of members in Group B to those in Group A = 63 : 75 (sum of ratios)

Number of boys in Group A = 72

Ans: 72

---

17. Area of big quadrant = $\frac{22}{7}$ x 14 x 14 x $\frac{1}{4}$ = 154 cm^2

Area of small quadrant = $\frac{22}{7}$ x 7 x 7 x $\frac{1}{4}$ = 38.5 cm^2

Shaded area X minus shaded area Y = area of big quadrant – area of small quadrant – (rectangular area – area Y) - area Y

= 154 – 38.5 – 14 x 7 = 17.5 cm^2

Ans: 17.5 cm^2

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2018
PRIMARY 6
MATHEMATICS

PAPER 1
(BOOKLET A)

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.
The use of calculators is not allowed.

Name: _____ ( )

Class: Primary 6._____

Date: 2 August 2018

Parent's Signature : _____

This booklet consists of 8 printed pages including this page

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

---

1. Round 538 527 to the nearest ten thousands.

   (1) 530 000

   (2) 538 000

   (3) 539 000

   (4) 540 000

2. The mass of a sack of potatoes is 5.45 kg. Find the mass of 30 such sacks of potatoes.

   (1) 16.35 kg

   (2) 54.5 kg

   (3) 163.5 kg

   (4) 545 kg

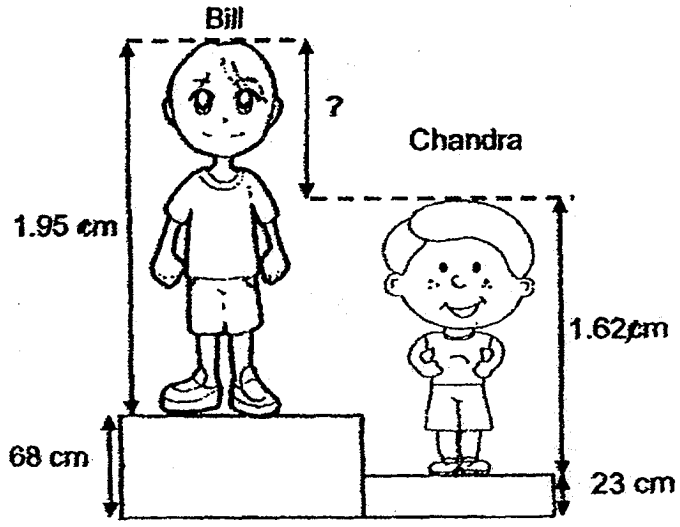
3. Bill and Chandra are standing on the podium. What is the distance between the top of Bill's head and the top of Chandra's head?

   (1) 33 cm

   (2) 45 cm

   (3) 78 cm

   (4) 91 cm



(Go on to the next page)

4. The table shows the total number of cars sold by Mr Tan, a car dealer, from January to April.

Month	No. of cars sold
Jan	0
Feb	17
Mar	29
Apr	62

What was his average number of cars sold per month?

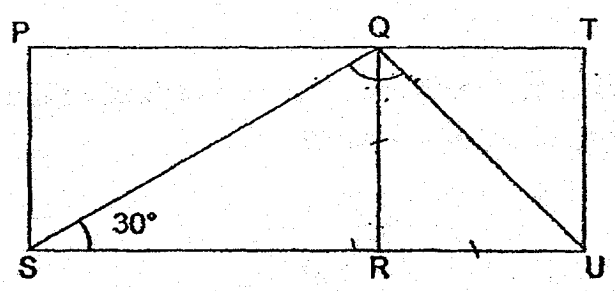
(1) 23

(2) 27

(3) 36

(4) 108

5. In the figure below, PQRS is a rectangle and QTUR is a square. PQT and SRU are straight lines. Find ∠SQU.



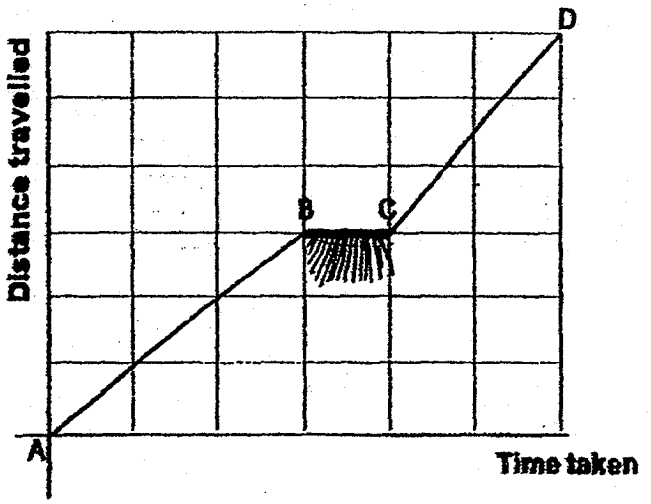
(1) 45°

(2) 60°

(3) 90°

(4) 105°

6. The distance-time graph shows the journey taken by Mr Lim from Town A to Town D. Which statement describes the graph?



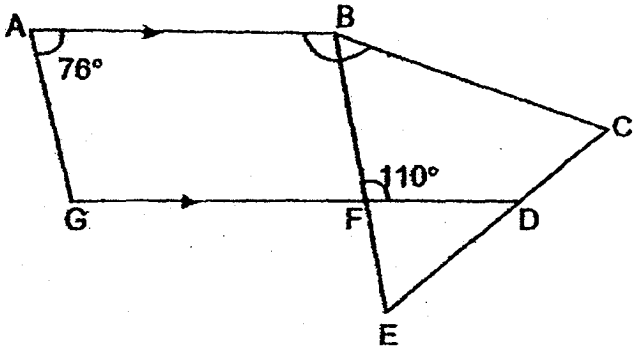
(1) He travelled at the same speed from Point B to Point C.

(2) He travelled at the same speed from Point A to Point D.

(3) His speed from Point A to Point B is faster than his speed from Point C to Point D.

(4) His speed from Point A to Point B is slower than his speed from Point C to Point D.

7. In the diagram below, ABFG is a trapezium and BCE is an equilateral triangle. AB // GF and GFD is a straight line. Find ∠ABC.



(1) 104°

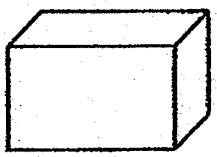
(2) 164°

(3) 170°

(4) 186°

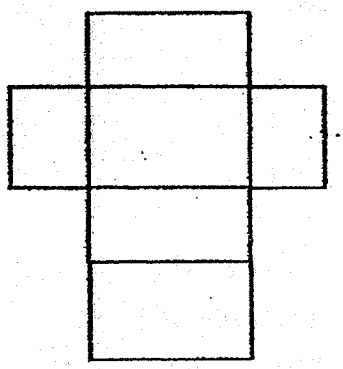
(Go on to the next page)

8.

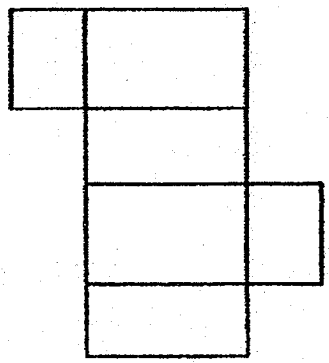


Which one of these figures could **not** be a net of the cuboid?

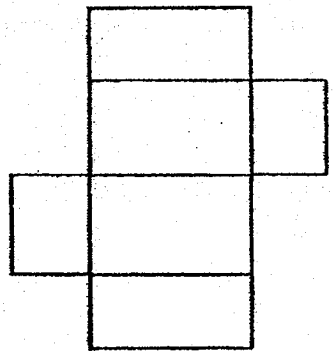
(1)



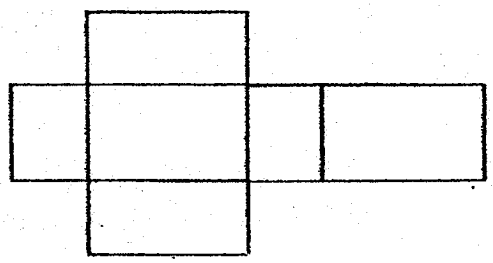
(2)



(3)



(4)



9. Simplify $9y + 7 - 5y + y - 3 + 2$.

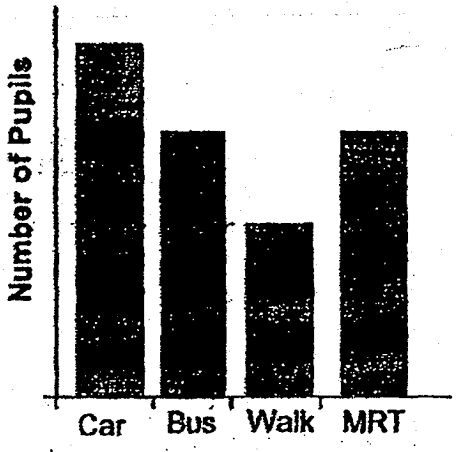
(1) $3y + 2$

(2) $3y + 6$

(3) $5y + 2$

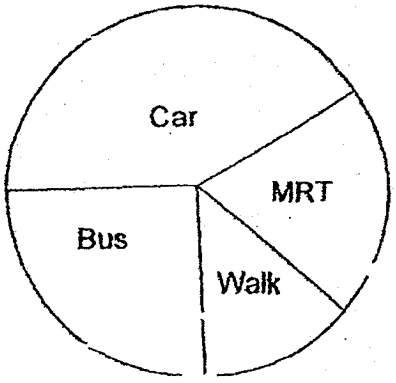
(4) $5y + 6$

10. The bar graph shows how pupils of Champion Primary School went to school on a certain day.

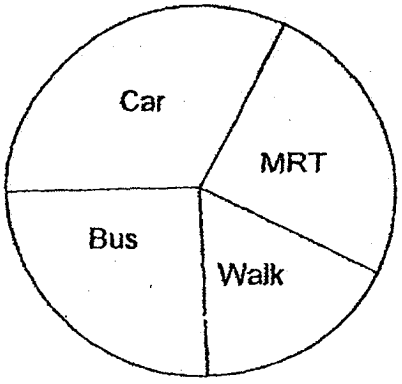


Which pie chart represents the information given in the bar graph?

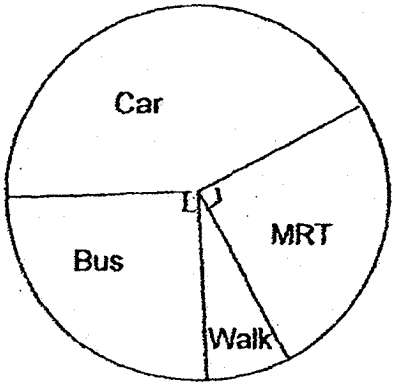
(1)



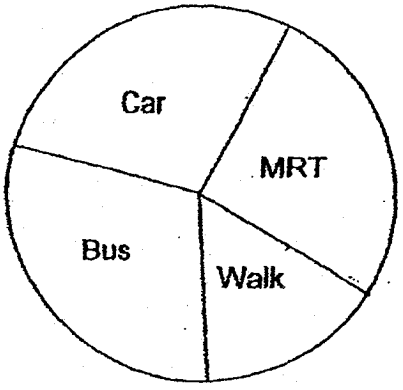
(2)



(3)



(4)



11. Mr Tan bought a total of 300 red and black beads in separate boxes. All the boxes of red beads had the same number of beads. All the boxes of black beads had 70 beads in each box. Which one of the following could <u>not</u> be the number of red beads in a box?

(1) 30

(2) 32

(3) 36

(4) 45

12. In a box, $\frac{4}{9}$ of the fruits are apples and the rest are pears. $\frac{2}{3}$ of the apples are red and the rest are green. There are 24 green apples. How many pears are there in the box?

(1) 40

(2) 72

(3) 90

(4) 162

13. Lee Min donated 30% of her savings and still had $210 of her savings left. How much money did she donate?

(1) $63

(2) $90

(3) $120

(4) $147

(Go on to the next page)

14. The letter x represents a number between 4 and 6. Which of the following algebraic expression has the largest value?

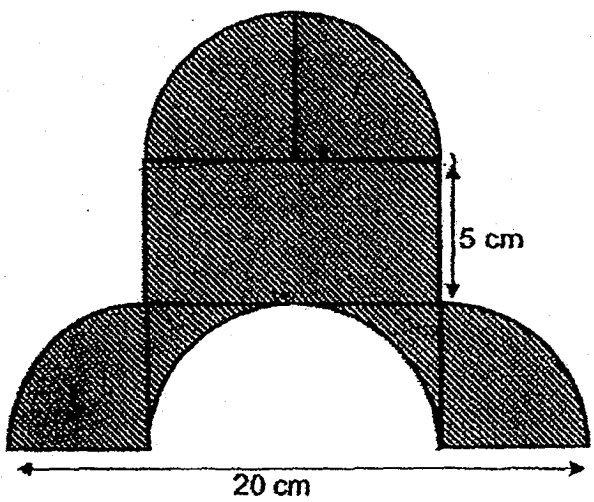
(1) $\frac{x+6}{x}$

(2) $\frac{x+6}{6}$

(3) $\frac{6-x}{x}$

(4) $\frac{6-x}{6}$

15.



The figure above is formed by of 4 identical quarter circles, 1 semicircle and 1 rectangle. Find the area of the shaded figure.

Leave your answer in terms of π.

(1) $(12\frac{1}{2}\pi + 100)$ cm²

(2) $(25\pi + 50)$ cm²

(3) $(25\pi + 150)$ cm²

(4) $(50\pi + 50)$ cm²

(Go on to Booklet B)

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2018
PRIMARY 6
MATHEMATICS

PAPER 1
(BOOKLET B)

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of calculators is not allowed.

Name: _____ ( )

Class: Primary 6._____

Date: 2 August 2018

Paper 1 Booklet A	/ 20
Paper 1 Booklet B	/ 25
Paper 2	/ 55
TOTAL	/ 100

Parent's Signature : _____

This booklet consists of 9 printed pages including this page

Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(5 marks)

Do not write in this space

16. Find the value of 15.3 – 9.04.

Ans : _____

17. Find the value of 147 × 80.

Ans : _____

18. a : b = 7 : 4 and b : c = 6 : 7 What is the ratio of a : c ?
Give your answer in the simplest form.

Ans : _____

(Go on to the next page)

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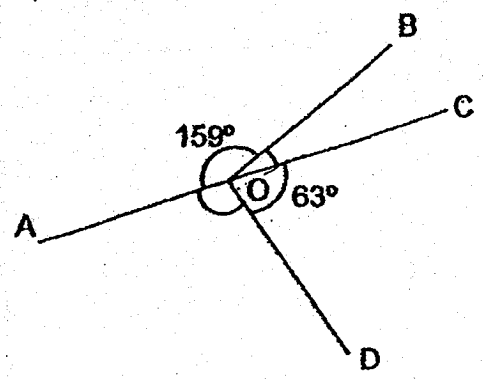
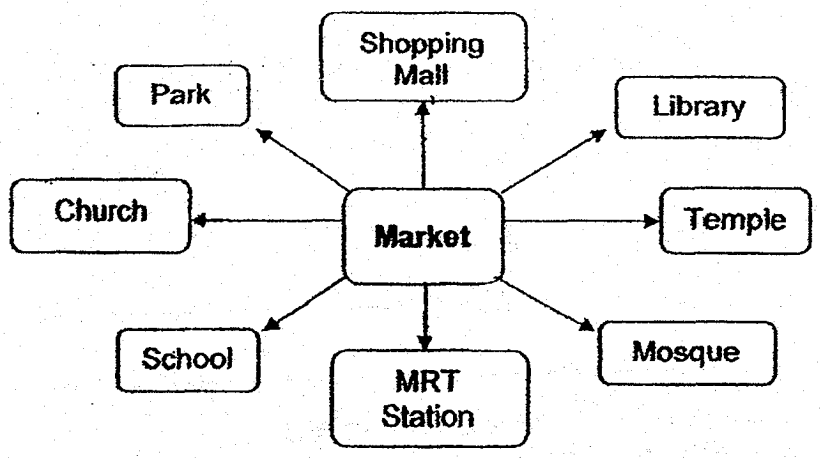
19. In the figure below, AOC is a straight line. ∠AOB = 159° and ∠COD = 63°. What is the sum of ∠AOD and ∠BOC ?



Ans : _____ °

20. Mrs Lim was at the market. After she turned 225° anti-clockwise, she is now facing the park. Where was she facing at first?



Ans : _____

Questions **20** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

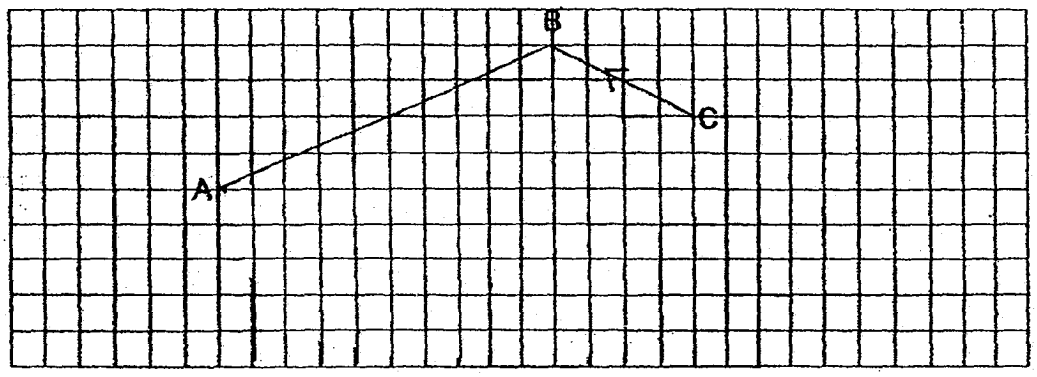
(20 marks)

Do not write in this space

21. Eileen prepared $\frac{6}{7}$ litres of apple juice for some friends. She poured the juice into cups of $\frac{1}{5}$ litres each. How much apple juice was left? Give your answer as a fraction in the simplest form.

Ans : _____ ℓ

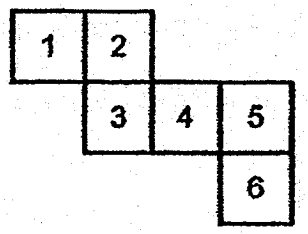
22. AB and BC are two sides of a trapezium. BC//AD and the length of BC and AD are in the ratio of 2:3. Complete the trapezium by drawing the other two sides in the square grid and label it. Measure the length of CD.



Ans: CD = _____ cm

23. The diagram shows the net of a cube. The cube is placed with Face "2" at the bottom of the cube. Which face is at the top of the cube?

Do not write in this space



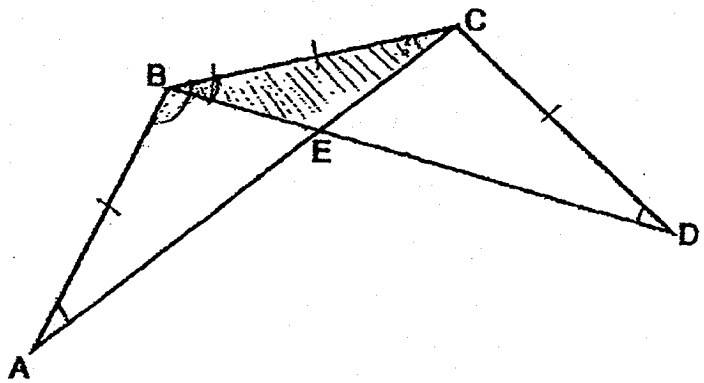
Ans : Face _____

24. Janette took 15 minutes to cycle from her house to the library. She travelled 850 m. Find Janette's speed in km/h.

Ans : _____ km/h

25. In the figure below, AEC and BED are straight lines. AB = BC = CD.

Do not write in this space

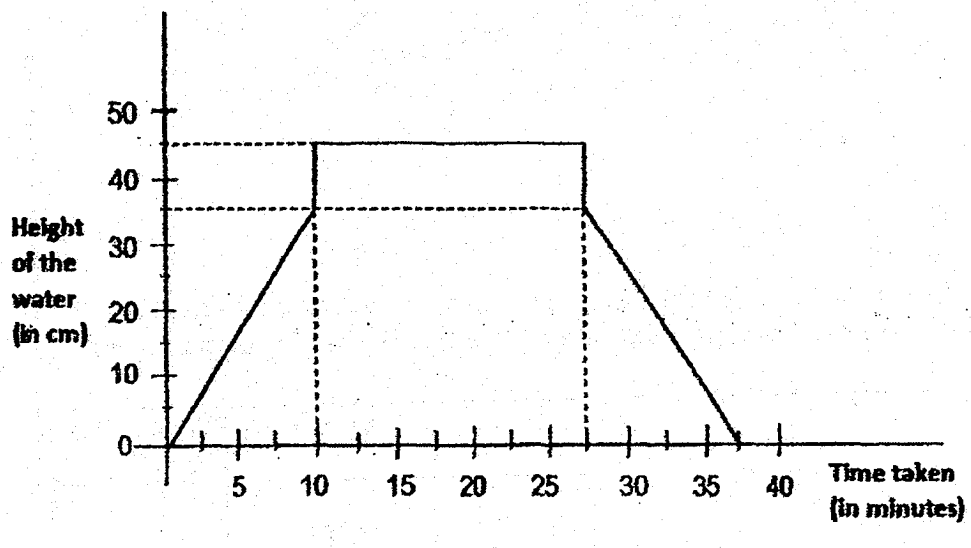


Each statement below is true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

Statement	True	False	Impossible to Tell
Area of Figure ABCDE = Area of △ABC + Area of △BCD - Area of △BCE			
∠BAC = ∠CDB			

26. The graph below shows the height of water in a bathtub at different times of Sally's bathing activity. The height of the bathtub was 50 cm. She switched on the tap to fill the bathtub. She switched off the tap and stepped into the tub. After her bath, she stepped out of the bathtub and drained the water.

Do not write in this space



(a) What fraction of the height of the bathtub was filled with water when Sally switched off the tap? Give you answer in the simplest form.

(b) How long did Sally stay in the bathtub?

Ans : (a)_____

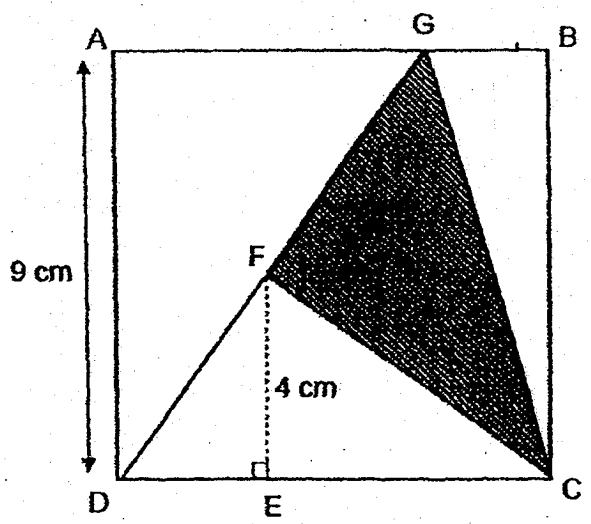
(b)_____ min

Do not write in this space

27. The pupils in a room are divided equally into Group A and Group B. The ratio of the number of boys to the number of girls in Group A is 2 : 3 and in Group B is 1 : 2. What is the ratio of the total number of girls to the total number of pupils in the room?

Ans : _____

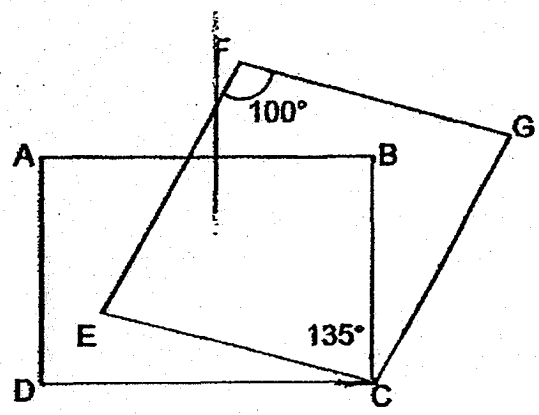
28. The figure below is formed by a square ABCD and a triangle DGC. AD = 9 cm, EF = 4 cm and FC is a straight line. Find the area of the shaded part.



Ans : _____ cm^2

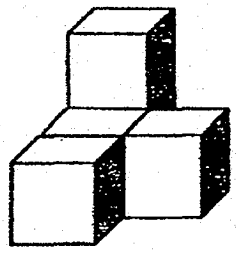
Do not write in this space

29. In the figure, ABCD is a rectangle and CEFG is a rhombus. $\angle EFG = 100°$ and $\angle DCG = 135°$. Find $\angle BCE$.



Ans: _____ °

30. The solid below is made up of 5 identical cubes. The solid has a volume of 40 cm^3. How many more cubes have to be added to the solid to form a bigger cube with a volume of 216 cm^3.



Ans : _____

End of Paper

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2018
PRIMARY 6
MATHEMATICS

PAPER 2

Duration: 1h 30 min

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of an approved calculator is expected, where appropriate.

Name: _____ ( )

Class: Primary 6._____

Date: 2 Aug 2018

Parent's Signature : _____

55

This booklet consists of 13 printed pages including this page.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1 The table below shows the number of television sets owned per flat in a housing estate.

Number of television sets owned per flat	1	2	3	4
Number of flats	135	540	297	108

(a) How many television sets are owned by the flats in the housing estate?

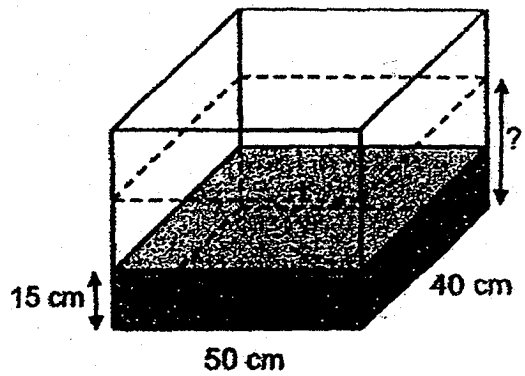
(b) What percentage of flats owned at least two television sets?

Ans : (a) _____ [1]

(b) _____ [1]

Do not write in this space

2 A rectangular tank 50 cm long and 40 cm wide was filled partially with water. 12 litres of water were poured out of the tank. The height of the water became 15 cm. What was the height of the water at first?



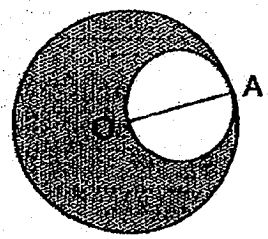
Ans : _____ cm

3 Nazri had some marbles. He gave $\frac{2}{5}$ of them to his classmates and $\frac{1}{3}$ of the remainder to his brother. He then had 38 marbles left. How many marbles did he give to his brother?

Ans : _____

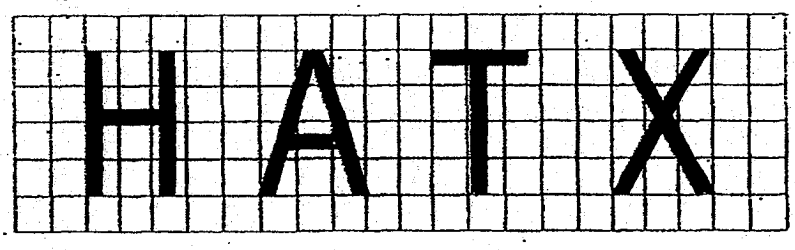
Do not write in this space

4 O is the centre of the large circle and AO is the diameter of the small circle. The diameter of the large circle is 2 times the diameter of the small circle. The circumferences of the big and small circles meet each other at point A. The perimeter of the shaded figure is 30π cm, what is the diameter of the small circle?



Ans : _____ cm

5 Look at the letters in the square grid below.



Write each letter once in the table below based on the description for each row or column.

Description	Have 1 line of symmetry	Have 2 lines of symmetry
Have perpendicular lines		
Have no perpendicular lines		

[2]

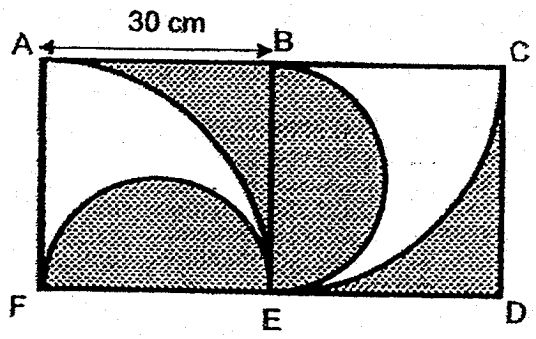
For Questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

Do not write in this space

6 Siti bought n notebooks and 3 times as many files. She paid a total of \$160 for the notebooks and files. The notebooks cost \$25 more than the files. If $n = 5$, what was the cost of each file?

Ans: _____ [3]

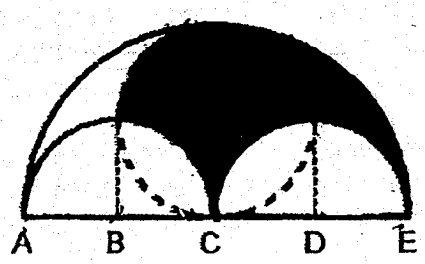
7 The shaded figure below is formed by semicircles, quarter circles and squares. ABEF is a square. What is the area of the shaded region? ($\pi = 3.14$)



Ans: _____ [3]

8 The figure shows three semicircles and a circle. AB = BC = CD = DE = 5 cm, find the perimeter of the shaded part. Give your answer in 2 decimal places.

Do not write in this space



Ans: _____ [3]

9 Every time Mei Ling saves 60 cents, her mother puts another 30 cents into her savings. When Mei Ling had $25.20 in her savings, how much of it had been put in by her mother?

Ans: _____ [3]

Do not write in this space

10 Peter set off from Town A towards Town B at 7.00 a.m. at a constant speed of 70 km/h. John set off from Town A towards Town B at 8.30 a.m. at a constant speed of 90 km/h. At what time did John manage to catch up with Peter on the road?

Ans: _____ [3]

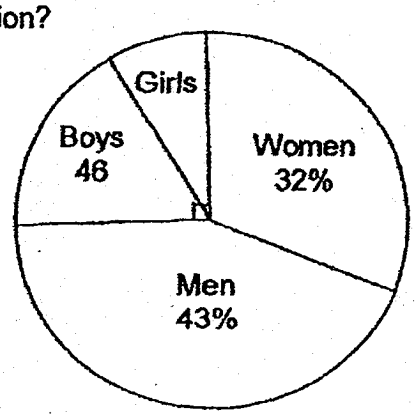
11 A group of children shared 533 stamps among themselves. $\frac{1}{2}$ of them received 4 stamps each, $\frac{5}{12}$ of them received 3 stamps each and the rest received 2 stamps each. How many children were there?

Ans: _____ [4]

12 The pie chart below shows the percentage of people who visited an exhibition. 25% of the people were children. There were 46 boys. There were 88 more women than girls.

(a) How many men were there?

(b) How many people visited the exhibition?



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Ans : (a) _____ [3]

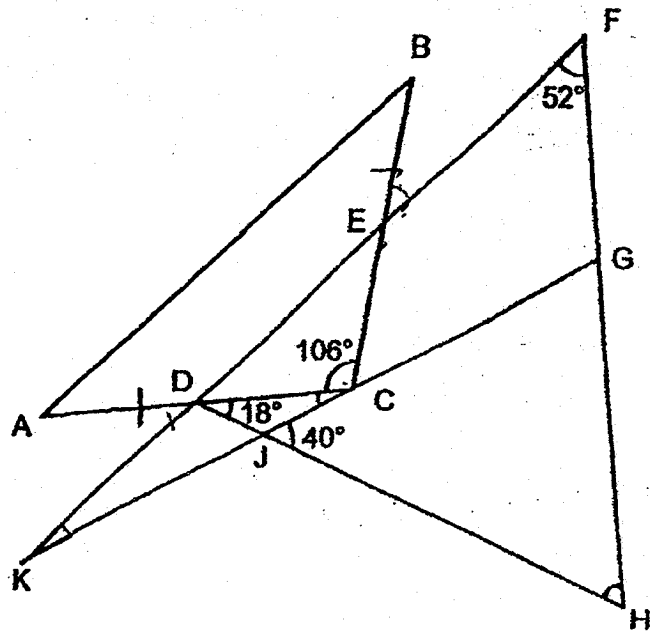
(b) _____ [1]

(Go on to the next page)

13 The figure below shows three overlapping triangles. ABC is an isosceles triangle and AB // FK. ∠ACB = 106°, ∠CDH=18°, ∠KFH = 52° and ∠GJH = 40° Find

(a) ∠FHD.

(b) ∠FKG.



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Ans : (a) _____ [3]

(b) _____ [1]

14 The total height of 3 men was 5.01 m. A fourth man joined the group and the average height decreased by 0.08 m. A fifth man joined the group and the average height then increased by 0.06 m.

(a) What was the average height of the first three men?

(b) What was the height of the fifth man?

Do not write in this space

Ans : (a) _____ [1]

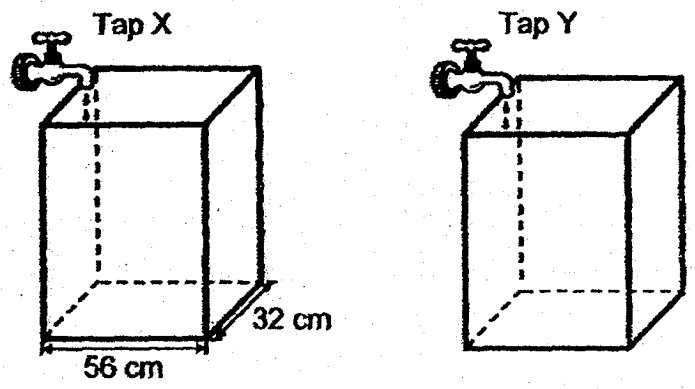
(b) _____ [3]

Do not write in this space

15 The figure below shows 2 identical tanks. Water from Tap X flowed at a rate of 2.8 litres per minute while water from Tap Y flowed at a rate of 3.2 litres per minute. Tap X was turned on at 10 a.m. Tap Y was turned on 2 minutes later. The taps were turned off at the same time when the water level in the 2 tanks reached the same height.

(a) At what time was the water level the same in both tanks?

(b) What was the height of the water level in both tanks in the end?



Ans : (a) _____ [3]

(b) _____ [2]

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16 The figures which are made up of shaded and unshaded squares follow a pattern as shown below.

Figure 1

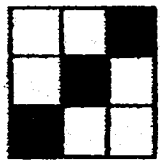


Figure 2

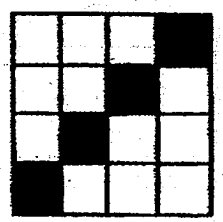


Figure 3

(a) Find the number of shaded and unshaded squares in Figure 5. [1]

Figure Number	Number of shaded squares	Number of unshaded squares
1	2	2
2	3	6
3	4	12
4	5	20
5	i) _____	ii) _____

(b) In which figure is there a total of 256 squares?

(c) A figure in the pattern has a total of 529 shaded and unshaded squares. What is the number of shaded squares in the figure?

Ans: (b) _____ [1]

(c) _____ [2]

17

Computer sale
1st computer at 20% discount
2nd computer at 30% discount*
*Price of 2nd computer should be equal or lower than price of 1st

Do not write in this space

Mr Chan and Mr Tan each bought two computers during the Great Singapore Sale.

(a) Mr Chan's computers were priced at $1250 and $2370, before 7% GST. How much did he pay in total, including GST?

(b) Mr Tan paid a total of $3445.40, including 7% GST. He paid $449.40 more for the 1st computer than for the 2nd computer. What was the price of the 1st computer before discount?

Ans: (a) _____ [2]

Ans: (b) _____ [3]

END OF PAPER

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : METHODIST GIRLS' SCHOOL (PRIMARY)
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAM

PAPER 1 BOOKLET A

Q1	4	Q2	3	Q3	3	Q4	2	Q5	4
Q6	4	Q7	3	Q8	3	Q9	4	Q10	2
Q11	3	Q12	3	Q13	2	Q14	1	Q15	1

PAPER 1 BOOKLET B

Q16) 6.26

Q17) 11 760

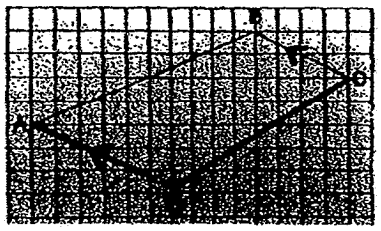
Q18) 3 : 2

Q19) 138°

Q20) MRT Station

Q21) $\frac{2}{35}$

Q22)



CD = 4.6 cm

Q23) Face 6

Q24) 3.4 km/h

Q25) Area of Figure ABCDE: True
<BAC = <CDB : Impossible to tell

Q26a) $\frac{7}{10}$

Q26b) 17.5 min

Q27) 19 : 30

Q28) 22.5 cm^2

Q29) 55°

Q30) 22

PAPER 2

Q1a) 540 x 2 = 1080
297 x 3 = 891
108 x 4 = 432
1080 + 891 + 432 + 135 = 2538

Q1b) 540 + 297 + 108 = 945
945 + 135 = 1080

$\frac{945}{1080}$ x 100 = 87.5%

Q2) 12 litres = 12 000cm^3
12 000cm^3 ÷ (50cm x 40cm) = 6cm
15cm + 6cm = 21cm

Q3) $1 - \frac{2}{5} = \frac{3}{5}$

$\frac{3}{5}$ = 3 units

$\frac{1}{3}$ of 3 units = 1 unit

2 units = 38

1 unit = 38 ÷ 2
= <u>19</u>

Q4) Perimeter of small circle = π d
Perimeter of big circle = $\pi + 2d = 2\pi d$
Total perimeter of figure = $\pi d + 2\pi d$
$= 3\pi d - 30\pi$

d = <u>10cm</u>

Q5)

Description	Have 1 line of symmetry	Have 2 lines of symmetry
Have perpendicular lines	T	H
Have no perpendicular lines	A	X

Solutions to Word Problems

Methodist Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Total number of notebooks & files bought = n + 3n = 4n

Excess cost of notebooks = \$25

Cost of 4n files = (160 – 25) ÷ 2 = \$67.5

Number of notebooks and files bought = 3n = 3 x 5 = 15

Cost of each file = 67.5 ÷ 15 = \$4.50

Ans: \$4.50

---

7. Radius of semi-circle = 15 cm

Area of 2 semi-circles = π x 15 x 15 = 225π cm^2

Area of 2 quadrants = π x 30 x 30 x $\frac{1}{2}$ = 450π cm^2

Area of shaded crescents = 60 x 30 - 450π = 1800 - 450π cm^2

Area of shaded region = 225π + 1800 - 450π = 1800 – 225π = 1093.5 cm^2

Ans: 1093.5 cm^2

---

8. Diameter of small circle = 10 cm

Diameter of large circle = 20 cm

Perimeter of 4 quadrants of small circle = π x 10 = 10 π cm

Perimeter of 1 quadrants of large circle = π x 20 x $\frac{1}{4}$ = 5 π cm

Perimeter of shaded part = 10 π + 5 π = 15 x 3.142 = 47.13 cm

Ans: 47.13 cm

---

9. Ratio of Mei Ling's savings to her mother's contribution = 60 : 30 → 2 : 1

→ 2u : 1u

Total savings = 1u + 2u = 25.20

3u = 25.20

u = 25.20 ÷ 3 = 8.40

Amount her mother put in = 1u = 1 x 8.40 = $8.40

Ans: $8.40

---

10. Let u = time in hours from 8.30 am

Distance travelled by Peter in 1.5 hour = 1.5 x 70 = 105 km

Distance travelled by Peter = 70 x u = 70u

Distance travelled by John = 90u – 105

(8:30 is1.5h after 7am)

When they met,
90u – 105 = 70u
20u = 105
u = 105 ÷ 20 = 5.25 hr = 5 hr 15 min after 8.30 am
= 13.45 hr = 1.45 pm

Ans: 1.45 pm

---

11. Let number of children = 12u

Number of stamps of $\frac{1}{2}$ of them = $\frac{1}{2}$ x 12u x 4 = 24u

Number of stamps of $\frac{5}{12}$ of them = $\frac{5}{12}$ x 12u x 3 = 15u

Number of remaining children = 12u – 6u – 5u = u

Number of stamps of remaining children = u x 2 = 2u

Total number of stamps = 24u + 15u + 2u = 41u = 533

u = 533 ÷ 41 = 13

Number of children = 12 x 13 = 156

Ans: 156 children

---

12. a)

Let total number of people who visited exhibition = 100u

Number of boys + number of girls + number of women = 25u + 32u = 57u

46 + 2 x number of girls + 88 = 57u

2 x number of girls = 57u – 134

2 x (25u – 46) = 57u -134 (Number of girls = 25% - 46)

50u – 92 = 57u – 134

7u = 42

u = 6

Number of men = 0.43 x 100u = 43u = 43 x 6 = 258

b)

Total number of people = 100u = 100 x 6 = 600

Ans: (a) 258
(b) 600

---

13. a)

∠EDC = (180 – 106) ÷ 2 = 37° (CDE is isosceles)

∠FDH = 37 + 18 = 55°

∠FHD = 180 – 52 – 55 = 73°

b)

∠HGJ = 180 – 73 – 40 = 67°

∠FKG = 67 – 52 = 15°

Ans: (a) 73°

(b) 15°

---

14. a)

Average height of first 3 men = 5.01 ÷ 3 = 1.67 m

b)

New average height after 4th man joined = 1.67 – 0.08 = 1.59m

Total decrease in height = 0.08 x 3 = 0.24m

Height of 4th man = 1.59 – 0.24 = 1.35 m

New average height after 5th man joined = 1.59 + 0.06 = 1.65 m

Total increase in height = 4 x 0.06 = 0.24 m

Height of 5th man = 1.65 – 0.24 = 1.89m

Ans: (a) 1.67 m
(b) 1.89m

---

15. a)

Let t = time in minutes after Tap X was turned on at 10 am.

Volume from Tap X = 2.8 x t = 2.8t litres

Volume from Tap Y = 3.2 x (t – 2) = 3.2t – 6.4

Volume from Tap Y = Volume from Tap X

3.2t – 6.4 = 2.8t

3.2t – 2.8t = 6.4

0.4t = 6.4

t = 6.4 ÷ 0.4 = 16 min after 10am = 10.16 am

b)

Volume of either tanks = 2.8 x 16 = 44.8 litres

Area of base = 56 x 32 = 1792 cm^2

Height of both tanks = 44800 ÷ 1792 = 25 cm

Ans: (a) 10.16 am
(b) 25 cm

---

16. a)

Let Figure Number = n

Number of shaded square in Figure 5 = n + 1 = 5 + 1 = 6

Number of unshaded squares in Figure 5 = (n+1)x (n+1) – (n+1)= n x (n+1) = 30

b)

Total number of squares = (n+1) x (n+1) = 256 = 16 x 16

n + 1 = 16

n = 15, Figure 15 has 256 squares

c)

(n+1) x (n+1) = 529 = 23 x 23

n +1 = 23

n = 22

Number of shade square in Figure 22 = n + 1 = 22 + 1 = 23

Ans: (a) 6, 30

(b) Figure 15

(c) 23

---

17. a)

Discounted price before GST = 0.8 x 2370 + 0.7 x 1250 =1896 + 875 = $2771

Price including GST = 1.07 x 2771 = $2964.97

b)

Amount he paid for 2nd computer = (3445.40 – 449.40) ÷ 2 = $1498

Payment for 1st computer = 1498 + 449.40 = $1947.40

Price of 1st computer before GST = 1947.40 ÷ 1.07 = $1820

Price of 1st computer before discount = 1820 ÷ 0.8 = $2275

Ans: (a) $2964.97

(b) $2275

Index No. | | | | | | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2018
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 15 Short Answer Questions (25 marks)

Total Time for Paper 1: 45 minutes

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
6. You are not allowed to use calculator for Paper 1.

Marks Obtained

Paper 1	Booklet A		/ 45
	Booklet B		
Paper 2			/ 55
Total			/ 100

Name : _____ ( )

Class : 6_____

Date : 27 August 2018 Parent's Signature :_____

Section A (20marks)
Questions 1 to 10 carry 1 mark each.
Questions 11 to 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4) Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. In 5 689 743, which digit is in the ten thousands place?

   (1) 6
   (2) 7
   (3) 8
   (4) 9

2. Which of the following numbers is the largest?

   (1) 6.59
   (2) 6.95
   (3) 6.509
   (4) 6.905

3. Round $189 425 to the nearest $1000.

   (1) $180 000
   (2) $189 000
   (3) $190 000
   (4) $200 000

4. The number of boys is $\frac{4}{5}$ the number of girls in a school. What is the ratio of the number of girls to the number of boys?

   (1) 4 : 5
   (2) 5 : 4
   (3) 4 : 9
   (4) 5 : 9

5. $1 + \frac{1}{10} + \frac{1}{1000} =$ _____.

(1) 1.1

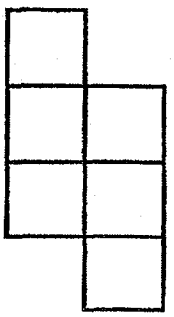
(2) 1.11

(3) 1.101

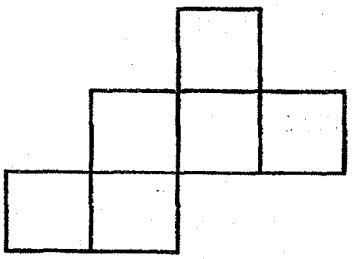
(4) 1.111

6. Which one of the following is a net of a cube?

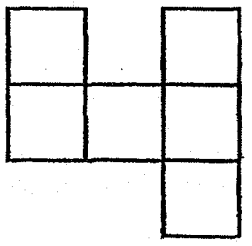
(1)



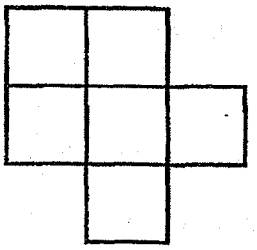
(2)



(3)



(4)



7. Which one of the following is nearest to 1?

(1) $\frac{3}{4}$

(2) $\frac{4}{5}$

(3) $1\frac{1}{6}$

(4) $1\frac{1}{7}$

8. Ali took 40 min to walk from his house to the library and back home again. If his average speed for the whole journey was 30 m/min, what was the distance between his house and the library?

(1) 10 m

(2) 20 m

(3) 600 m

(4) 1200 m

9. 80% of a number is 160. What is the number?

(1) 40

(2) 128

(3) 200

(4) 640

10. Charis had $\frac{3}{4}$ m of cloth. She used $\frac{1}{3}$ of it to sew a handkerchief. How much cloth did she have left?

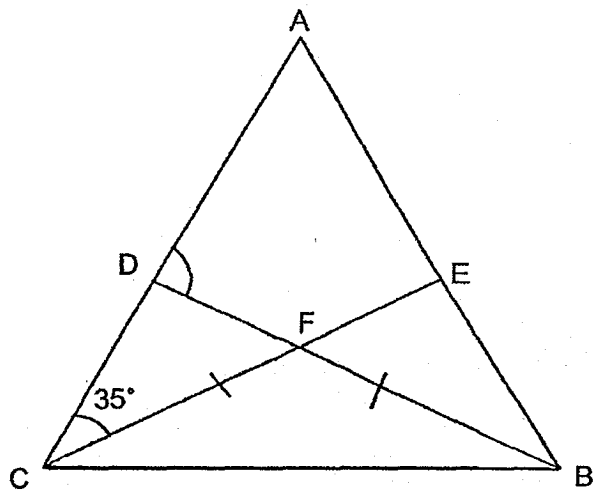
(1) $\frac{1}{12}$ m

(2) $\frac{1}{4}$ m

(3) $\frac{5}{12}$ m

(4) $\frac{1}{2}$ m

11. In the figure below, not drawn to scale, ABC is an equilateral triangle and CFB is an isosceles triangle such that FC = FB. Given that $\angle ACE = 35°$, and DFB and EFC are straight lines, find $\angle ADF$.



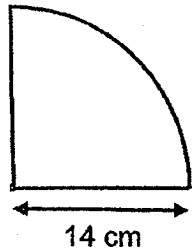
(1) 50°

(2) 85°

(3) 95°

(4) 130°

12. A piece of wire is bent to form the figure below which is a quadrant with radius 14 cm. Find the length of the wire. (Take $\pi = \frac{22}{7}$)



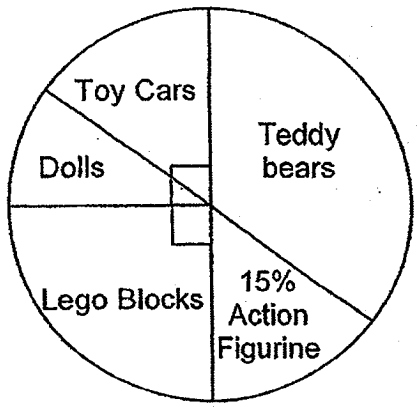
(1) 11 cm

(2) 22 cm

(3) 39 cm

(4) 50 cm

13. The pie chart below shows the different types of toys sold in a toy shop in August. The number of toy cars sold and teddy bears sold is $\frac{1}{2}$ of the total number of toys sold. 180 more teddy bears than Lego blocks are sold. Find the number of toy cars sold.



(1) 270

(2) 300

(3) 450

(4) 600

14. Huiling and Aisha had an average number of 140 stickers. After Jason joined in with some stickers, the average number of stickers became 154.
How many stickers did Jason have?

(1) 14

(2) 126

(3) 182

(4) 294

15 At Nan Hua Bakery, 40% of the muffins baked is as many as 25% of the cookies baked daily. There are 45 more cookies than muffins baked. How many muffins are there?

(1) 15

(2) 75

(3) 120

(4) 195

Section B (25 marks)

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.
[10 marks]

Do not write in this space

16. Express three million, two thousand, five hundred and eighty in numerals.

Ans: _____

17. List all the common factors of 8 and 12.

Ans: _____

18. Solve $8 \div \frac{2}{3}$

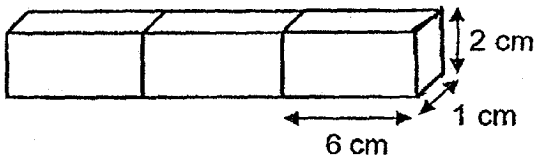
Ans: _____

19. Jerry cycled 5 km from his home to office for 15 min. What was his average speed?

Do not write in this space

Ans: _____ km/h

20. The solid below is made up of 3 identical blocks, each measuring 6 cm by 1 cm by 2 cm. What is the area of the largest face of this solid?



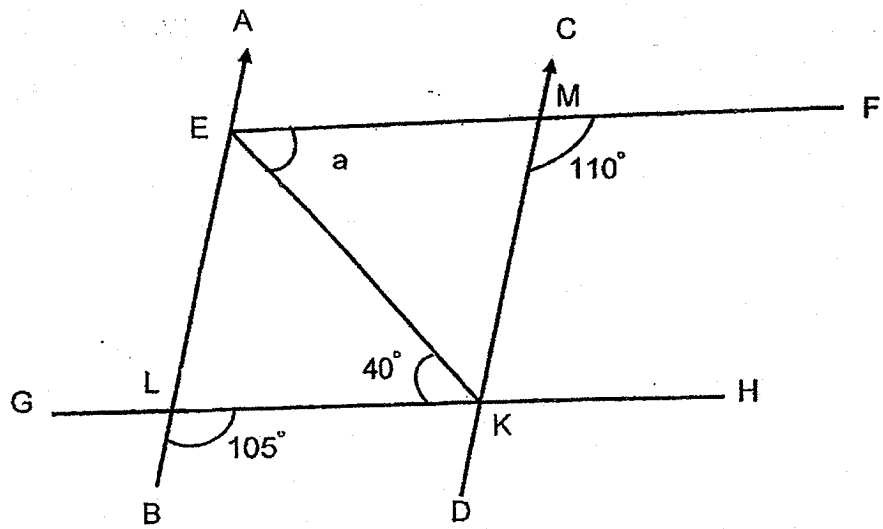
Ans: _____ cm^2

Questions 21 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For each questions which require units, give your answers in the units stated. [20 marks]

Do not write in this space

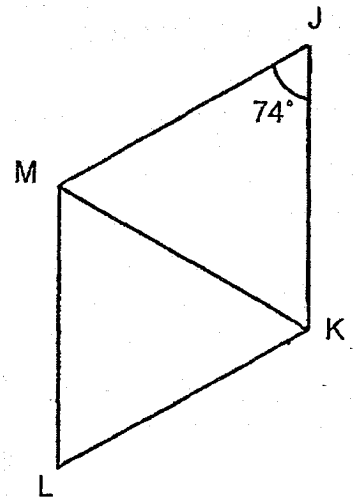
21. In the figure below, AB, CD, EF, GH and EK are straight lines.

$\angle FMK = 110^\circ$, $\angle KLB = 105^\circ$ and $\angle EKL = 40^\circ$. Find $\angle a$.



Ans: _____

22. JKLM is a rhombus. Find ∠MKL.

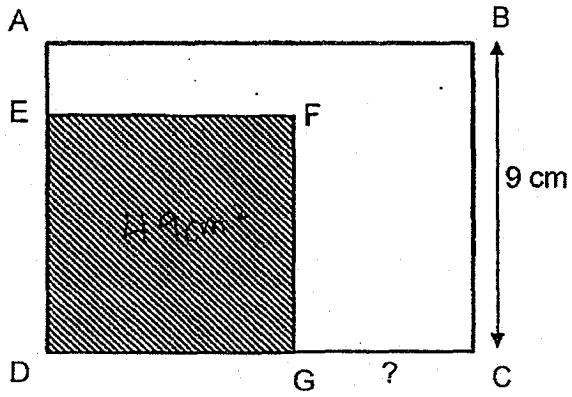


Ans: _____

23. Simplify $8 \div 3k \times 6 - 1$

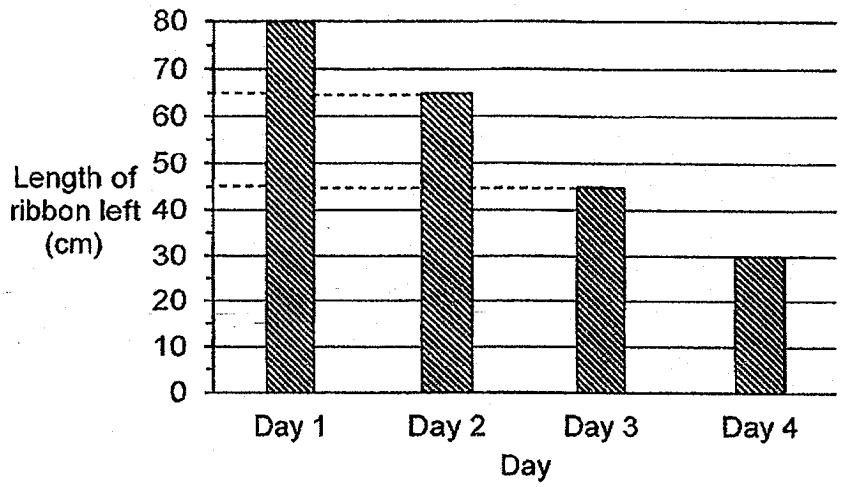
Ans: _____

24. The figure below shows a square DEFG inside rectangle ABCD. The area of the square is 49 cm^2 and the perimeter of the rectangle is 42 cm. Find the length of GC.



Ans: _____ cm

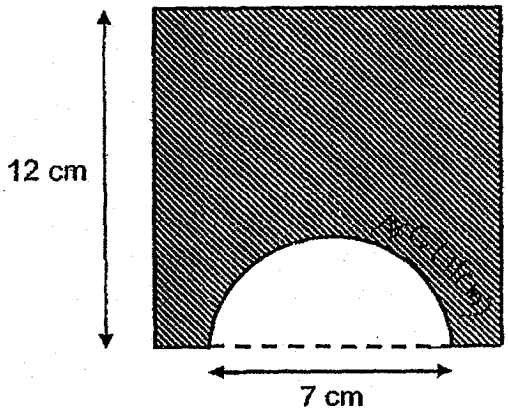
25. Aggie had a roll of ribbon. She used some of it each day for 4 days. At the end of each day, she measured and recorded the length of ribbon left in the bar graph below.



Based on the information above, put a tick in the correct box.

	True	False	Impossible to tell
a) The length of the original roll of ribbon is 80 cm.			
b) The total length of ribbon used over the 4 days is 60 cm.			

26. The figure below is formed by removing a semicircle of diameter 7 cm from a square. Find the perimeter of the shaded part.
(Take $\pi = \frac{22}{7}$)

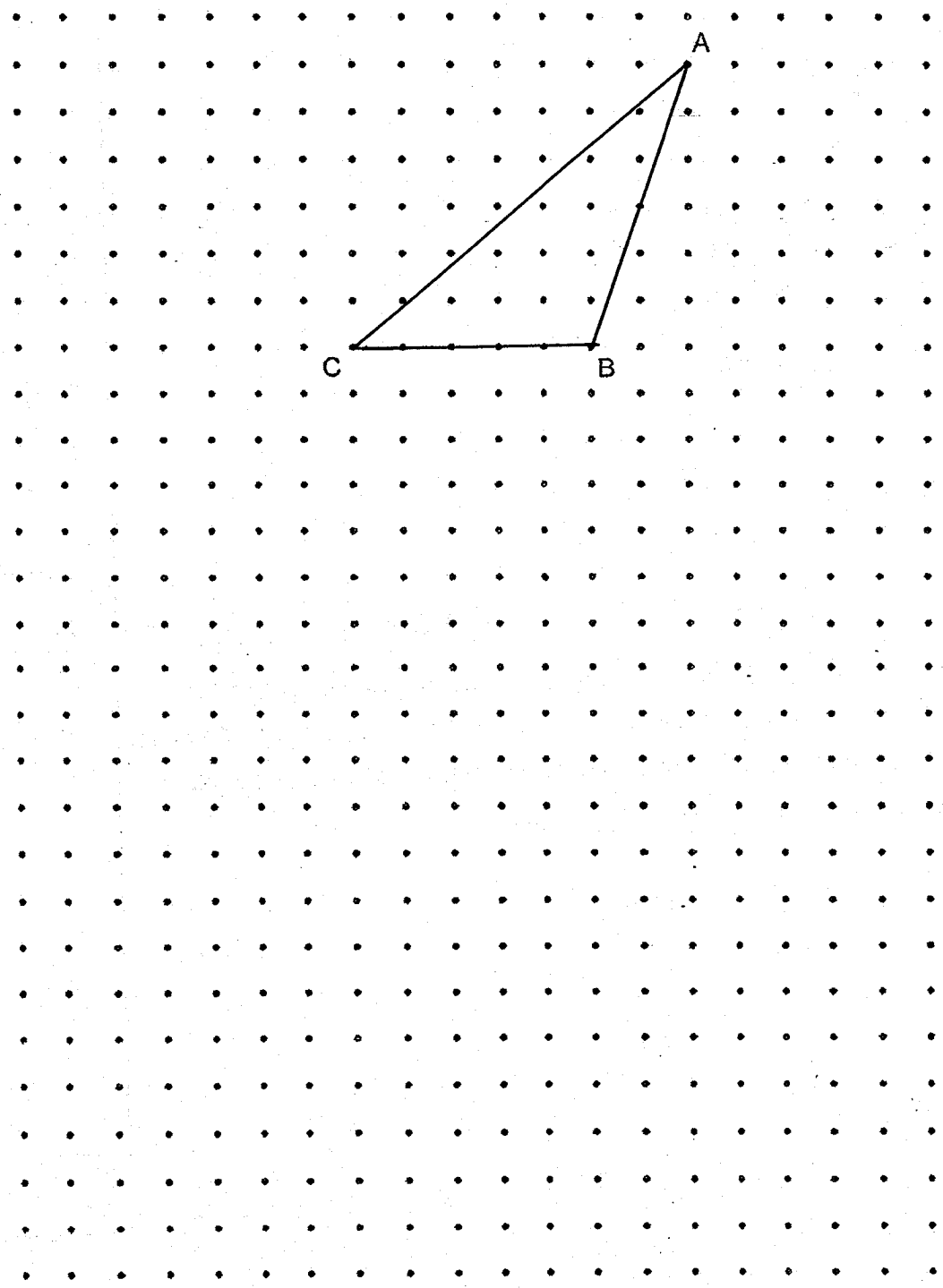


Do not write in this space

Ans: _____ cm

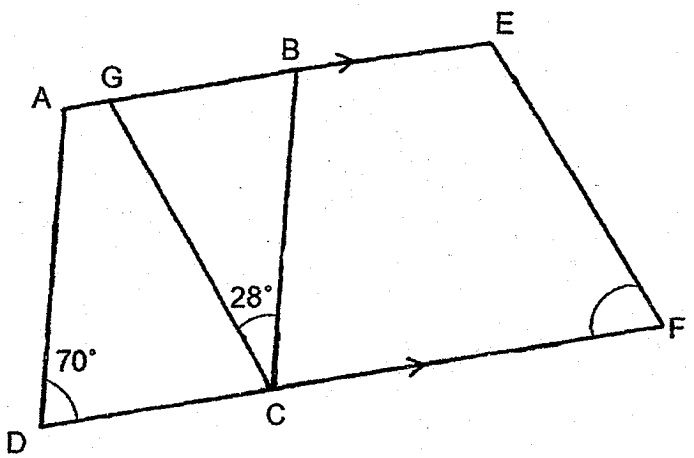
27. A triangle ABC is drawn in the isometric grid below. Draw a right-angled triangle CBD with twice of the area as triangle ABC. Label your diagram clearly.

Do not write in this space



28. In the figure below, ABCD and GEFC are parallelograms. Line AE is parallel to Line DF. Given that $\angle ADC = 70^\circ$ and $\angle GCB = 28^\circ$, find $\angle EFC$.

Do not write in this space



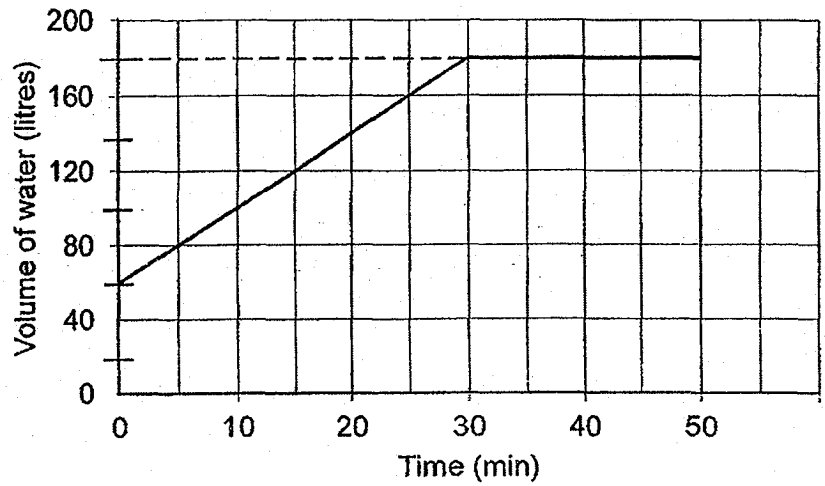
Ans : _____ °

29. There are some marbles in a container. The marbles can be packed into bags of 6 or 8 with no marbles left over. When the marbles are packed into bags of 10, there are 2 marbles left over. What is the smallest possible number of marbles in the container at first?

Ans : _____

30. A rectangular tank was partly filled with water. A tap was turned on for 50 min to fill the tank completely. The line graph below shows the volume of water in the tank at regular intervals of time.

Do not write in this space



What was the rate of the flow of water from the tap, in litres per minute?

Ans: _____ litres/min

END OF PAPER

Index No. | | | | | | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2018
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 30 minutes

5 Short Answer Questions (10 marks)

12 Structured / Long Answer Questions (45 marks)

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully
4. Answer all questions and show your workings clearly.
5. You are allowed to use a calculator.

Marks Obtained

Total		/ 55

Name : _____ ( )

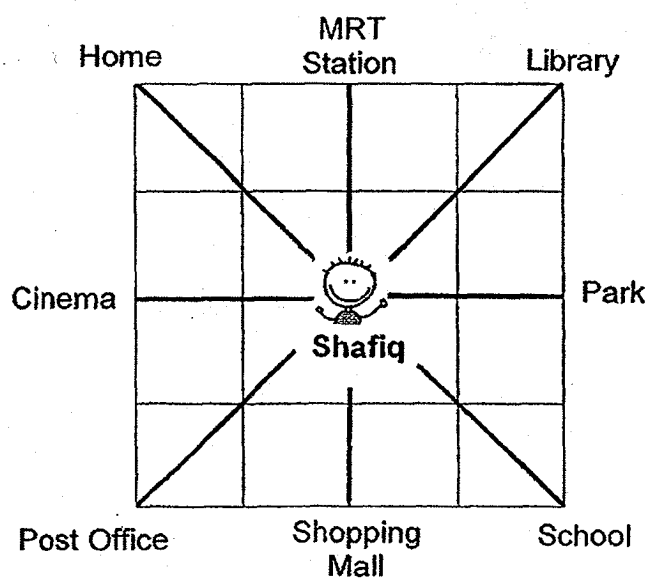
Class : 6_____

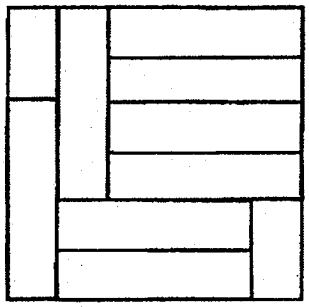
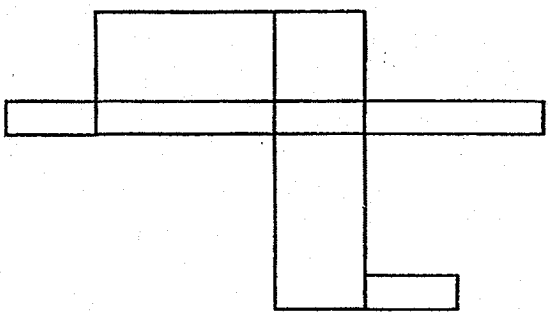
Date : 27 Aug 2018 Parent's Signature :_____

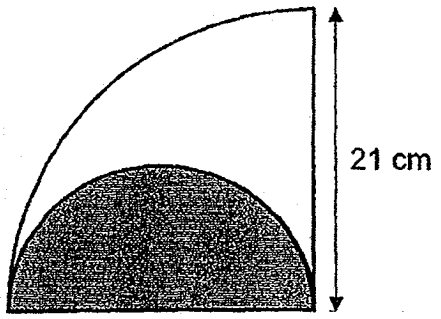
Paper 2 (55 marks)

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the space provided. For questions which require units, give your answers in the units stated.

(10 marks)

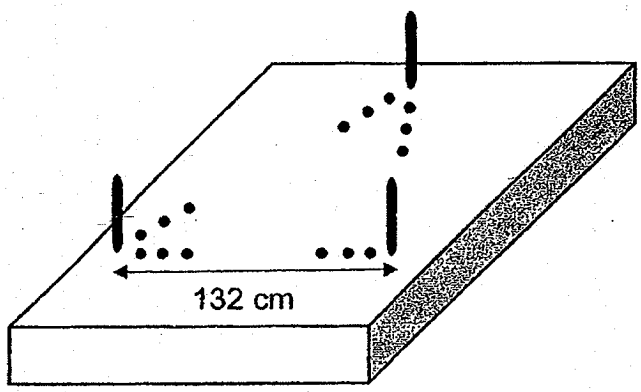
1.	Ben is $10n$ years old now. He is $3n$ years older than Anne. What is their total age now? Give your answer in terms of n. Ans: _____ years old	Do not write in this space
2.	Shafiq is facing the shopping mall now. Where will he be facing after he makes a $\frac{3}{4}$ - turn in the clockwise direction?  Ans: _____	

3.	A square is formed using 8 identical big rectangles and 2 identical small rectangles. What fraction of the square is covered by small rectangles? Give your answer in the simplest form.  A square Ans: _____	Do not write in this space
4.	Shade 2 faces to be removed from the net below so that it can be folded into a cuboid. 	

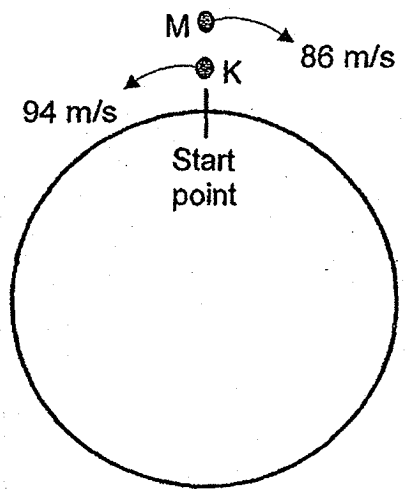
5.	The figure below is made up of a quadrant and a semicircle. The quadrant has a radius of 21 cm. What is the perimeter of the unshaded part? (Take $\pi = \frac{22}{7}$)  Ans: _____ cm	Do not write in this space

For each question from **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(45 marks)

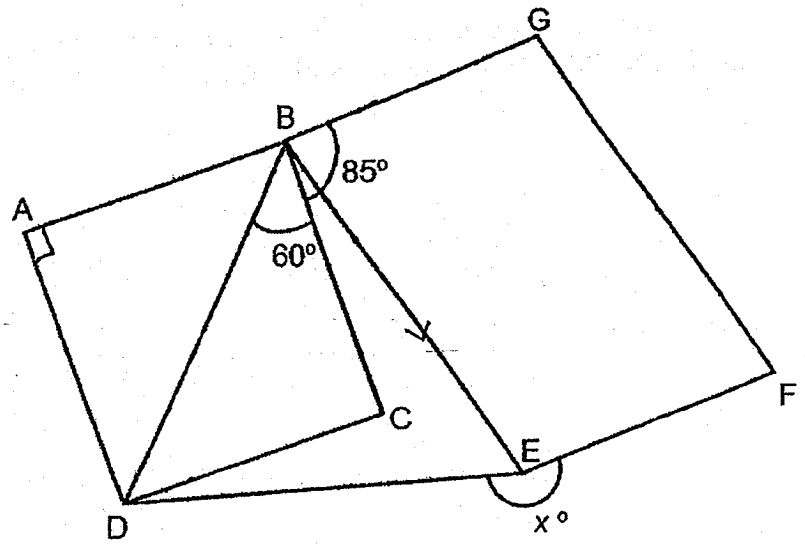
6.	Wendy arranged 33 sticks evenly apart to form the outline of an equilateral triangle. Each corner of the triangle contained a stick and each side of the triangle measured 132 cm. Find the distance between one stick to its next.  Ans: _____ [3]	Do not write in this space

7. Keith and Melissa started cycling at the same time, but in opposite directions around a circular track. The circumference of the track was 2340 m. Keith cycled at 94 m/s while Melissa cycled at 86 m/s.
How long would they take to meet for the first time along the track?



Ans: _____ [3]

8. The figure below is not drawn to scale. ABCD is a square, BDE is a triangle and BEFG is a parallelogram. Given that $\angle$ GBC = 85°, $\angle$ EBD = 60° and DB = DE, find $\angle x$.



Ans: _____ [4]

9. The award system for a Math competition is as shown below.

Type of award	Gold	Silver	Bronze
Average mark out of 4 tests	85 to 100 marks	70 to 84 marks	50 to 69 marks

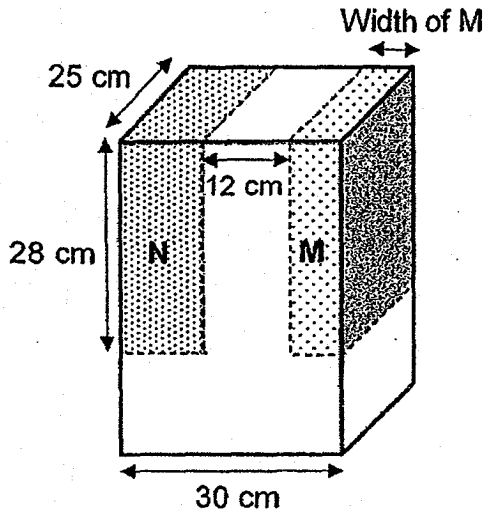
Sue scored 88, 83 and 82 marks for her first three tests. What is the lowest mark Sue must get in the fourth test to get a Gold award?

Ans: _____ [3]

10. Donald bought a book. He read an equal number of pages each day. At the end of the 20th day, he had read $\frac{5}{12}$ of it. At the end of the 23rd day, there were 225 pages left. How many pages were there in the book?

Ans: _____ [4]

11. The figure below shows two rectangular blocks of different sizes, M and N, cut along the dotted lines from a large cuboid. The volume of block N is 8120 cm^3. Find the width of block M as indicated in the diagram.



Ans: _____ [3]

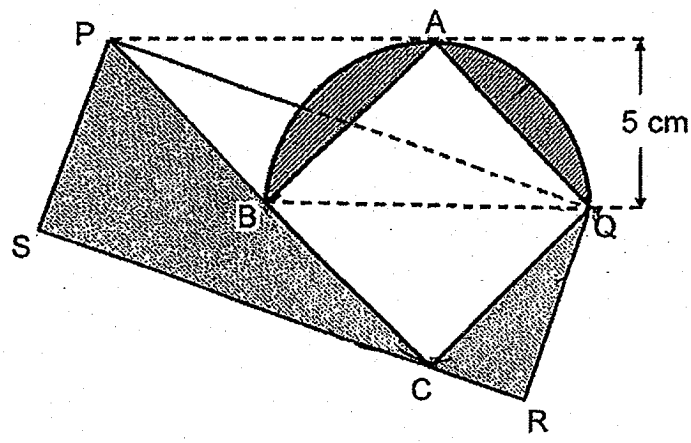
12.	A bakery collected \$1848 from selling some pies and cakes. The ratio of money collected from selling the pies to cakes was 15 : 7. The ratio of the number of pies to cakes sold was 4 : 1. A cake cost \$13 more than a pie. How many cakes were sold? Ans: _____ [4]	

13.	Box A contained 400 fifty-cent coins and 180 one-dollar coins. Box B contained 160 fifty-cent coins and 1100 one-dollar coins. Some coins were transferred from Box A to Box B such that $\frac{1}{2}$ of the coins in Box A and $\frac{3}{10}$ of the coins in Box B were fifty-cent coins. Find the total value of fifty-cent coins in Box B in the end. Ans: _____ [4]	

14. The figure below is formed by overlapping a rectangle PQRS with a semicircle. The semicircle has a radius of 5 cm. ABCQ is a square and PCQ is a triangle.

a) Find the area of triangle ABQ.

b) Find the total area of the shaded parts. Take $\pi = 3.14$



Ans: a) _____ [1]

b) _____ [3]

15. On Monday, a total of 2001 men and women attended a business conference. On Tuesday, the number of men decreased by 20% while the number of women increased by 37.5%. The total number of men and women at the conference was the same on each day. How many women attended the conference on Tuesday?

Ans: _____ [4]

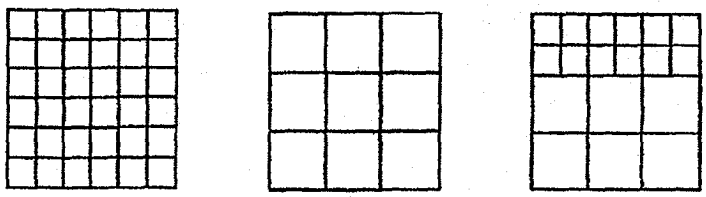
16. Some pupils from school K and school L went on a zoo trip. There were twice as many pupils from school K as school L at the trip. The ratio of the number of boys to girls from school K was 1 : 3. The ratio of the number of boys to girls from school L was 5 : 3. The pupils were grouped into 27 teams of 4 boys and 6 girls, with 1 remaining all-girls team.

a) What was the ratio of the number of boys to girls at the trip?
b) How many girls were in the all-girls team?

Ans: a) _____ [2]

b) _____ [3]

17. Mr Kim had some small and large cubes. He stacked them up neatly to form cube X. Cube X had a volume of 27000 cm^3. The top, bottom and one of the four identical side views of cube X were as shown below.



Top view Bottom view Side view

a) What was the height of a small cube?

b) Mr Kim re-stacked all the cubes used in cube X to form cuboid Y. Given that cuboid Y had the smallest possible square base, what was the height of cuboid Y?

Ans: a) _____ [2]

b) _____ [2]

– End of Paper 2 –

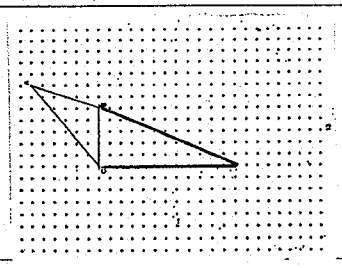
SCHOOL : NAN HUA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	2	2	2	3	2	4	3	3	4

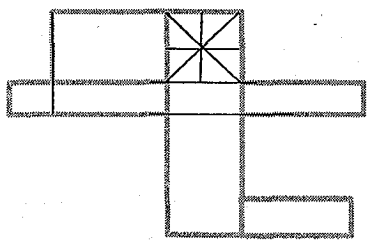
Q 11	Q12	Q13	Q14	Q15
2	4	1	3	2

PAPER 1 BOOKLET B

Q16)	**3002580**
Q17)	**1 , 2 , 4**
Q18)	**12**
Q19)	**20km/h**
Q20)	**36cm2**
Q21)	**∠a = 110° – 65° = 45°**
Q22)	**180° – 74° = 106°** **(180° – 74°)÷ 2 = 53°**
Q23)	**7 + 18k**
Q24)	**7 x 7 = 49** **42 – 9 – 9 = 24** **24 – 7 – 7 = 10** **10÷ 2 = 5cm**
Q25)	**a)False** **b)Impossible to tell**
Q26)	**AC → ½ x 7 x 22/7 = 11** **p→12 + 12 + 12 + 5 + 11 = 52cm**
Q27)	

Q28)	**82°**
Q29)	**72**
Q30)	**120 ÷ 30 = 4**

PAPER 2

Q1)	**A→10n – 3n = 7n** **B+A→7n + 10n = 17n years old**
Q2)	**Park**
Q3)	**1 big = 2 small** **9 big→total** **2 small = 1big** **Ans: 1/9**
Q4)	
Q5)	**A→ ½ x 21 x 22/7 = 33** **B→ ¼ x 21 x 2 x 22/7 = 33** **P→33 + 33 + 21 = 87cm**
Q6)	**33 – 3 = 30** **30÷3 = 11** **10 + 2 = 12** **12 – 1 = 11 (space)** **132÷11 = 12 cm**
Q7)	**47u + 43u = 90u** **90u→2340** **1u→26** **43u→43 x 26 = 1118** **1118÷86 = 13 seconds**
Q8)	**85° – 60° = 25°** **60° – 25° = 35°** **90° – 35° = 55°** **85° – 25° = 60°** **180° – 60° = 120°** **120° ÷2 = 60°** **180° – 60° – 45° – 25° = 50°** **∠x =360° – 120° – 50° = 190°**
Q9)	**88 + 83 + 82 = 253** **85 x 4 = 340** **340 – 253 = 87**

Q10)	5/12→20d 1/12→20d÷5 = 4d 7/12→4d x 7 = 28d 28 – 3 = 25 25d→225 1d→225÷25 = 9 12/12→4d x 12 = 48 48 x 9 = 432 pages
Q11)	8120 / 25 x 28 = 11.6 30 – 12 – 11.6 = 6.4 cm
Q12)	15u + 7u = 22u 1848÷22 = 84 (1u) 84 x 15 = 1260 84 x 7 = 588 1260÷4 = 315 588 – 315 = 273 273÷13 = 21 cakes
Q13)	$270
Q14)	a)Area of ABQ → ½ x 10 x 5 = 25 cm2 b)Area of → ½ x 5 x 5 x 3.14 = 39.25 2a→39.25 – 25 = 14.25 Sh (b)→25 + 25 = 50 Sh→50 + 14.25 = 64.25cm2
Q15)	15u + 8u = 23u 23u = 2001 1u = 2001÷23 = 87 8u = 87 x 8 = 696 137.5% x 696 = 957 women
Q16)	a)3 : 5 b)all boys : 27 x 4 = 108 (3u) all girls : 108÷3 x 5 = 180 27 x 6 = 162 All girls team : 180 – 162 = 18
Q17)	a) $\sqrt[3]{27000} = 30$ 30÷ 6 = 5 cm b)one side (L cube)→5 x 2 = 10 smallest possible→10 x 10 = 100 y H→27000 / 100 = 270 cm

NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2018

PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET A)

Total Duration for Booklets A and B: 1 hour

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. The use of calculators is **NOT** allowed.

Name: _____ ( )

Class: Primary 6 ( )

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (20 marks)

---

1 Round 1789 to the nearest hundred.

(1) 1700

(2) 1790

(3) 1800

(4) 2000

2 Which digit in 31.902 is in the tenths place?

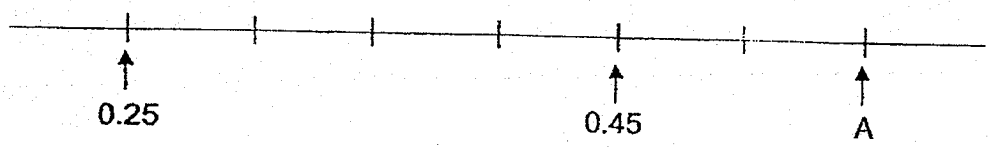
(1) 1

(2) 0

(3) 3

(4) 9

3 In the number line below, what is the value of A?



(1) 0.50

(2) 0.55

(3) 0.60

(4) 0.65

4 Find the value of $18 - 2p + 2 \times 3p$ when $p = 4$.

(1) 34

(2) 2

(3) 96

(4) 144

5 Which one of the following is likely to be the length of a school bus?

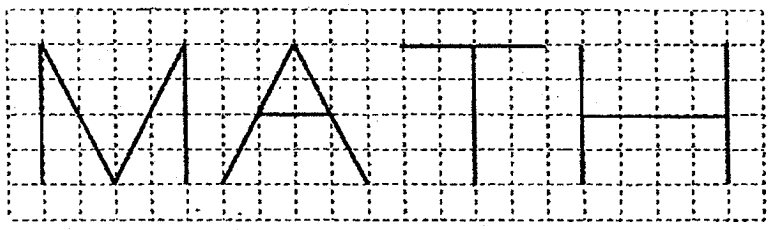
(1) 1.2 m

(2) 12 m

(3) 120 m

(4) 1200 m

6 In the diagram below, the letters M, A, T and H are drawn on a square grid.



Which letter has both parallel lines and perpendicular lines?

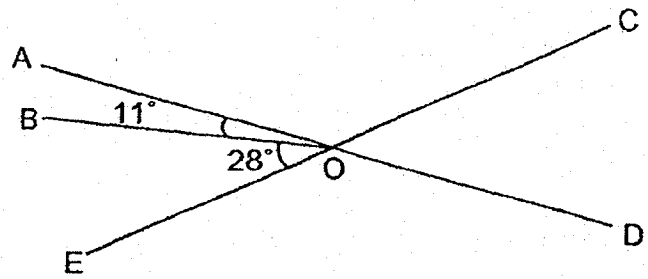
(1) M

(2) A

(3) T

(4) H

7 In the figure below, AOD and COE are straight lines. $\angle AOB = 11^\circ$ and $\angle BOE = 28^\circ$. Find $\angle COD$.



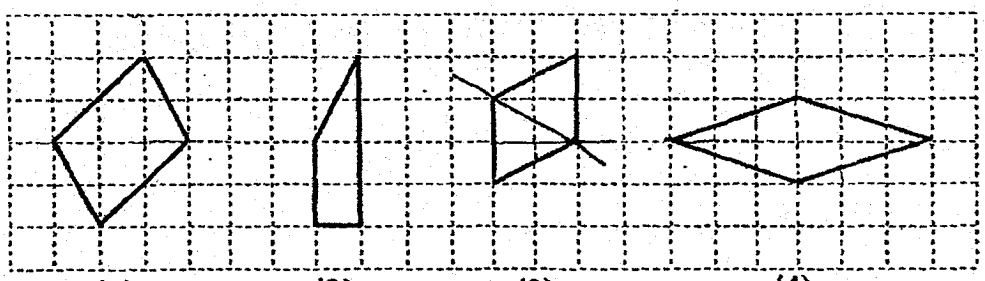
(1) 17°

(2) 28°

(3) 39°

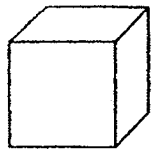
(4) 141°

8 In the square grid below, which shape is a rhombus?



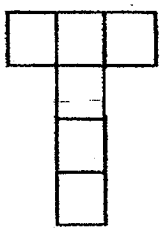
(1) (2) (3) (4)

9. The figure below shows a cube.

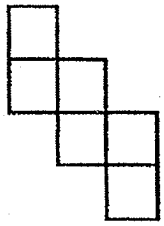


Which of the following is **not** a net of the cube?

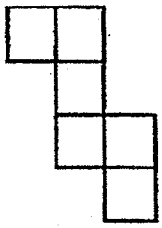
(1)



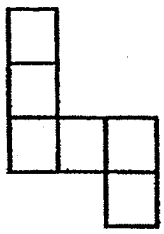
(2)



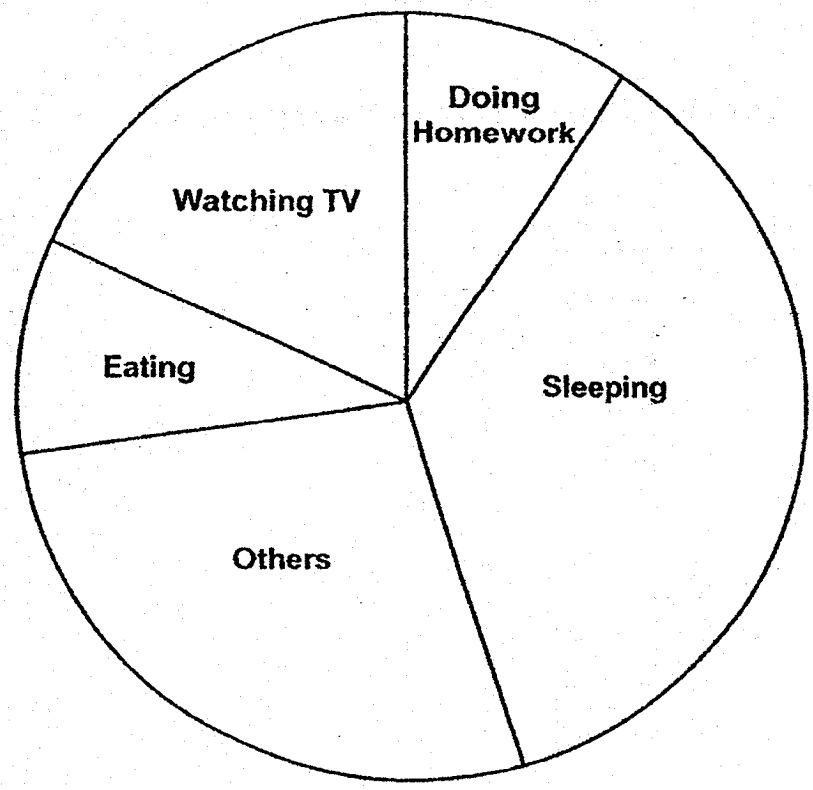
(3)



(4)



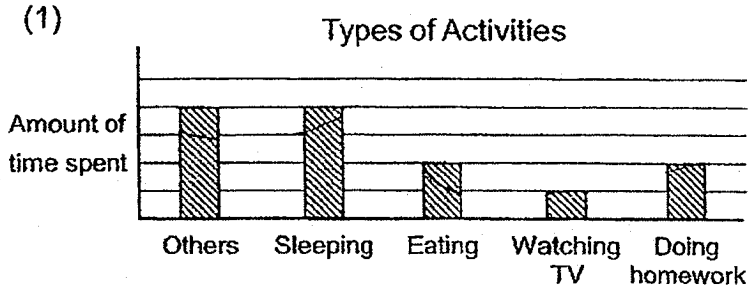
10 The pie chart below shows how Joseph spent his time on a Saturday.



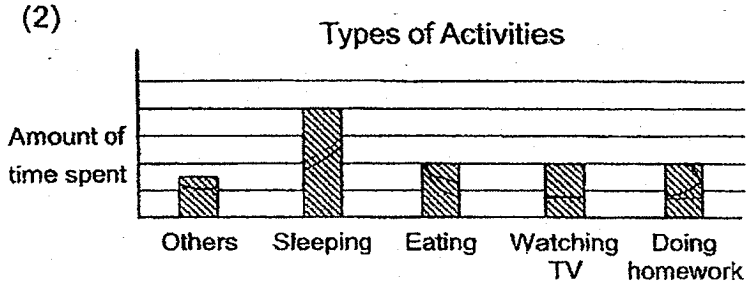
Refer to question and options on the next page.

He spent an equal amount of time on eating and doing homework. Which bar graph best represents the information in the pie chart?

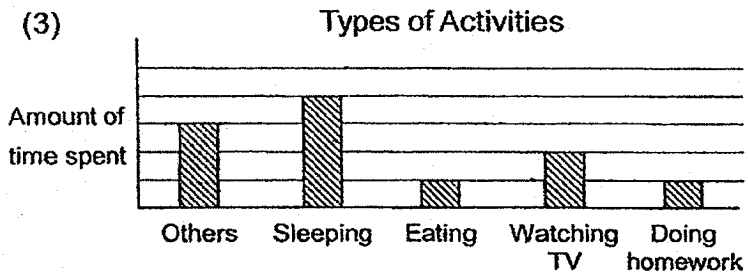
(1)



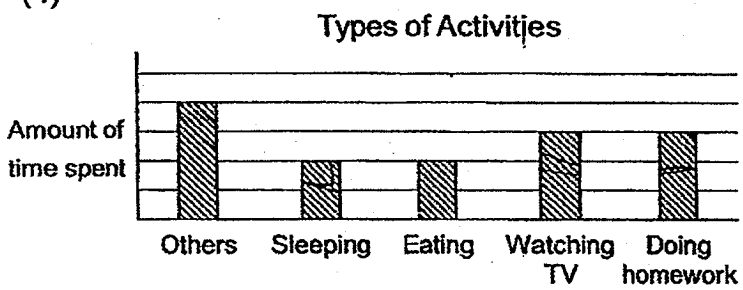
(2)



(3)



(4)



11 Arrange the following fractions from the largest to the smallest.

$$\frac{2}{7}, \quad \frac{1}{5}, \quad \frac{4}{9}, \quad \frac{2}{11}$$

	Largest			Smallest
(1)	$\frac{1}{5}$,	$\frac{2}{7}$,	$\frac{4}{9}$,	$\frac{2}{11}$
(2)	$\frac{2}{11}$,	$\frac{1}{5}$,	$\frac{2}{7}$,	$\frac{4}{9}$
(3)	$\frac{4}{9}$,	$\frac{2}{11}$,	$\frac{2}{7}$,	$\frac{1}{5}$
(4)	$\frac{4}{9}$,	$\frac{2}{7}$,	$\frac{1}{5}$,	$\frac{2}{11}$

12 Brian and Charles had some stickers. At first, the number of stickers Brian had was $\frac{4}{7}$ of the total number of stickers. Then, Brian sold $\frac{3}{8}$ of his stickers. Find the ratio of the number of stickers Brian had at the end to the number of stickers Charles had at the end.

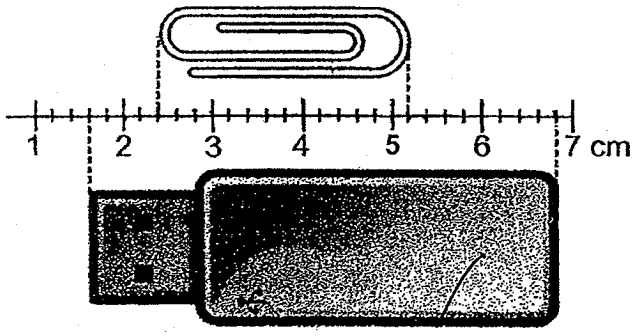
(1) 1 : 3

(2) 1 : 7

(3) 5 : 6

(4) 5 : 14

13 A thumb drive and a paper clip are placed next to a scale. Find the difference in their lengths.



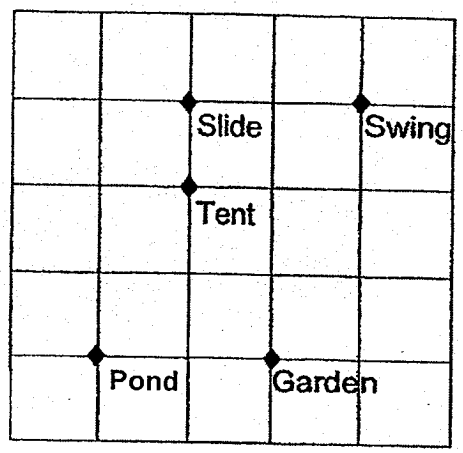
(1) 1.2 cm

(2) 1.6 cm

(3) 2.2 cm

(4) 2.4 cm

14 The square grid below shows the map of a park and its landmarks. The slide is north of the tent.



Suresh is standing at a location north of the garden and south-west of the swing. He is facing the pond. Which landmark will he be facing when he turns 45° clockwise?

(1) Tent

(2) Slide

(3) Swing

(4) Garden

15 A and B are whole numbers. A has exactly 2 factors. B has exactly 4 factors. C is the product of A and B. At least how many factors does C have?

(1) 5

(2) 6

(3) 8

(4) 4

NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2018

PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO PUPILS

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of calculators is **NOT** allowed.

Name: _____ ( )

Class: Primary 6 ( )

Booklet B	/ 25

Any query on marks awarded should be raised by 17 September (Monday). We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

---

16 Ze Hui had 24 marbles at first. He gave 6 marbles to his brother. What fraction of his marbles did he give to his brother? Express your answer as a fraction in its simplest form.

Ans: _____

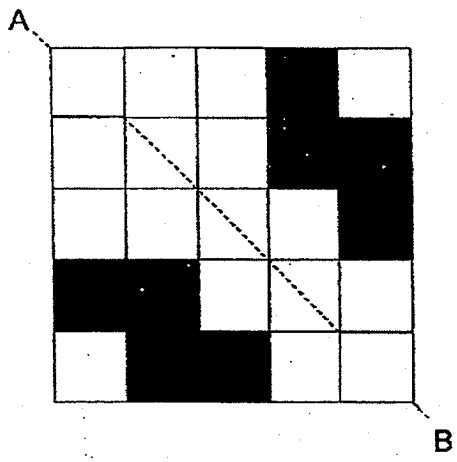
---

17 The distance between two points is **267 cm**. Express this distance in metres.

Ans: _____ m

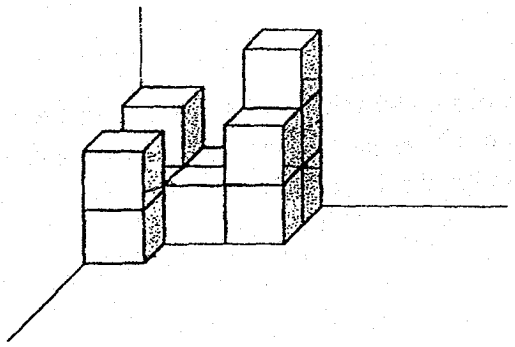
---

18 There are 8 shaded squares in the figure below. Shade 2 more squares to form a symmetric figure with AB as the line of symmetry.



---

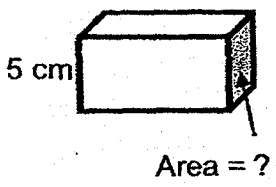
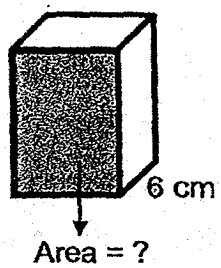
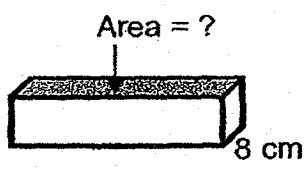
19 The figure below is made up of identical cubes. How many cubes are there in the figure?



Ans: _____

---

20 In which of the following can the area of the shaded face of the cuboid be found?

Volume = 100 cm^3	Volume = 240 cm^3	Volume = 400 cm^3
		
Cuboid A	Cuboid B	Cuboid C

Ans: Cuboid _____

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

---

21 How many common factors do 16 and 20 have?

Ans: _____

---

22 Jane has $31.70 She has $0.50 less than Bala. Mr Tan has 10 times as much money as Jane.

(a) How much money does Bala have?

(b) How much money does Mr Tan have?

Ans: (a) $ _____

(b) $ _____

---

23 This year, ABC Sports Club had 150 members. Last year, it had 120 members. Find the percentage increase in the number of members this year.

Ans: _____ %

---

24 The table below shows the carpark charges for a shopping mall.

CARPARK CHARGES	
7 a.m. to 6 p.m.	$0.60 for every 30 min

Mr Raj parked his car from 8.30 a.m. to 12 noon in the shopping mall. How much did he pay ?

Ans: $ _____

25 Jerry had 110 buns. He ate 2 buns and packed the ining buns equally into 6 packets. How many buns were there in each packet?

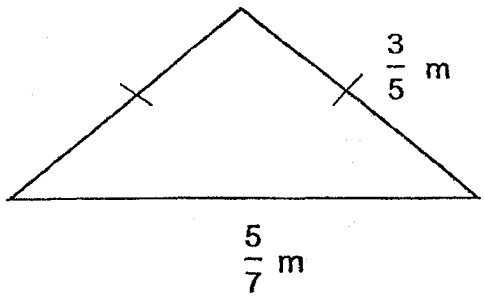
Ans: _____

26 Mrs Tay baked some cupcakes. $\frac{1}{4}$ of the cupcakes that she had baked were vanilla cupcakes $\frac{1}{5}$ of the remaining cupcakes were lychee cupcakes and the rest were chocolate cupcakes. She baked 36 chocolate cupcakes. How many cupcakes did she bake in total?

Ans: _____

---

27 Find the perimeter of the isosceles triangle shown below.



Ans: _____ m

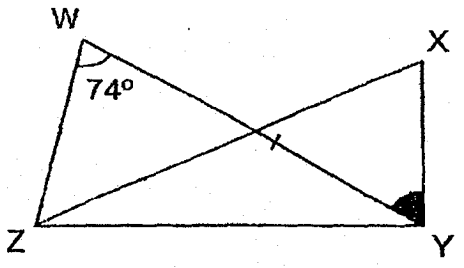
---

28 Jake has \$$y$. Kyra has \$(y + 14) more than Jake. Kyra has \$68. How much money does Jake have?

Ans: \$ _____

---

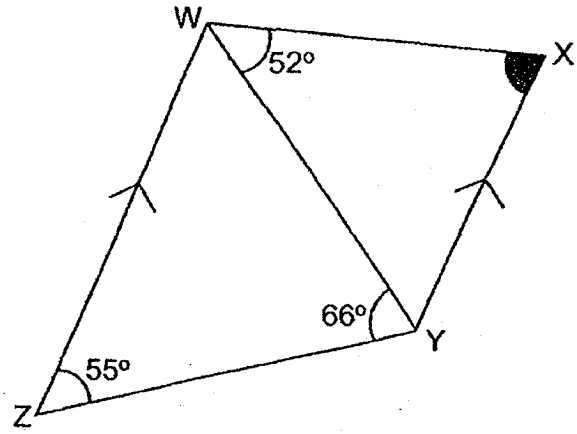
29 In the figure below, WZY and XYZ are triangles. $\angle$YWZ = 74°, $\angle$XYZ = 90° and WY = YZ. Find $\angle$WYX.



Ans: _____ °

---

30 In the figure below, WXYZ is a trapezium. WZ is parallel to XY. $\angle XWY = 52^\circ$, $\angle WYZ = 66^\circ$ and $\angle WZY = 55^\circ$. Find $\angle WXY$.



Ans: _____ °

End of Paper

NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2018

PRIMARY 6

MATHEMATICS PAPER 2

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of an approved calculator is expected, where appropriate.

Name: _____ ( )

Class: Primary 6 ( )

Parent's Signature: _____

Booklet A	**/ 20**
Booklet B	**/ 25**
Paper 2	**/ 55**
Total	**/ 100**

Any query on marks awarded should be raised by 17 September (Monday). We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

---

1 Farid had $(4k + 6)$ pencils. He bought another k pencils and packed all the pencils equally into 3 boxes. How many pencils were there in each box? Give your answer in terms of k in the simplest form.

Ans: _____

---

2 A bicycle cost \$617.10 after a discount of 15%. What was the price of the bicycle before the discount?

Ans: \$ _____

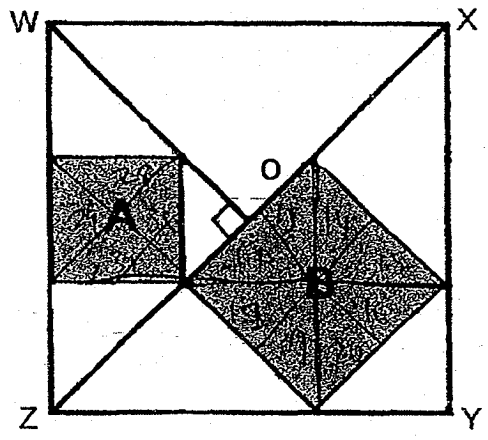
---

3 A tank is empty at first. It takes 12 minutes to fill up the tank completely with Tap A alone. It takes 8 minutes to fill up the tank completely with Tap B alone. Starting with an empty tank, how long does it take for both taps together to fill half of the tank?

Ans: _____ min

---

4 In the figure below, WXYZ is a square. The shaded parts A and B are two squares with different areas. All the corners of squares A and B lie either on the sides of square WXYZ or on the lines WO and XZ. What fraction of the square WXYZ is shaded?



Ans: _____

---

5 A, B and C are different 2-digit numbers. Their average is 30. Find the greatest possible different between B and C.

Ans: _____

For questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

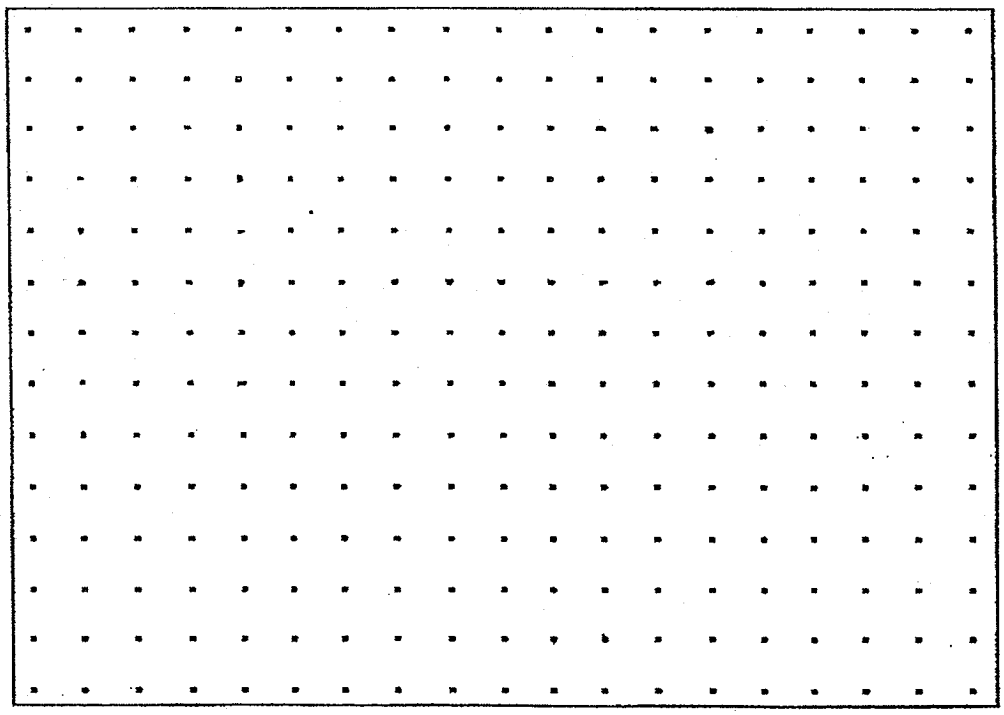
---

6 In the square grid below, two sides of a parallelogram have been drawn. Each side is drawn by joining dots on the square grid with a straight line. In the same way,

(a) complete the drawing of the parallelogram and [1]

(b) draw a trapezium in the square grid with the same perimeter as the parallelogram such that it does not overlap with the parallelogram. [1]

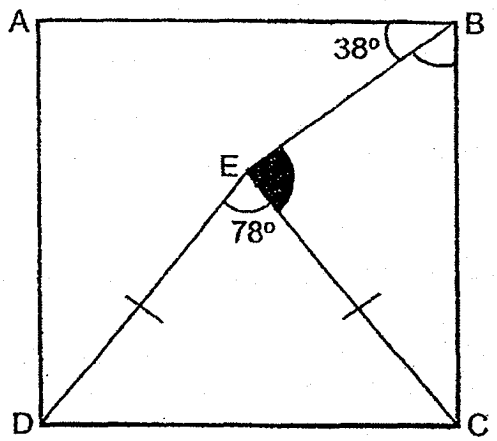
(c) Measure and write down the size of an obtuse angle in the parallelogram.



Ans: (c) _____ [1]

---

7 In the figure below, ABCD is a square and ECD is an isosceles triangle. $\angle DEC = 78^\circ$ and $\angle ABE = 38^\circ$. Find $\angle BEC$.



Ans: _____ [3]

---

8 Mr Lee has a total of 36 coins. They consist of only 20-cent, 50-cent and $1 coins. He has twice as many $1 coins as 20-cent coins. The total value of the 50-cent coins is $4.40 more than the total value of the 20-cent coins. How many $1 coins does Mr Lee have?

Ans: _____ [3]

---

9 Town P was exactly halfway between Town M and Town N. At 08 00, Nancy started travelling from Town M to Town N while Seo Joon started travelling from Town N to Town M. Nancy travelled at 50 m/min while Seo Joon travelled at 80 m/min. They did not change their speeds throughout the journey. When they passed each other, their distance from Town P was 120 m. At what time did Seo Joon reach Town M?

Ans:_ _____ [3]

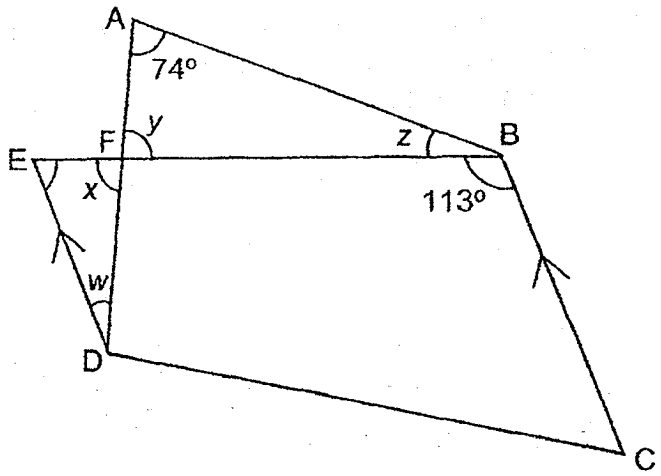
---

10 Ashley and Wei Shen have the mass of 43.3 kg each. The mass of Bernadette is 1.8 kg less than the average mass of Ashley, Wei Shen and Bernadette. Find the total mass of Ashley, Wei Shen and Bernadette.

Ans:_ _____ [3]

---

11 In the figure below, EBCD is a trapezium. ED is parallel to BC. $\angle FAB = 74^\circ$ and $\angle EBC = 113^\circ$. Find the sum of $\angle w$, $\angle x$, $\angle y$ and $\angle z$.



Ans:_____ [3]

12 Mdm Ler, Mr Chan and Mdm Ng bought some blue and some yellow highlighters. Each blue highlighter cost \$0.30 more than each yellow highlighter. The table below shows number of highlighters each of them bought for each colour.

	Number of blue highlighters bought	Number of yellow highlighters bought
Mdm Ler	10	17
Mr Chan	7	20
Mdm Ng	12	15

(a) Mdm Ng spent an equal amount of money on the blue highlighters and on the yellow highlighters. How much did each blue highlighter cost?

(b) Find the difference between Mdm Ler's total spending on the highlighters and Mr Chan's total spending on the highlighters.

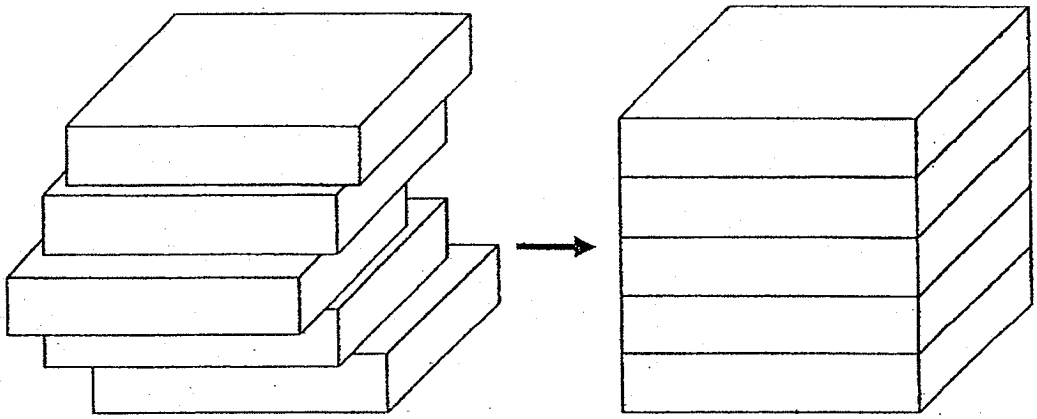
Ans: (a) _____ [2]

(b) _____ [2]

13 At a florist, there was a total of 3616 orchids, tulips and roses. The ratio of the number of orchids to the number of tulips was 3 : 5. After 40% of the orchids, $\frac{1}{5}$ of the tulips and 25% of the roses were sold, there were 2644 flowers left in the end. How many orchids were there in the florist at first?

Ans: _____ [4]

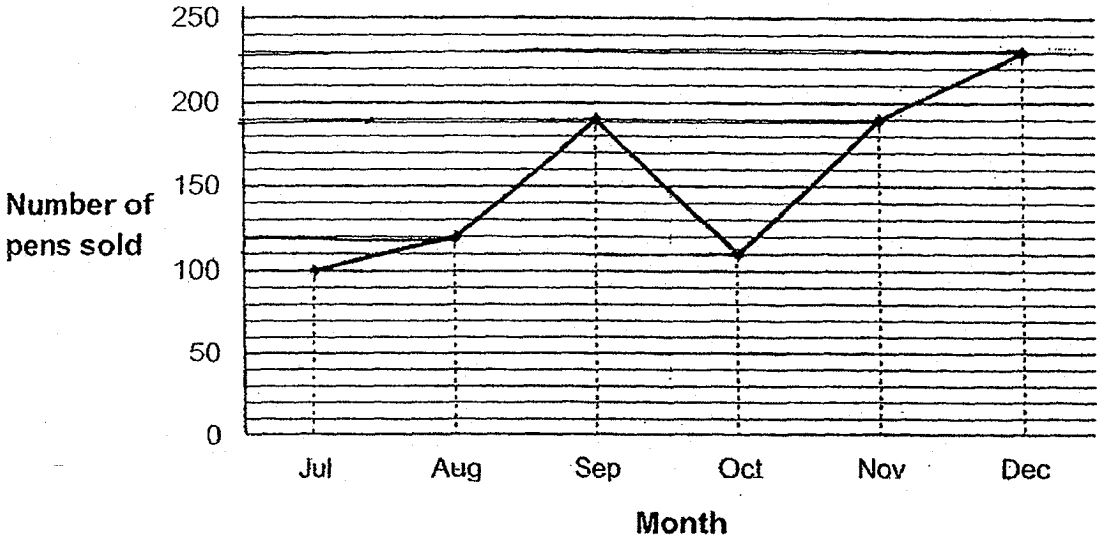
14 Jonathan had five identical cuboids. The volume of each cuboid is 675 cm^3. He stacked the five cuboids on top of one another neatly to form a big cube as shown below.



He then took one of the five cuboids and dipped it into a pail of red paint. Find the area of the cuboid that was painted red.

Ans: _____ [4]

15 The line graph below shows the number of pens sold in a bookstore each month from July to December in 2017.



(a) In which two months were the number of pens sold the same?

(b) Find the total number of pens sold **from August to** November.

(c) Each statement below is either true, false or not possible to tell from the information given in the line graph. For each statement, put a (✓) in the correct column.

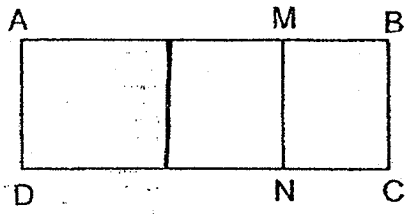
Statement	True	False	Not Possible to Tell
The increase in the number of pens sold from June to July was less than the increase in the number of pens sold from August to September.			
The number of pens sold in July was three times the number of pens sold **in May.**			

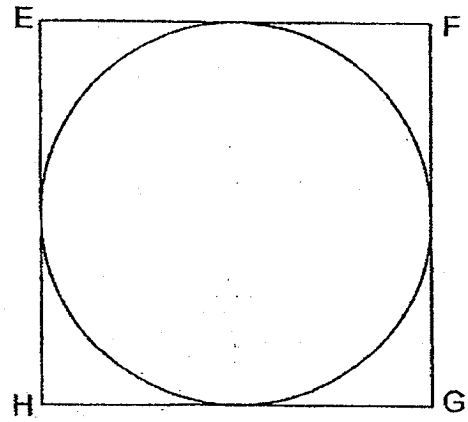
[2]

Ans: (a) _____ [1]

(b) _____ [2]

16 The perimeter of rectangle ABCD is 12 cm more than that of rectangle AMND. The area of rectangle MBCN is 54 cm^2.





(a) Find the length of AD.

(b) The perimeter of square EFGH is 12 times the length of AD.
Use the calculator value of π to find the area of the circle which touches the 4 sides of square EFGH, correct to 1 decimal place.

Ans: (a) _____ [2]

(b) _____ [3]

17 Rectangular tanks A and B contained some water. The height of the water level in tank A was equal to that in tank B at first. Tank A had a base area of 3400 cm^2 and Tank B had a base area of 850 cm2
8500 cm^3 of water was poured out from Tank B and the height of the water level decreased by 40% of Tank B
Some water was added into Tank A and the height of the water level increased by 80% in Tank A

(a) Find the total amount of water in the two tanks in the end.

(b) Some water was then transferred from Tank A to Tank B without spilling until the height of the water level in both tanks was the same again. What was the height of the new water level in each tank?

Ans: (a) _____ [3]

(b) _____ [2]

End of Paper

EXAM PAPER 2018

LEVEL : PRIMARY 6

SCHOOL : NANYANG PRIMARY SCHOOL

SUBJECT : MATHEMATICS

TERM : PRELIM

PAPER 1

BOOKLET A

Q1	Q2	Q3	Q4	Q5	Q6	Q7
3	4	2	1	2	4	3
Q8	Q9	Q10	Q11	Q12	Q13	Q14
4	4	3	4	4	4	1
Q15						
2						

BOOKLET B

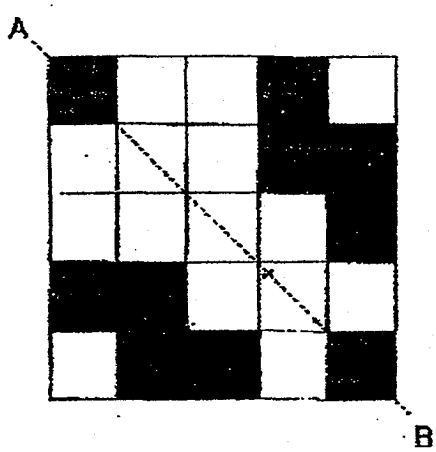
Q16. $\frac{6}{24} = \frac{1}{4}$

Ans: $\frac{1}{4}$

Q17. 267cm = 2.67m

Ans: 2.67m

Q18.



Q19. Ans: 12

Q20. $240 \div 6 = 40$

Ans: Cuboid B

Q21.

16	20
1×16	1×20
2×8	2×10
4×4	4×5

Ans : 3

Q22 \$31.70 + \$0.50 = \$32.20

\$31.70 × 10 + \$317

Ans: a) \$32.20

b) \$317

Q23. $\frac{30}{120} \times 100 = 25$

$150 - 120 = 30$

Ans: 25%

Q24. 8.30am to 12am = 3hrs 30 mins

7 × \$0.60 = \$4.20

Ans: \$4.20

Q25. $110 - 2 = 108$

$108 \div 6 = 18$

Ans: 18

Q26. $\frac{1}{4} = \frac{5}{20}$

$1 - \frac{1}{4} = \frac{3}{4}$ $3 \times 4 = 12$

$\frac{3}{4} = \frac{15}{20}$ $36 \div 12 = 3$

$\frac{15}{20} \div \frac{5}{1} = \frac{3}{20}$ $3 \times 20 = 60$

Ans: 60

Q27. $\frac{3}{5}+\frac{5}{7}+\frac{3}{5}=$ $\frac{21}{35}+\frac{25}{35}+\frac{21}{35}$

$= \frac{67}{89}$

$= 1\frac{32}{35}$

Ans: $1\frac{32}{35}$m

Q28. $y + $(y + 14) = $(2y + 14)

$68 - $14 = $54

$54 ÷ 2 = $27

Ans: $27

Q29. $180^0 - 70^0 - 70^0 = 32^0$

$90^0 - 32^0 = 58^0$

Ans: 58^0

Q30. $180^0 - 55^0 - 66^0 = 59^0$

$59^0 + 52^0 = 111^0$

$180^0 - 111^0 = 69^0$

Ans: 69^0

PAPER 2

Q1. $(4k + 6) + k = (5k + 6)$

$(5k + 6) \div 3 = (\frac{5k+6}{3})$

Ans: $(\frac{5k+6}{3})$

Q2. $\$617.10 \div 85 = \$7.26$

$\$7.26 \times 100 = \$726$

Ans:$276

Q3. In 1 minute,

Tap A fills $\frac{1}{12}$ of the tank.

Tap B fills $\frac{1}{8}$ of the tank.

Taps A and B fill $\frac{5}{24}$ of the tank.

$$\text{Time taken} = \frac{1}{2} \div \frac{5}{24}$$
$$= \frac{1}{2} \times \frac{24}{5}$$
$$= 2.4\text{min}$$

Q4. $4 \times 9 = 36$

$$\frac{8}{36} + \frac{4}{36} = \frac{12}{36}$$
$$= \frac{1}{3}$$

Ans : $\frac{1}{3}$

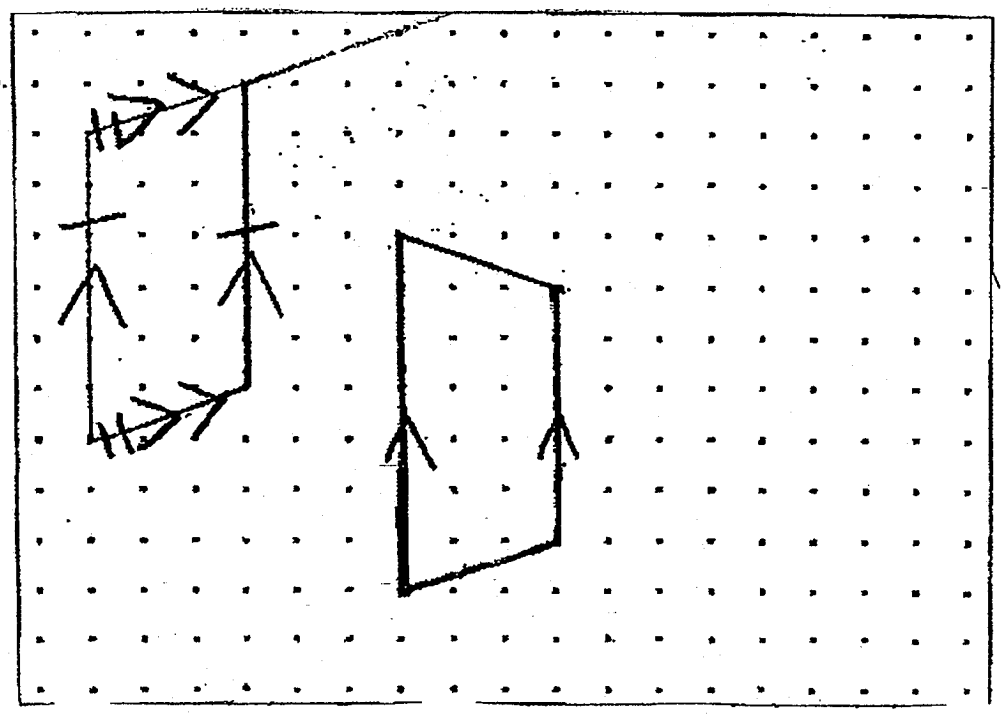
Q5. $30 \times 3 = 90$

$90 - 10 - 11 = 69$

$69 - 10 = 59$

Ans: 59

Q6.



Ans: c) 109^0

Q7. $90^0 - 38^0 = 52^0$

$180^0 - 78^0 = 120^0$

$120^0 \div 2 = 51^0$

$90^0 - 51^0 = 39^0$

$180^0 - 39^0 - 52^0 = 89^0$

Ans: 89^0

Q8.

No. of $1 dollar coins	Total value	No. of 20 cent coins	Total value	No. of 50-cent coins	Total value	Difference in values of 20-cent coins and 50-cent coins	Check
6	$6	3	$0.60	27	$13.50	$12.90	×
12	$12	6	$1.20	18	$9	$7.80	×
16	$18	8	$1.60	12	$8	$4.40	√

Ans: 16

Q9. $(120 \times 2) \div (80 - 50) = 8$

$8 \times (50 + 80) = 1040$

$1040 \div 80 = 13$

Ans: 08 13

Q10. $43.3 \times 2 = 86.6$

$86.6 - 1.8 = 84.8$

$84.8 \div 2 = 42.4$

$42.4 \times 3 = 127.2$

Q11. $180° - 74° = 106° \ (\angle y + \angle z)$

$180° - 113° = 67°$

$180° - 67° = 113° \ (\angle x + \angle w)$

$113° + 106° = 219°$

Q12. (a) Let the cost of the blue and yellow highlighter be 1u and 1y respectively,

$1u - \$0.30 = 1y$

$12u = 15y$

$12u = 15(1u - \$0.30)$

$12u = 15u - \$4.50$

$3u = \$4.50$

$1u = \$1.50$

(b) $(\$1.50 \times 10) + (\$1.20 \times 17) = \$35.40$

$(\$1.50 \times 7) + (\$1.20 \times 20) = \$34.50$

$\$35.40 - \$34.50 = \$0.90$

Q13. $15u + 25u + 4p = 3616$

$40u + 4p = 3616$

$120u + 12p = 10848$

$9u + 20u + 3p = 2644$

$29u + 3p = 2644$

$116u + 12p = 10576$

$120u - 116u = 4u$

$4u = 10848 - 10576$

$= 272$

$1u = 68$

$68 \times 15 = 1020$

Q14. $675 \times 5 = 3375$

$\sqrt[3]{3375} = 15$

$15 \div 5 = 3$

$675 \div 3 = 225$

$3 \times 15 = 45$

$45 \times 4 = 180$

$15 \times 15 = 225$

$225 \times 2 = 450$

$450 + 180 = 630$

Q15. (a) September and November

(b) $120 + 190 + 110 + 190 = 610$

(c)

Statement	True	False	Not Possible to Tell
The increase in the number of pens sold from June to July was less than the increase in the number of pens sold from August to September.			√
The number of pens sold in July was three times the number of pens sold in May.		√	

Q16. (a) $12 \div 2 = 6$

$54 \div 6 = 9$

(b) $9 \times 12 = 108$

$108 \div 4 = 27$

$27 \div 2 = 13.5$

$\pi \times 13.5 \times 13.5 = 572.6$

Q17. (a) 40% of $B = 8500$

100% of $B = (8500 \div 40) \times 100$

$= 21250$

60% of $B = (8500 \div 40) \times 60$

$= 12750$

$21250 \div 850 = 25$

$25 \times 3400 = 85000$

$85000 \div 100 \times 180 = 15300$

$12750 + 153 \quad = 165750$

(b) $165750 \div (3400 \div 850) = 39$

Index No. [ ][ ][ ][ ][ ] – [ ]

PEI CHUN PUBLIC SCHOOL

PRELIMINARY EXAMINATION, 2018

MATHEMATICS

PAPER 1

(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS) **Total Time For Booklets A & B : 1 h**

Name : _____ ( )

Class : Primary 6 /_____

Date : 1 August 2018

INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL THE QUESTIONS.

SHADE YOUR ANSWERS IN THE OPTICAL ANSWER SHEET (OAS) PROVIDED.

YOU ARE **NOT** ALLOWED TO USE A CALCULATOR.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each.
For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

1. Which of the following is eight hundred and five thousand and twenty-one in figures?

   (1) 85 021

   (2) 805 021

   (3) 850 021

   (4) 8 005 021

2. Round 299 542 to the nearest thousand.

   (1) 290 000

   (2) 299 500

   (3) 300 000

   (4) 300 542

3. What is the value of 500 × 80?

   (1) 40

   (2) 400

   (3) 4000

   (4) 40 000

4. Which of the following is the same as 9.04 ℓ?

   (1) 904 cm^3

   (2) 9004 cm^3

   (3) 9040 cm^3

   (4) 9400 cm^3

5. Which of the following is the smallest?

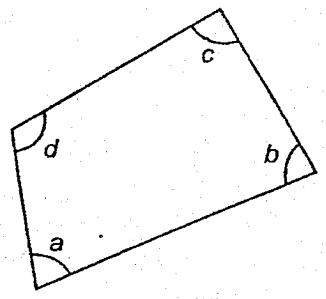
(1) 0.6

(2) 0.31

(3) 0.079

(4) 0.102

6. Which of the marked angles in the figure below is greater than a right angle?



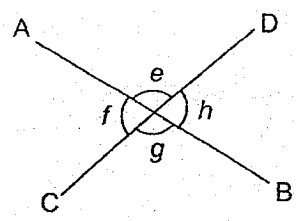
(1) $\angle a$

(2) $\angle b$

(3) $\angle c$

(4) $\angle d$

7. In the figure below, AB and CD are straight lines.



Which of the following statements is true?

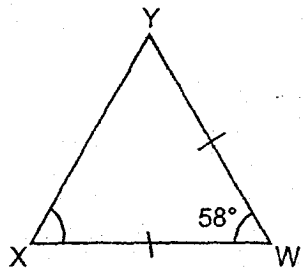
(1) $\angle e = \angle g$

(2) $\angle f = \angle e$

(3) $\angle f + \angle h = 180°$

(4) $\angle e + \angle g = 180°$

8. The figure below shows an isosceles triangle WXY. $\angle YWX = 58°$.



Find $\angle$ WXY.

(1) 64°

(2) 61°

(3) 58°

(4) 32°

9. Simplify the expression $9y + 7 - 5y + 3$.

(1) $14y + 4$

(2) $4y - 10$

(3) $4y + 4$

(4) $4y + 10$

10. Express 4.2 as a percentage.

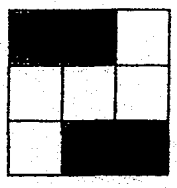
(1) 4.2%

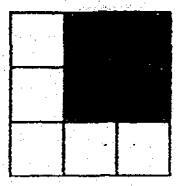
(2) 42%

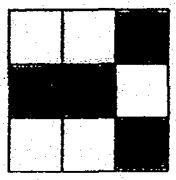
(3) 420%

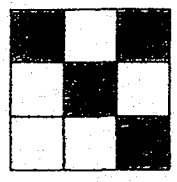
(4) 4200%

11. Which of the following is **not** a symmetric figure?

(1) 

(2) 

(3) 

(4) 

12. Suzy had some apples. $\frac{2}{5}$ of them were green and the rest were red. She sold all the green apples and $\frac{1}{4}$ of the red apples. What fraction of the apples were sold?

(1) $\frac{3}{20}$

(2) $\frac{11}{20}$

(3) $\frac{13}{20}$

(4) $\frac{14}{20}$

13. Mrs Yong wanted to pack 72 oranges and 96 apples into as many bags as possible with no remainder. She packed the same number of fruit in each bag. The number of apples in each bag was the same. How many oranges were there in each bag?

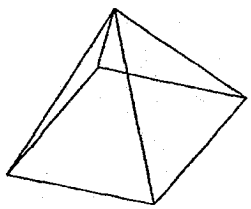
(1) 24

(2) 7

(3) 3

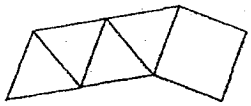
(4) 4

14. The figure below shows a pyramid.

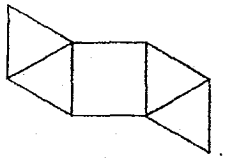


Which of the following is **not** a net of the pyramid?

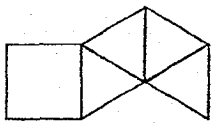
(1)



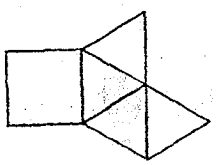
(2)



(3)

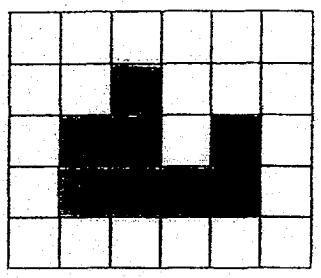


(4)

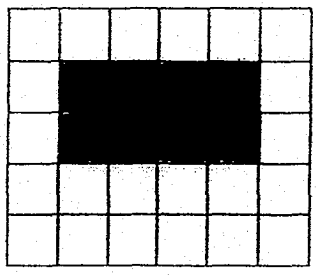


15. The diagrams below show three different views of a solid that is made up of 12 unit cubes.

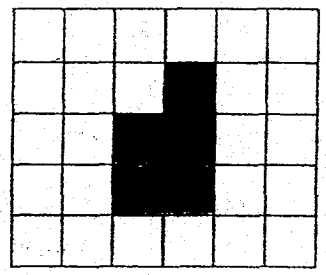
Front View



Top View

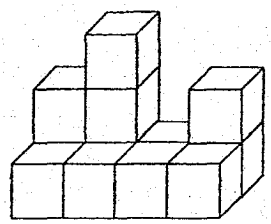


Side View

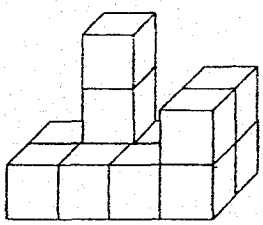


Which of the following solid matches the three views?

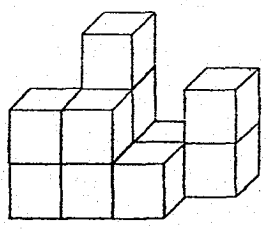
(1)



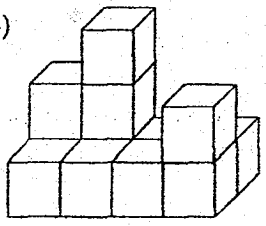
(2)



(3)



(4)



Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (5 marks)

Do not write in this space

16. What is the missing number in the box?

$6 : 15 = \boxed{?} : 55$

Answer: _____

17. Find the value of $35 - 2 \times (3 + 4) + 6$.

Answer: _____

18. Find the value of $\frac{3}{7} \div 9$.

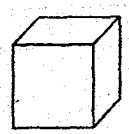
Answer: _____

19. Find the value of $\frac{42 - 3y}{6} + 8$ when $y = 4$.

Answer: _____

SCORE

20. Find the volume of the cube shown below.



9 cm

Answer: _____ cm^3

Do not write in this space

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

---

21. Find the value of

(a) 20.7×1000

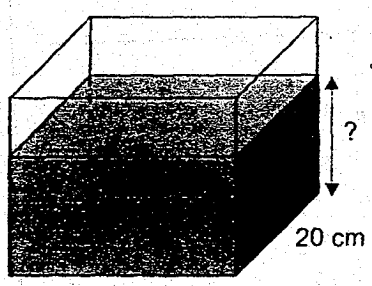
(b) $8.06 \div 20$

Answer: (a) _____

(b) _____

---

22. The base of a rectangular container is 60 cm long and 20 cm wide. Peter poured 36 000 cm^3 of water into the container. What is the height of the water level?

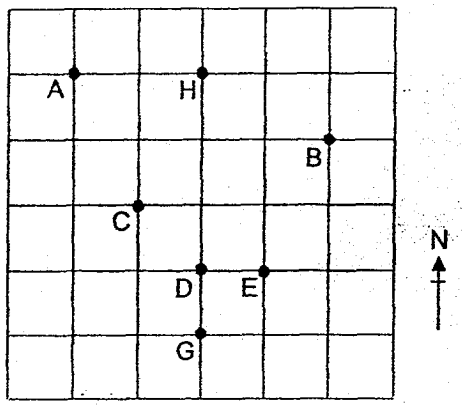


Answer: _____ cm

SCORE

(Go on to the next page)

23. Seven landmarks are shown in the square grid below.



(a) In which direction is A from E?

(b) A treasure is buried under one of the landmarks. The treasure is south of H and south-west of B. Under which landmark is the treasure buried?

Answer: (a) _____

(b) _____

24. The ratio of the number of boys to the number of girls in a hall is 2 : 7. There are 180 children. Find the difference between the number of boys and the number of girls.

Answer: _____

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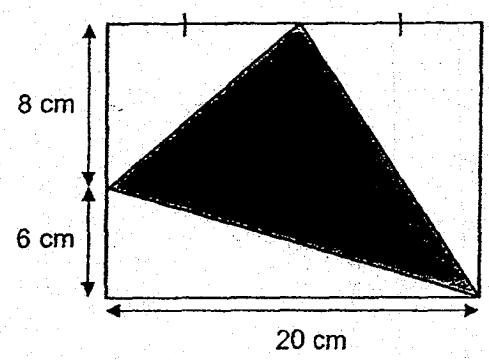
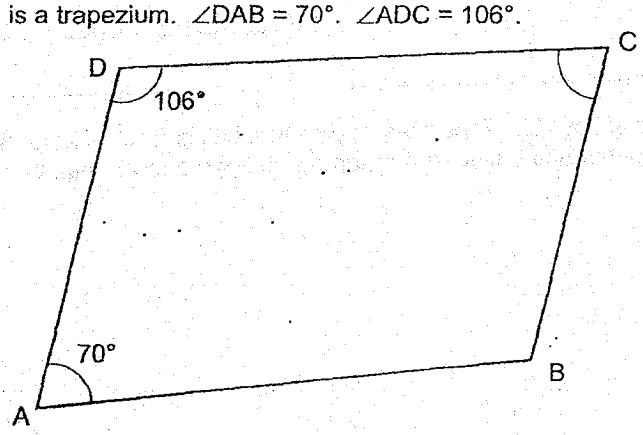
SCORE

25. The figure below shows a rectangle and a triangle. What is the area of the shaded triangle?



Answer: _____ cm^2

26. ABCD is a trapezium. ∠DAB = 70°. ∠ADC = 106°.



(a) Name the pair of parallel sides of the trapezium.

(b) Find ∠BCD.

Answer: (a) _____

(b) _____ °

Do not write in this space

SCORE

27. A table with 4 columns is filled with numbers in a certain pattern. The first 4 rows of the table are shown below.

	Column A	Column B	Column C	Column D
Row 1	1	2	3	4
Row 2	8	7	6	5
Row 3	9	10	11	12
Row 4	16	15	14	13
⋮	⋮	⋮	⋮	⋮

In which row and column will the number 295 appear?

Answer: Row: _____

Column: _____

28. One machine took 80 minutes while another took 100 minutes to print the same number of copies of a newsletter. In 80 minutes, the faster machine printed 360 more copies of the newsletter than the slower one. What was the total number of copies printed by the two machines?

Answer: _____

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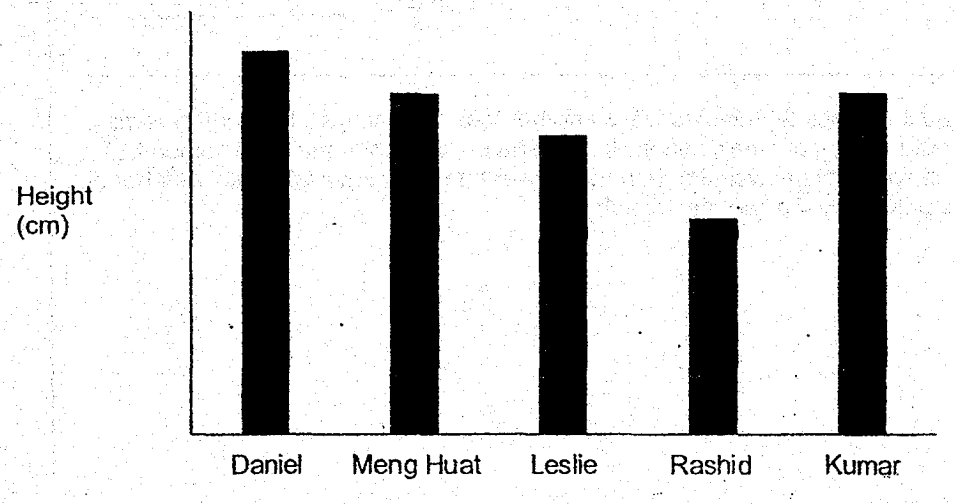
SCORE

29. Siva saves $3 a day during weekdays and $6 a day on Saturday and Sunday. He started saving on Friday, 8 June. How many days did he take to save $69?

Do not write in this space

Answer: _____

30. The bar graph below shows the height of 5 boys.



Based on the information above, put a tick (✓) in the correct box.

		True	False	Not possible to tell
(a)	Leslie's height is less than Rashid's height.			
(b)	The average height of the 5 boys is more than Rashid's height but less than Daniel's height.			

End of Paper

SCORE

Set by : Mrs Agnes Chua, Mr Tan Keng Hock and Mr Stanley Soh

Index No. | | | | | | – | |

PEI CHUN PUBLIC SCHOOL

PRELIMINARY EXAMINATION, 2018

MATHEMATICS

PAPER 2

Time: 1 h 30 min

Name : _____ ( )

Class : Primary 6 /_____

Date : 1 August 2018

Parent's Signature:_____

Paper 1 (Booklet A)	/20
Paper 1 (Booklet B)	/25
Paper 2	/55
TOTAL	/100

INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.
ANSWER ALL QUESTIONS.
SHOW YOUR WORKING CLEARLY AS MARKS ARE AWARDED FOR CORRECT WORKING.
WRITE YOUR ANSWERS IN THIS BOOKLET.
YOU ARE ALLOWED TO USE A CALCULATOR.

Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do n
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1. There are 4032 people at a concert hall. $\frac{2}{7}$ of the people are females. How many females are there in the concert hall?

Answer: _____

2. The average height of 4 boys is 1.36 m. The height of one of the boys is 1.45 m. What is the average height of the other 3 boys?

Answer: _____ m

SCORE

3. There were 13 bookshelves each holding the same number of books.
1 bookshelf was removed and the books on the shelf were placed on the remaining 12 shelves. Because of this, the number of books on each remaining shelf increased by 8.
What was the total number of books in the 13 bookshelves at first?

Answer: _____

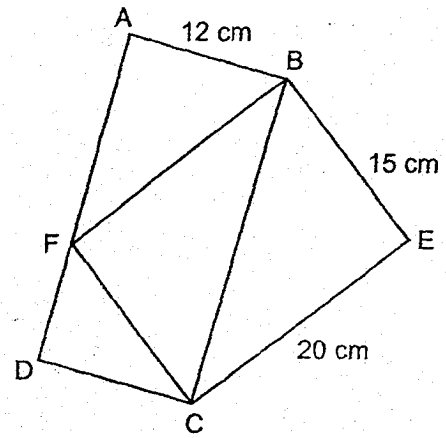
Do not write in this space

4. The breadth of a rectangle is b cm. The length of the rectangle is 3 times its breadth. What is the perimeter of the rectangle?
Express your answer in terms of b.

Answer: _____ cm

SCORE

5. In the figure below, ABCD and BECF are rectangles. The length of CE is 20 cm, the length of BE is 15 cm and the length of AB is 12 cm.
What is the length of AD?



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in this

Answer: _____ cm

SCORE

For questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

Do not write in this space

6. Zainal and Marc saved a total of $193. Suresh and Marc saved a total of $100. Zainal saved 4 times as much money as Suresh. How much did Marc save?

Answer: _____ [3]

7. The mass of a watermelon is 640 g more than the mass of a durian.
The mass of a jackfruit is twice the mass of a watermelon.
The total mass of the three fruits is 8.72 kg.
What is the mass of the jackfruit?

Answer: _____ [3]

SCORE

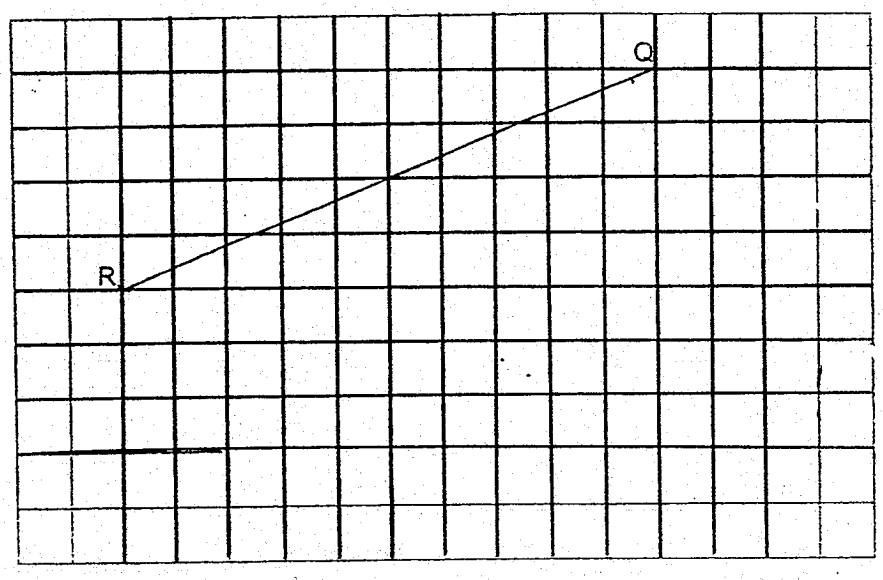
8. In the square grid below, QR is a side of a trapezium.

(a) Measure the length of QR.

(b) Draw a trapezium PQRS in the square grid such that:
(i) ∠RQP is a right angle; _____

Do not writ in this spac

8(b)



Answer: (a) _____ [1]

9. At first, the ratio of Leon's savings to Michael's savings was 9 : 7. After each of them donated $680 to charity, the ratio of Leon's savings to Michael's savings became 5 : 2. What was Michael's savings at first?

Answer _____ [3]

SCORE

10. Kai Ling wanted to buy a present for her parents with her savings. She started saving from the beginning of January. The line graph below shows her savings at the end of each month.

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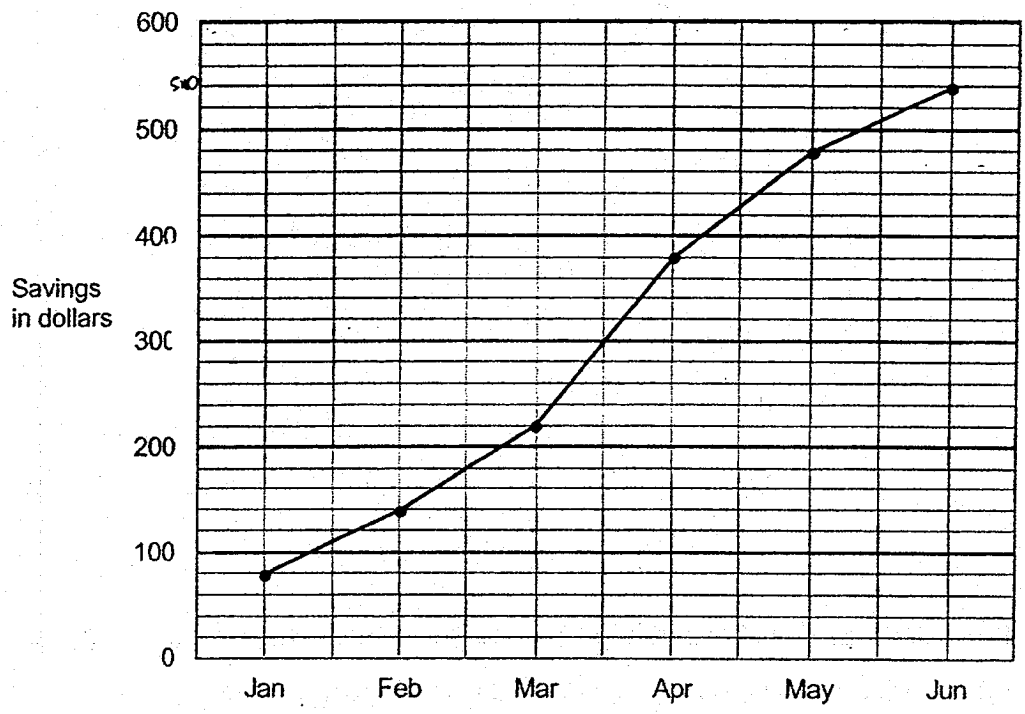

(a) In which month did Kai Ling save the most? How much did she save that month?

(b) At the end of June, Kai Ling realised she had not saved enough for the present. She only managed to save $\frac{3}{4}$ of the amount she needed. What was the amount she needed for the present?

Answer: (a) Month : _____ [1]

Amount : _____ [1]

(b) _____ [2]

SCORE

11. There are 360 Primary 6 pupils in a primary school. The pie chart shows the type of books the Primary 6 pupils like to read. 64 pupils like to read Science magazines.

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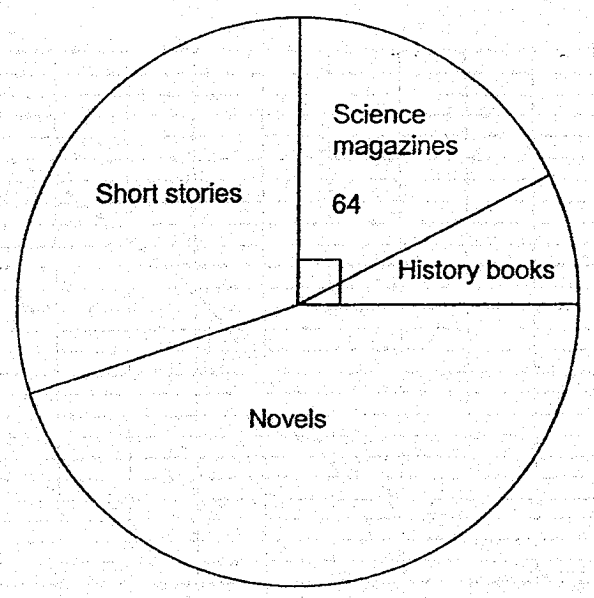


(a) What fraction of the pupils like to read short stories or novels?

(b) What percentage of the pupils like to read Science magazines?

(c) The ratio of the number of pupils who like to read short stories to the number of pupils who like to read novels is 2 : 3.
What percentage of the pupils like to read novels?

Answer: (a) _____ [1]

(b) _____ [1]

(c) _____ [2]

SCORE

12. At a shop, a mobile phone was sold at 40% the price of a television. Both items were sold at a 20% discount. Janet paid $2016 for both items after the discount. What was the usual price of the television?

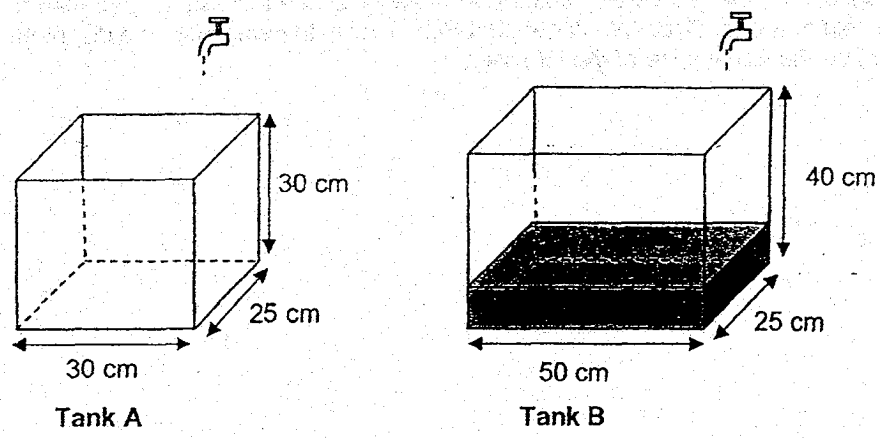
Do not write in this space

Answer: _____ [3]

SCORE

Do not write in this space

13. Two rectangular tanks are shown below.



At first, Tank A was empty and $\frac{1}{4}$ of Tank B was filled with water. Both taps were turned on at the same time and water from both taps flowed at the same rate of 1.5 litres per minute.

How long did it take for the height of water to be the same in both tanks?
(1 litres = 1000 cm^3)

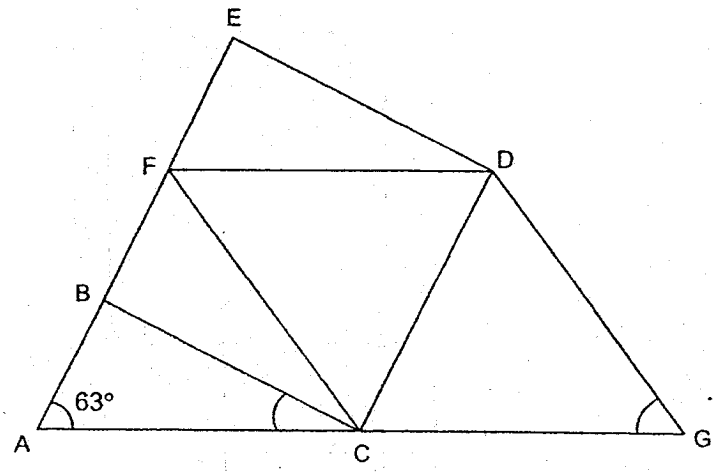
Ans _____ [3]

SCORE

14. The figure below is not drawn to scale. ABFE and ACG are straight lines. BCDE is a square and CFDG is a rhombus. $\angle BAC = 63°$.

(a) Find $\angle ACB$.

(b) Find $\angle CGD$.



Answer: (a) _____ [2]

(b) _____ [3]

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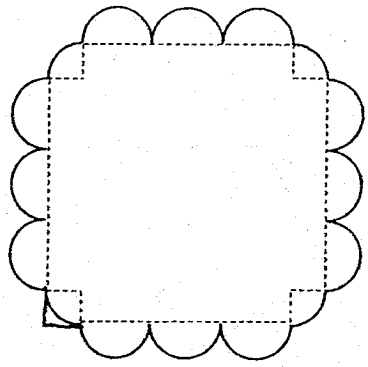
SCORE

15. The figure shows a table mat. The outside edge of the mat is formed by 12 semicircles and 4 quarter circles, each of radius 10 cm.

(a) Find the perimeter of the mat.

(b) Find the area of the mat.

Take $\pi = 3.14$.



Do not write in this space

Answer: (a) _____ [2]

(b) _____ [3]

SCORE

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16. Raja and Greg took part in a walkathon which started at 7.20 a.m. Raja's average speed was 30 m/min faster than Greg. When Raja completed the walkathon in 40 minutes, Greg had only walked $\frac{5}{6}$ of the distance.

(a) What time was it when Greg completed the walkathon?

(b) Find Raja's average speed for the walkathon in m/min.

Answer: (a) _____ [2]

(b) _____ [2]

SCORE

17. Lee Peng and Janice had some red and yellow ribbons. $\frac{4}{9}$ of Lee Peng's ribbons were red, while $\frac{1}{3}$ of Janice's ribbons were red. Lee Peng gave $\frac{3}{4}$ of her red ribbons to Janice.

In the end, Lee Peng had 126 ribbons left and $\frac{6}{11}$ of Janice's ribbons were red.

(a) How many red ribbons did Lee Peng give Janice?

(b) How many ribbons did Janice have in the end?

Do not write in this space

Answer: (a) _____ [2]

(b) _____ [3]

End of Paper

Set by : Mrs Agnes Chua, Mr Tan Keng Hock and Mr Stanley Soh

SCORE

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : : PEI CHUN PUBLIC
SUBJECT : : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

Q1	2	Q4	3	Q7	1	Q10	3	Q13	3
Q2	3	Q5	3	Q8	2	Q11	1	Q14	1
Q3	4	Q6	4	Q9	4	Q12	2	Q15	4

Q16 22

Q17 27

Q18 $\frac{1}{21}$

Q19 13

Q20 729 cm^3

Q21 (a) 20700

(b) 0:403

Q22 30 cm

Q23 (a) North-west

(b) D

Q24 100

Q25 110 cm^2

Q26 (a) DA and CB

(b) 74°

Q27 Row : 74
Column : 8

Q28 3600

Q29 17 days

Q30 (a) False

(b) True

Paper 2

Q1 $\frac{1}{7} \rightarrow 4032 \div 7 = 576$

Females $\rightarrow 576 \times 2 \Rightarrow$ 1152

Q2 Total $\rightarrow 1.36 \times 4 = 5.44$
3 boys $\rightarrow 5.44 - 1.45 = 3.99$
Average $\rightarrow 399 \div 3 \Rightarrow$ 1.33 m

Q3 1 shelf $\rightarrow 8 \times 12 = 96$
13 shelves $\rightarrow 96 \times 13 \Rightarrow$ 1248 books

Q4 Length $\rightarrow b \times 3 = 3b$
Perimeter $\rightarrow 3b + 3b + b + b \Rightarrow 8b$ cm

Q5 Area $\rightarrow 20 \times 15 = 300$
$300 \div 2 = 150$
$150 \times 2 = 300$
AD $\rightarrow 300 \div 12 \Rightarrow$ 25 cm

Solutions to Word Problems

Pei Chun Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Savings of Suresh and Marc = $100 (1)

Savings of Zainal and Marc = $193

Savings of 4 x Suresh and Marc = $193 (2) Zainal savings=4x Suresh's

3 x (Suresh's savings) = 193 – 100 = 93 (3) = (2) – (1)

Suresh's savings = 93 ÷ 3 = $31

Marc's savings = 100 – 31 = $69

Ans: $69

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7. Let mass of durian = u

Mass of watermelon = u + 640

Mass of jackfruit = (u + 640) x 2 = 2u + 1280

Total mass = u + u + 640 + 2u + 1280 = 4u + 1920 = 8720 g

4u = 8720 - 1920 = 6800

u = 6800 ÷ 4 = 1700

Mass of jackfruit = 2 x 1700 + 1280 = 4680 g = 4.68kg

Ans: 4.68kg

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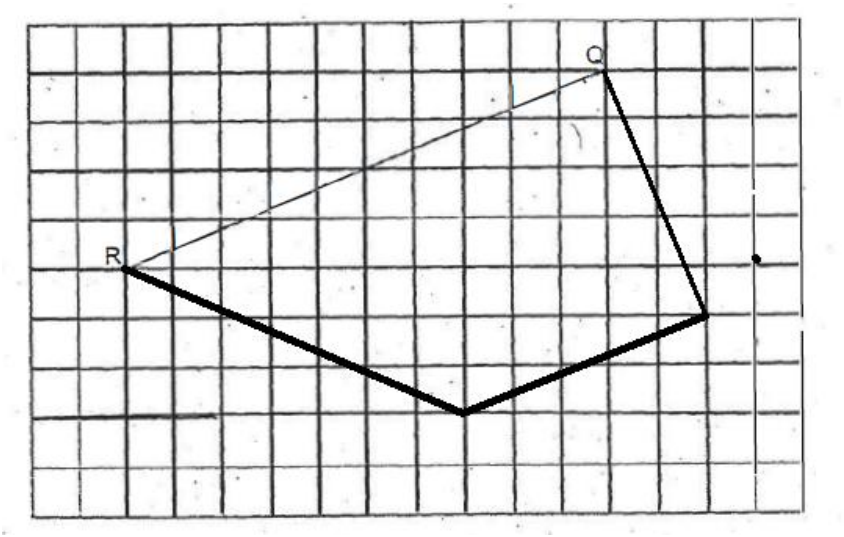
8. a)

Length of QR = 8.6 cm

b)



Ans: (a) 8.6 cm
(b) as shown

---

9. At first,

Ratio of Leon to Michael's savings → 9 : 7 → 27u : 21u

At the end,

Ratio of Leon to Michael's savings →5 : 2 → 10u : 4u

27u – 10u = 17, 21u – 4u = 17u

17u = 680

u = 680 ÷ 17 = 40

Michael's savings at first = 21u = 21 x 40 = $840

Ans: $840

---

10. a)

Month with the most savings = April

Aprils savings = 380 – 220 = $160

b)

Savings at end of June = $540 → $\frac{3}{4}$

$\frac{1}{4}$ → $180

Total needed for present = 540 + 180 = $720

Ans: (a) April, $160

(b) $720

---

11. a)

Fraction that like short stories or novels = 1 - $\frac{1}{4}$ = $\frac{3}{4}$

b)

Percentage that like science magazines = $\frac{64}{360}$ x 100 = 17.78%

c)

Percentage who like novels = $\frac{3}{5}$ x 75% = 45%

Ans: (a) $\frac{3}{4}$

(b) 17.78%

(c) 45%

---

12. Let price of television = u

Undiscounted price of mobile and TV = 1.4 x u = 1.4u

Discounted price of mobile and TV = 0.8 x 1.4u = 1.12u = 2016

Usual price of TV = u = 2016 ÷ 1.12 = $1800

Ans: $1800

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13. Let t = time in minutes after Taps were turn on.

Base area of Tank A = 25 x 30 = 750

Base area of Tank A = 25 x 50 = 1250

Rate of height increase of Tank A = 1500 ÷ 750 = 2 cm / min

Rate of height increase of Tank B = 1500 ÷ 1250 = 1.2 cm / min

Water height of Tank B at first = $\frac{1}{4}$ x 40 = 10cm

Water height of Tank B = 10 + 1.2 t

Water height of Tank A = 2t

2t = 10 + 1.2t

0.8t = 10

t = 10 ÷ 0.8 = 12.5 min

Ans: 12.5 min

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14. a)

$\angle ACB = 90 - 63 = 27°$

b)

$\angle DCG = 180 - 90 - 27 = 63°$

$\angle CGD = 180 - 63 - 63 = 54°$

Ans: (a) 27°

(b) 54°

---

15. a)

Diameter = 20 cm

Perimeter of 12 semi-circles & 4 quadrants = 7 x π x 20 = 140π = 439.6 cm

b)

Area of 12 semi-circles & 4 quadrants = 7 x π x 10 x 10 = 2198 cm^2

Area of square minus 4 corners = 80 x 80 – 4 x 10 x 10 = 6000 cm^2

Area of mat = 2198 + 6000 = 8198 cm^2

Ans: (a) 439.6 cm

(b) 8198 cm^2

---

16. a)

Extra distance Raja walked = 30 x 40 = 1200 m

$\frac{1}{6}$ of distance → 1200

$\frac{6}{6}$ of distance → 1200 x 6 = 7200 m

Raja's speed = 7200 ÷ 40 = 180 m / min

Greg's speed = 180 – 30 = 150 m / min

Greg's distance = 1200 x 5 = 6000 m

Greg's time = 7200 ÷ 150 = 48 min after 7:20 = 8.08 am

b)

Raja's average speed = 180 m / min

Ans: (a) 8.08 am

(b) 180 m / min

17. a)

$\frac{3}{4} \times \frac{4}{9} \rightarrow \frac{1}{3}$ Lee Peng's ribbon was given to Janice

$\frac{2}{3}$ of Lee Peng's ribbon = 126

$\frac{3}{3}$ of Lee Peng's ribbon = 126 ÷ 2 x 3 = 189

$\frac{1}{3}$ given to Janice → 126 ÷ 2 = 63

b)

Ratio of Janice's red to yellow numbers at first→ 1 : 2 → 5u : 10u

Ratio of Janice red to yellow numbers at last → 6 : 5 → 12u : 10u

12u – 5u = 7u = 63

22u = 63 ÷ 7 x 22 = 198

Ans: (a) 63

(b) 198

PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS PAPER 1
(BOOKLET A)

21 AUGUST 2018

Name : _____

Form Class / Register No. : 6R _____ / _____

Banded Class / Register No. : 6M _____ / _____

Total time for Booklets A and B: 1h

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.
6. The use of calculator is **NOT ALLOWED**.

This booklet consists of 6 printed pages, excluding the cover page.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.

(20 marks)

---

1 Find the value of 72 hundreds and 16 ones.

(1) 7216

(2) 880

(3) 736

(4) 88 ( )

2 Which of the following is equal to $5\frac{1}{3}$?

(1) $5 \times \frac{1}{3}$

(2) $5 \div \frac{1}{3}$

(3) $16 \times \frac{1}{3}$

(4) $16 \div \frac{1}{3}$ ( )

3 Which one of the following numbers is nearest to 8?

(1) 8.1

(2) 8.09

(3) 8.03

(4) 8.004 ( )

4 Express 1 036 millilitres in litres.

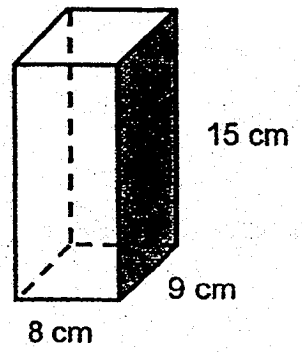
(1) 1.036 litres

(2) 1.36 litres

(3) 10.36 litres

(4) 101.36 litres ( )

5 The empty cuboid below measures 8 cm by 9 cm by 15 cm. Find the area of the shaded face.



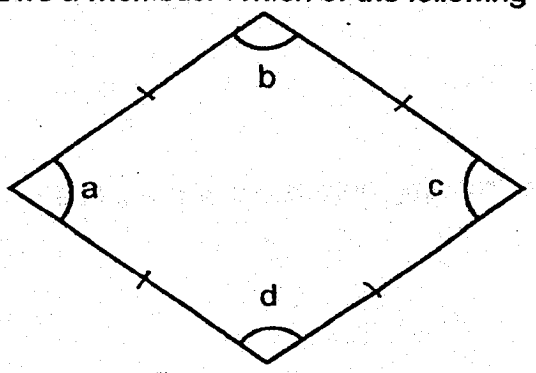
(1) 1080 cm^2

(2) 135 cm^2

(3) 120 cm^2

(4) 72 cm^2 ( )

6 The figure below shows a rhombus. Which of the following is true?



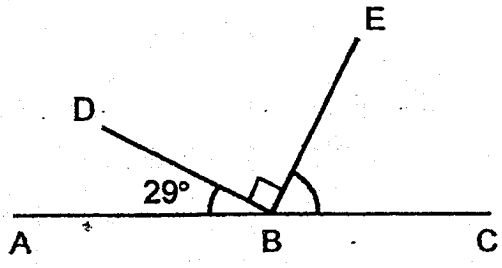
(1) $\angle a = 90°$?

(2) $\angle b = \angle c$ ×

(3) $\angle b + \angle d = 180°$ ×

(4) $\angle a + \angle b = 180°$ ✓ ( )

7 In the figure, ABC is a straight line. ∠DBE = 90° and ∠DBA = 29°. Find ∠EBC.



(1) 21°

(2) 61°

(3) 90°

(4) 151° ( )

8 Find 2% of $2000.

(1) $4

(2) $40

(3) $400

(4) $4000 ( )

9 In a class, there are 38 students. 28 of them are girls and the rest are boys. Find the ratio of the number of girls to the number of boys to the total number of students in the class.

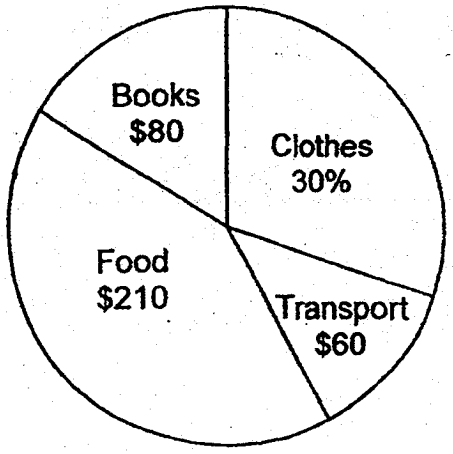
(1) 5 : 14 : 19

(2) 5 : 19 : 14

(3) 14 : 5 : 19

(4) 14 : 19 : 5 ( )

10 The pie chart shows how Doris spent her money. How much did Doris spend on clothes?



(1) $70

(2) $150

(3) $190

(4) $500 ( )

11 Roy uses the four letters, C, A, R, E, to form a pattern. The first 16 letters are shown below. Which letter is in the 59th position?

C	A	R	E	C	A	R	E	C	A	R	E	C	A	R	E...
1st															16th

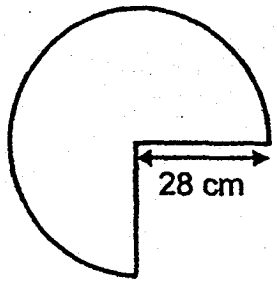
(1) C

(2) A

(3) R

(4) E ( )

12 Find the perimeter of a $\frac{3}{4}$- circle of radius 28 cm. (Take $\pi = \frac{22}{7}$)



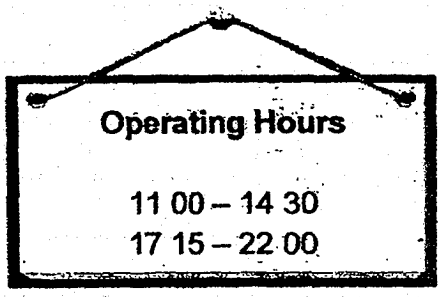
(1) 132 cm

(2) 144 cm

(3) 188 cm

(4) 232 cm ( )

13 A restaurant opens daily for the time shown in the table below.



How many hours and minutes is the restaurant open each day?

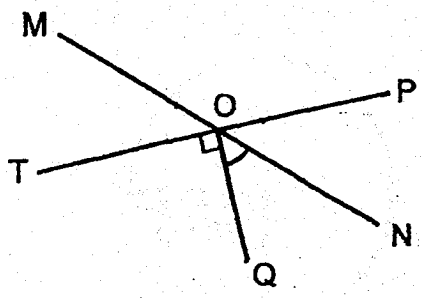
(1) 11 h 15 min

(2) 10 h 15 min

(3) 9 h 15 min

(4) 8 h 15 min ( )

14 In the figure below, MN and TP are straight lines. ∠MOP is twice the size of ∠MOT. Find ∠NOQ.



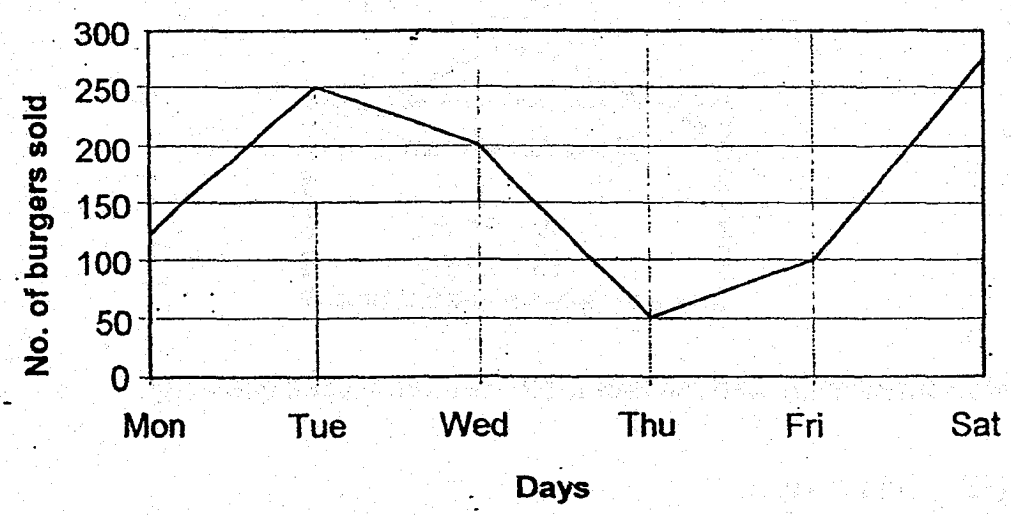
(1) 30°

(2) 45°

(3) 54°

(4) 60° ( )

15 The line graph shows the number of burgers Mr Tan sold from Monday to Saturday.



Each burger was sold at $4. How much more money did Mr Tan earn on Tuesday than on Thursday?

(1) $200

(2) $600

(3) $800

(4) $1000 ( )

-- End of Booklet A --

PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS PAPER 1
(BOOKLET B)

21 AUGUST 2018

Parent's signature

Name: _____

Form Class / Register No. : 6R_____ / _____

Banded Class / Register No. : 6M_____ / _____

Total time for Booklets A and B: 1h

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.
6. The use of calculator is **NOT ALLOWED**.

Marks (Booklet A) :	20
Marks (Booklet B) :	25
Total Marks (Booklets A and B) :	45

This booklet consists of 7 printed pages, excluding the cover page.

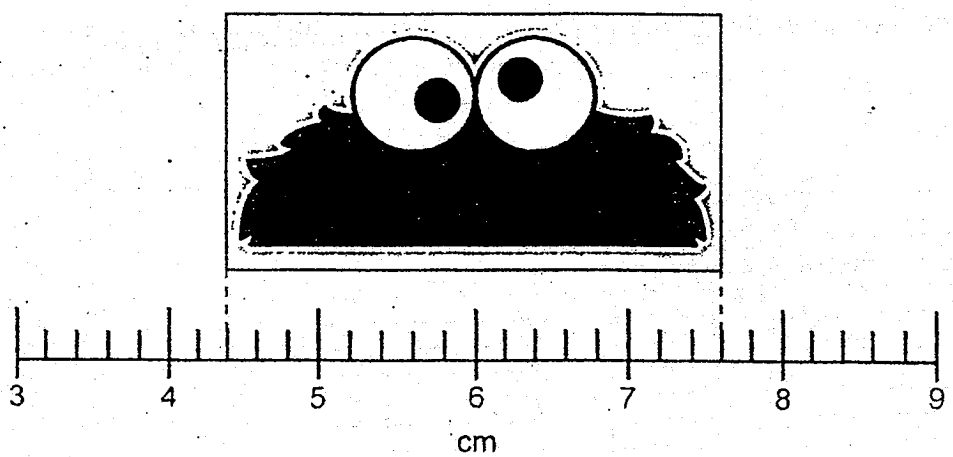
Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write in this space

16 Find the value of 12.3 – 0.99.

Ans: _____

17 What is the length of the sticker as shown in the figure below?



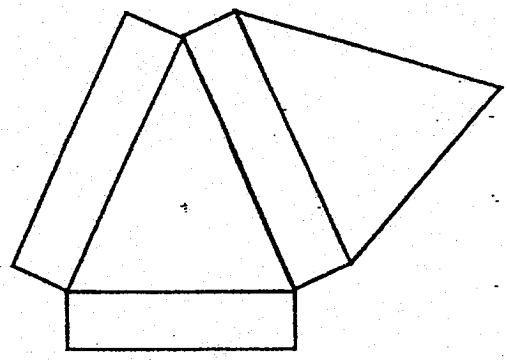
Ans: _____ cm

18 Express 0.035 as a percentage.

Ans: _____ %

Do not write in this space

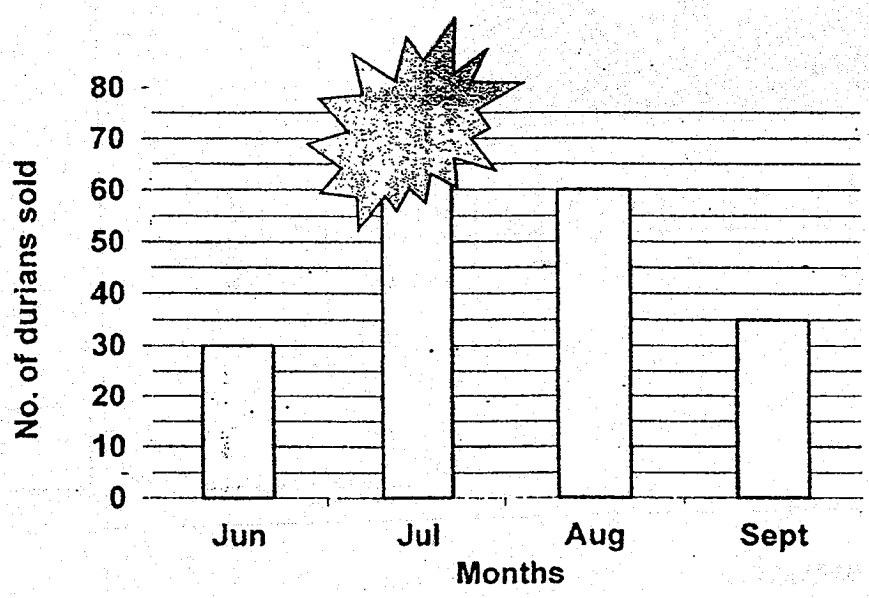
19 Name the solid formed by the following net.



Ans: _____

0

20 The bar graph below shows the number of durians Mr Tan sold from June to September.



The total number of durians sold by Mr Tan from June to September was 200. How many durians were sold in July?

Ans: _____

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

Do not write in this space

21 Express $2\frac{6}{7}$ as a decimal. Give your answer to 2 decimal places.

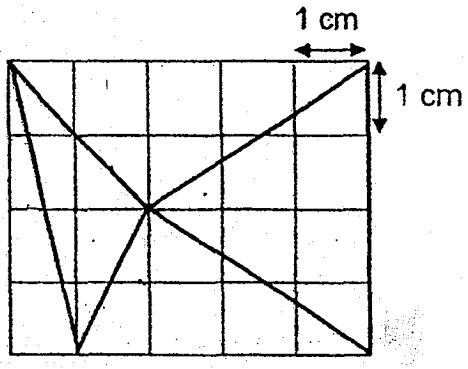
Ans: _____

22 The table below shows the postage rate for mail at a post office. How much does Jack have to pay if his parcel weighs 67 g?

Mass Step	Postage ($)
First 30 g	$2.00
Every additional 10 g	$0.90

Ans: $ _____

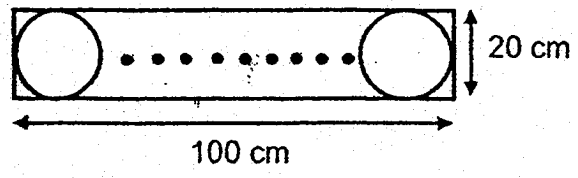
23 The figure below shows 2 shaded triangles. Find the total area of the shaded triangles.



Ans: _____ cm^2

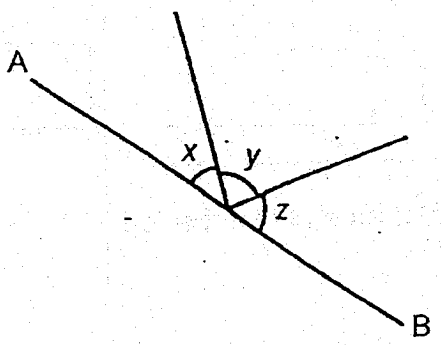
Do not write in this space

24 Jenny wants to cut the maximum number of identical circles from a piece of rectangular cardboard measuring 100 cm by 20 cm as shown in the figure below. What is the total area of the circles cut out from the cardboard? (Take $\pi = 3.14$)



Ans: _____ cm^2

25 In the figure below, AB is a straight line. The sum of $\angle x$ and $\angle y$ is 124°. The sum of $\angle x$ and $\angle z$ is 97°. Find $\angle x$.



Ans: _____ °

Do not write in this space

26 Gwen is 6 times as old as her brother. In 12 years' time, she will be twice as old as her brother. How old is Gwen now?

Ans: _____

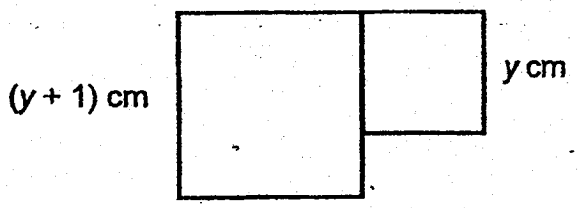
27 The table below shows the number of hamsters owned by a group of children. The total number of hamsters owned by the children is 88. How many children owned 2 hamsters?

Number of hamsters	0	1	2	3	4
Number of children	4	12	?	10	6

Ans: _____

Do not write in this space

28 In the figure below, there are 2 squares. Each side of the smaller and larger square is y cm and $(y + 1)$ cm respectively. Find the perimeter of the figure.



Ans: _____ cm

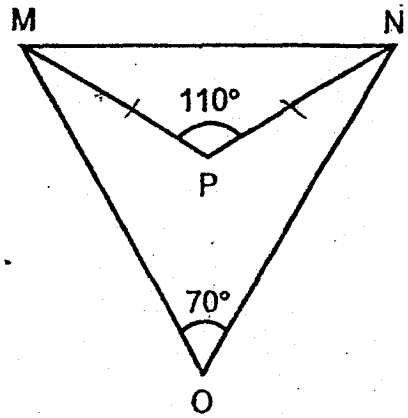
29 Muthu sold 147 marbles on Monday. He sold $\frac{3}{7}$ of the remainder on Tuesday and had half of his marbles left. Find the number of marbles he sold altogether.

Ans: _____

Do not write in this space

30 Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

In the figure below, MNO and MNP are triangles. PM = PN, ∠MPN = 110° and ∠MON = 70°.



Statement	True	False	Not possible to tell
(a) ∠MNP is 35°.			
(b) ∠OMP = ∠ONP = 20°			

-- End of Booklet B --

PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS
PAPER 2

21 AUGUST 2018

Parent's signature

Name: _____

Form Class / Register No. : 6R_____ / _____

Banded Class / Register No. : 6M_____ / _____

Total time: 1h 30min

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

Paper 1 :	45
Paper 2 :	55
Total Marks :	100

This booklet consists of 13 printed pages, excluding the cover page.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1 A bottle is $\frac{3}{4}$ filled with water. This amount of water is equivalent to 5 identical cups of water. 2 cups of water from the bottle are then poured away. What fraction of the bottle is still filled with water?

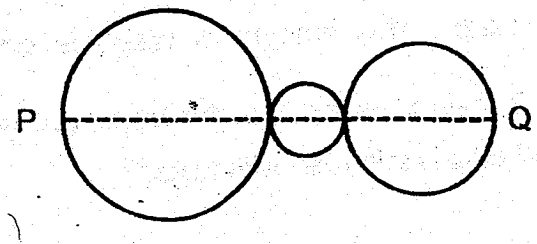
Ans: _____

2 Mrs Brooklyn had enough money to buy either 6 mops or 9 brooms. Each mop was $3.85 more than each broom. How much money did she have?

Ans: $ _____

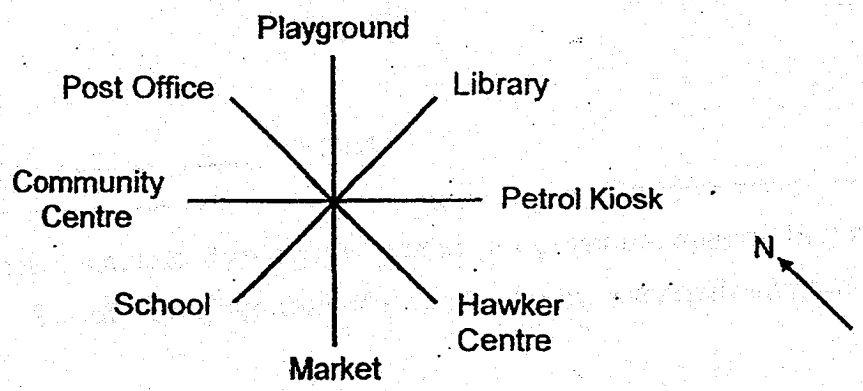
Do not write in this space

3 Three circles are placed side-by-side as shown below. PQ is 7.5 cm and it cuts through the centres of all the circles. Find the circumference of the 3 circles. (Take $\pi = 3.14$)



Ans: _____ cm

4 The following diagram shows 8 different locations.



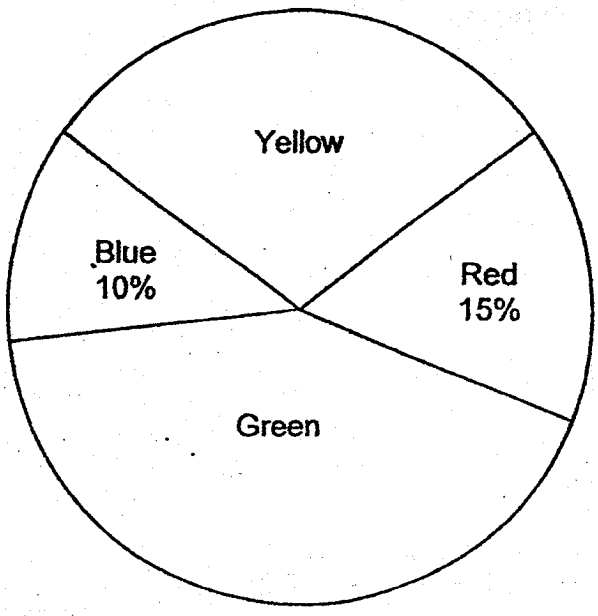
Jasmine is facing the south-west direction at first. Which location will she be facing after making a 135° anti-clockwise turn?

Ans: _____

Do not write in this space

5 Roslina has some coloured beads as shown in the pie chart below.

The ratio of the number of yellow beads to the number of green beads is 2 : 3. What percentage of the beads is green?



Ans: _____ %

For questions 6 to 17, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

Do not write in this space

6 A cubical container contained 2.25 ℓ of water when $\frac{2}{3}$ filled. Find the length of one side of the container.

Ans: _____ [3]

7 At a bakery shop, a cupcake costs \$$x$ and a brownie costs 80¢ more than the cupcake. Thomas wants to buy an equal number of cupcakes and brownies. What is the maximum sets of cupcakes and brownies Thomas can buy with \$50?

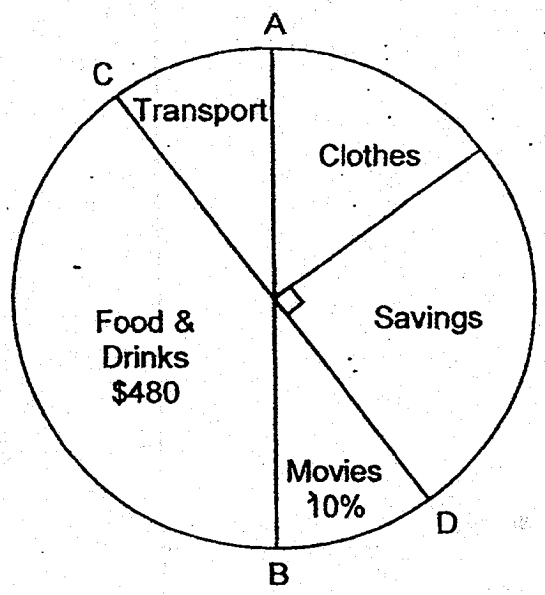
Ans: _____ [3]

Do not write in this space

8 Mr Ong has 3 bags of rice, Bag A, Bag B and Bag C. Bag C weighs 600g. Bag A weighs 600g more than half of Bag B. The mass of Bag B is the total mass of Bag A and Bag C. What is the total mass of the 3 bags of rice?

Ans: _____ [3]

9 The pie chart below shows how Wilbur spent his salary last month.
AB and CD are straight lines. Wilbur spent 10% of his money on watching movies. He spent the same amount of money on transport and watching movies. Find the amount of money he spent on clothes.



Ans: _____ [3]

Do not write in this space

10 A car set off at 07 45 from Town A at an average speed of 80 km/h and reached Town B at 09 45. A truck set off from Town A 2 hours earlier and reached Town B at the same time as the car. If the truck were to increase its average speed by 10 km/h, how much time would it have taken to reach Town B?

Ans: _____ [3]

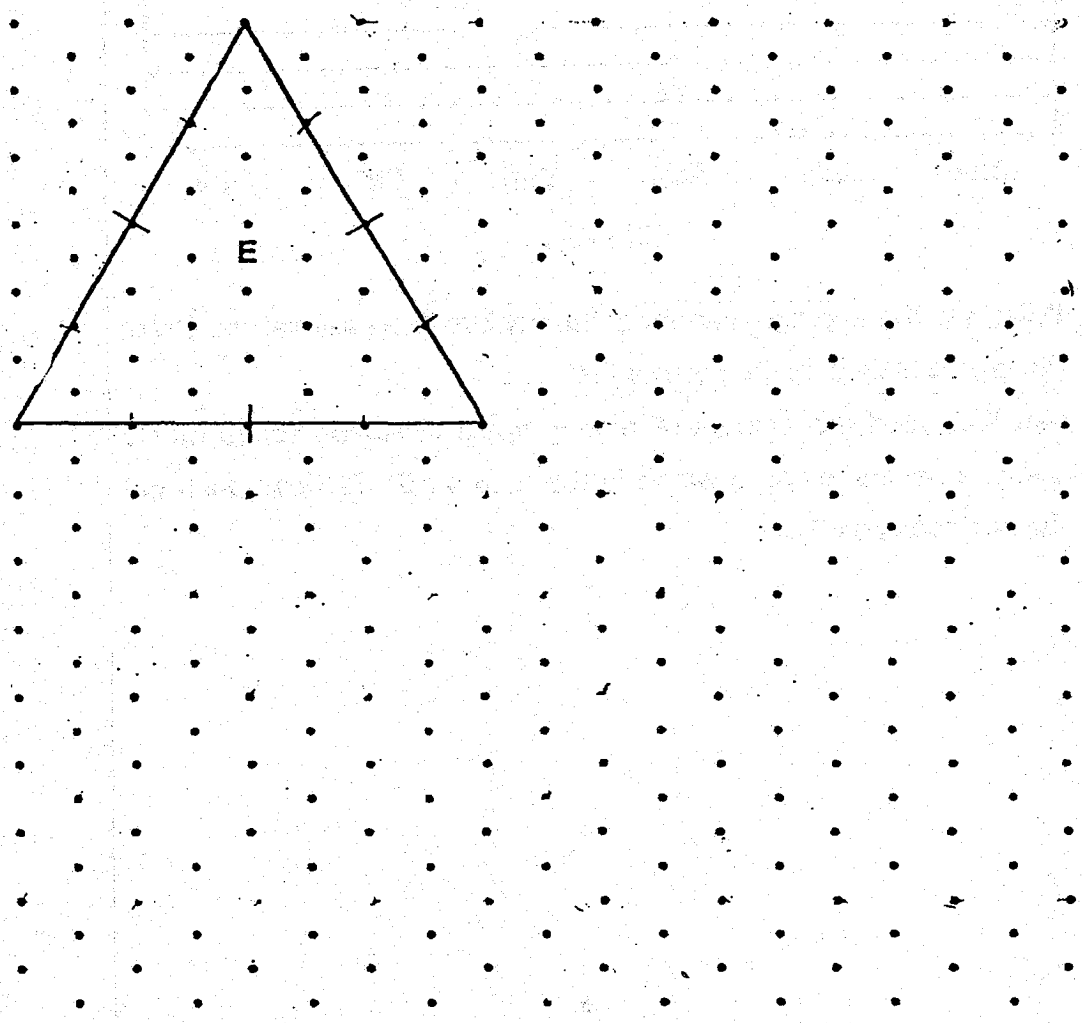
Do not write in this space

11 An equilateral triangle E is drawn by joining dots on the grid below with three straight lines. In the same way,

(a) draw an isosceles triangle with the same height as E. Label the triangle T. [1]

(b) draw a rhombus with the same perimeter as E. Label the rhombus R. [2]

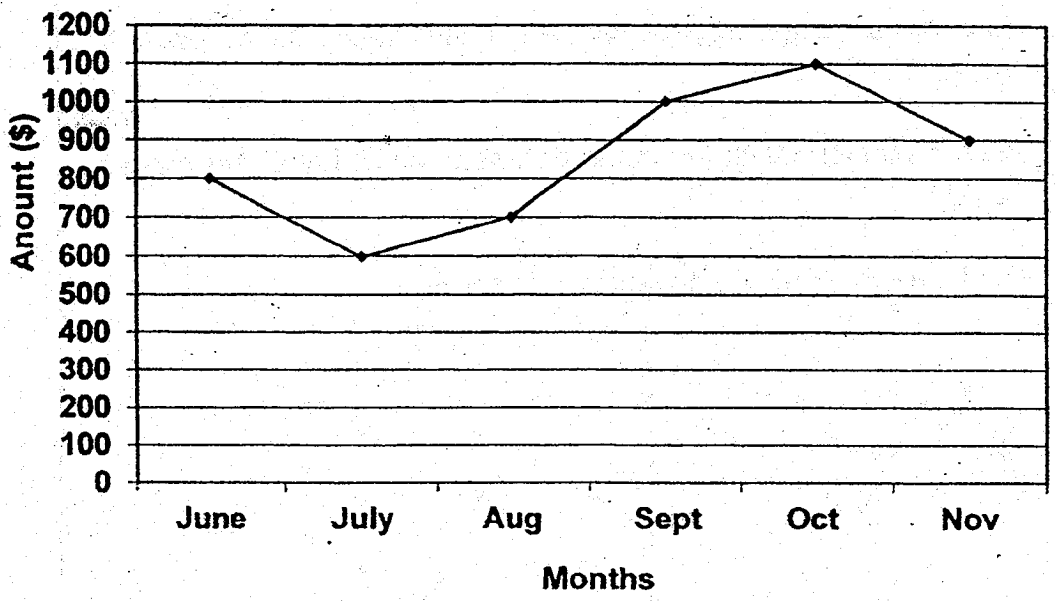
(c) Find the sum of all the angles in E, T and R.



Ans: (c) _____ [1]

Do not write in this space

12 The line graph below shows the amount of money Mrs Kim spent during the Great Singapore Sale from June to November.



(a) What was the average amount of money Mrs Kim spent at the Great Singapore Sale over the six months?

(b) Mrs Kim used the amount of money spent in November to buy a dress, a necklace and a watch in the ratio 4 : 5 : 3. How much did the necklace cost?

Ans: (a) _____ [2]

(b) _____ [2]

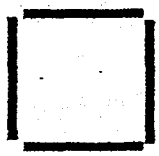
Do not write in this space

13 Kate had 70 more Otah buns than Curry buns. She sold $\frac{3}{4}$ of the Otah buns and $\frac{3}{5}$ of the Curry buns. She sold 126 more Otah buns than Curry buns. What fraction of the remaining buns that Kate had were Curry buns?

Ans: _____ [4]

Do not write in this space

14 Hailey used 4 identical sticks to form a square as shown below.



She then formed a pattern using more of the sticks.

(a) How many sticks are used to form 13 squares?

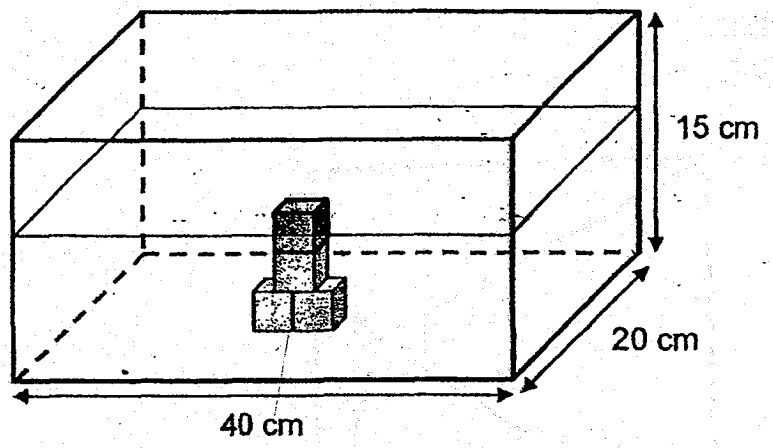
(b) How many squares are formed using 100 sticks?.

Ans: (a) _____ [2]

(b) _____ [2]

Do not write in this space

15 Study the figure below.



Four 3-cm cubes were placed in a tank measuring 40 cm by 20 cm by 15 cm. 5747.3 cm^3 of water was then poured into the tank. Find the height of the water level in the tank.

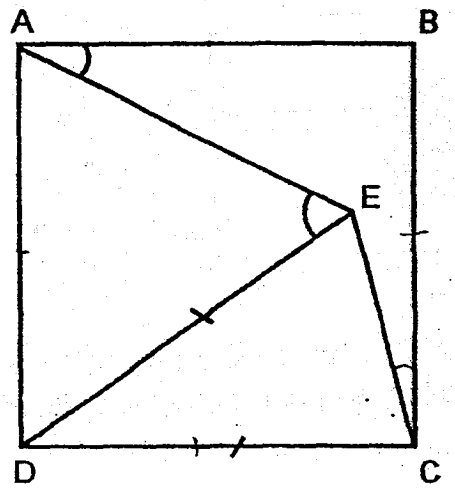
Ans: _____ [4]

Do not write in this space

16 In the figure below, ABCD is a square. DE = DC and $\angle ECB$ is $\frac{1}{4}$ of $\angle ECD$.

(a) Find $\angle AED$.

(b) Find $\angle BAE$.



Ans: (a) _____ [4]

(b) _____ [1]

Do not write in this space

17 Lynn baked some cookies. 20% of the cookies were eaten. The rest of the cookies were given to Ryan, Gerald and Tim in the ratio of 7 : 3 : 2. After Ryan gave 320 cookies to Tim, Tim then had 50% as many cookies as Ryan. How many cookies did Lynn bake at first?

Ans: _____ [5]

-- End of Paper 2 --

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

PAPER 1 BOOKLET A

Q1	1	Q2	3	Q3	4	Q4	1	Q5	2
Q6	4	Q7	2	Q8	2	Q9	3	Q10	2
Q11	3	Q12	3	Q13	4	Q14	1	Q15	3

PAPER 1 BOOKLET B

Q16) 11.31

Q17) 3.2cm

Q18) 3.5%

Q19) Triangular prism

Q20) 75 durians

Q21) 2.86

Q22) $3.60

Q23) $9cm^2$

Q24) $1570cm^2$

Q25) 41°

Q26) 18 years old

Q27) 11 children

Q28) (6y + 4) cm

Q29) 588 marbles

Q30) a: true b: Not possible to tell

PAPER 2

Q1) 5 cups → $\frac{3}{4}$

1 cup → $\frac{3}{4} \div 5$

$= \frac{3}{20}$ bottle

$5 - 2 = 3$

3 cups → $\frac{3}{20} \times 3$

Ans $= \frac{9}{20}$ bottle

Q2) $9 - 6 = 3$

3 brooms → $3.85 \times 6 = \$23.10$

1 broom → $23.10 \div 3 = \$7.70$

9 brooms → $7.70 \times 9 =$ $\$69.30$

Q3) $3.14 \times 7.5 =$ 23.55cm

Q4) $90 \div 2 = 45$

$90 + 45 = 135$

= Library

Q5) Y : G

2 : 3 (5u)

5u → $100 - 10 - 15 = 75\%$

1u → $75 \div 5 = 15\%$

3u → $15 \times 3 =$ 45%

Solutions to Word Problems

Pei Hwa Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. $\frac{2}{3}$ filled with water → 2.25 ℓ

$\frac{1}{3}$ → 2.25 ÷ 2 = 1.125 ℓ

$\frac{3}{3}$ → 1.125 x 3 = 3.375 ℓ = 3375 cm^3 = 15 x 15 x 15 cm^3

Length of container = 15 cm

Ans: 15 cm

---

7. Cost of 1 set of 1 cupcake and 1 brownie = 2x + 0.8

Number of sets of 1 cupcake and 1 brownie = $\frac{50}{2x + 0.8}$

Ans: $\frac{50}{2x + 0.8}$

.

---

8. Let mass of Bag A = a

Mass of Bag B = b

$b = a + 600$ (1)

$a = 600 + \frac{1}{2} b$ (2)

$b = 600 + \frac{1}{2} b + 600$ (3) substitute (2) into (1)

$\frac{1}{2} b = 1200$

$b = 2400$

$a = 600 + \frac{1}{2} \times 2400 = 1800$

$a + b + c = 1800 + 2400 + 600 = 4800g$

Ans: 4800g

---

9. Percentage spent on food & drinks = 50% - 10% = 40%

40% → \$480

1% → \$12

100% → \$1200

Percentage spent on clothes = 25% - 10% = 15%

Amount spent on clothes = 12 x 15 = \$180

Ans: \$180

---

10. Distance from Town A to Town B = 80 km/h x 2 hr = 160 km

Speed of truck = 160 ÷ (2 + 2) = 40 km / h

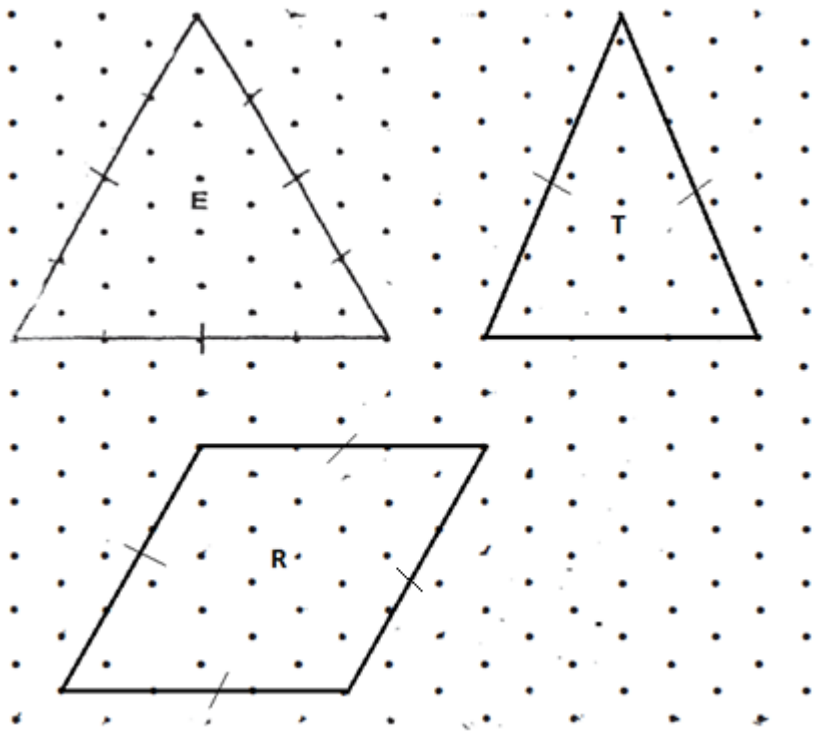
New truck speed = 40 + 10 = 50 km/h

Time at new truck speed = 160 ÷ 50 = 3.2 hr

Ans: 3.2 hr

---

11. a), b)



c)

Sum of all angles in E, T and R = 180 + 180 + 360 = 720°

Ans: (a) as shown

(b) as shown

(c) 720°

---

12. a)

Total spent from June to November = 800 + 600 + 700 + 1000 + 1100 + 900

= $5100

Average amount spent = 5100 ÷ 6 = $850

b)

Cost of necklace = $\frac{5}{(4+5+3)}$ x 900 = $375

Ans: (a) $850
(b) $375

---

13. Let total number of otah buns = 20u (multiple of 4,5)

Number of otah buns sold = $\frac{3}{4}$ x 20u = 15u

Number of curry buns = 20u – 70

Number of curry buns sold = $\frac{3}{5}$ x 20u - $\frac{3}{5}$ x 70 = 12u - 42

Difference between otah and curry buns sold = 15u – (12u – 42)

= 3u + 42 = 126

3u = 126 – 42 = 84

u = 84 ÷ 3 = 28

Remainder otah buns = 20u – 15u = 5u = 5 x 28 = 140

Remainder curry buns = 20u – 12u – 70 + 42 = 8u -28 = 8x28 – 28 =196

Fraction of remaining buns that are curry buns = $\frac{196}{(140+196)} = \frac{7}{12}$

Ans: $\frac{7}{12}$

---

14. a)

Let n = number of squares

Number of sticks = (n-1) x 3 + 4 = 3n + 1

= 3 x 13 + 1 = 40

b)

3n + 1 = 100

3n = 100 – 1 = 99

n = 99 ÷ 3 = 33

Ans: (a) 40

(b) 33

---

15. Volume of 4 3-cm cubes = 4 x 3 x 3 x 3 = 108 cm^2

Total volume of water and cubes = 108 + 5747.3 = 5855.3 cm^3

Base area = 40 x 20 = 800 cm^2

Height of water level = 5855.3 ÷ 800 = 7.32 cm

Ans: 7.32 cm

---

16. a)

$\angle$ ECD = $90 \div \frac{4}{5}$ = 72°

$\angle$ DEC = 72° (Isosceles triangle)

$\angle$ CDE = 180 – 72 – 72 = 36°

$\angle$ ADE = 90 – 36 = 54°

$\angle$AED = (180 – 54) ÷ 2 = 63° (ADE isosceles triangle)

b)

$\angle$ DAE = 63°

$\angle$ BAE = 90 – 63 = 27°

Ans: (a) 63°

(b) 27°

17. Ratio of number of cookies given to Ryan, Gerald and Tim → 7 : 3 : 2

→ 7u : 3u : 2u

After Ryan gave 1u (320 cookies) to Tim, the ratio becomes

→ 7u – 1u : 3u : 2u + 1u

→ 6u : 3u : 3u where Tim had 50% as much as Ryan

u = 320

80% of cookies = 7u + 3u + 2u = 12u = 12 x 320 = 3840

10% of cookies = 480

100% of cookies at first = 480 x 10 = 4800

Ans: 4800

RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6

Name: _____ ( )

Form Class: P6_____ Math Teacher : _____

Date: 24 Aug 2018 Duration: 1 hour

Your Paper 1 Score (Out of 45 marks)	
Your Paper 2 Score (Out of 55 marks)	
Your Total Score (Out of 100 marks)	
Parent's Signature	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. **NO** calculator is allowed for this paper.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4). Shade your answer (1, 2, 3 or 4) on the OAS provided.
All diagrams are not drawn to scale.

1. Round 259 136 to the nearest 1000.

   (1) 259 000

   (2) 259 100

   (3) 260 000

   (4) 260 100

2. In 1347.025, which digit is in the hundredths place?

   (1) 0

   (2) 2

   (3) 3

   (4) 4

3. Jane left her home at 23 48. She took 20 minutes to reach the airport. What time did she reach the airport?

   (1) 12.08 p.m.

   (2) 12.18 p.m.

   (3) 12.08 a.m.

   (4) 12.18 a.m.

4. Arrange the following fractions from the biggest to the smallest.

$$\frac{2}{5}, \frac{8}{9}, \frac{1}{7}$$

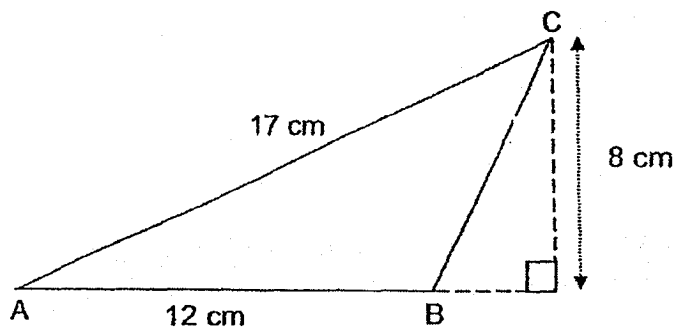
(1) $\frac{2}{5}, \frac{8}{9}, \frac{1}{7}$

(2) $\frac{1}{7}, \frac{8}{9}, \frac{2}{5}$

(3) $\frac{8}{9}, \frac{1}{7}, \frac{2}{5}$

(4) $\frac{8}{9}, \frac{2}{5}, \frac{1}{7}$

5. ABC is a triangle. AC = 17 cm and AB = 12 cm.
Find the area of triangle ABC.



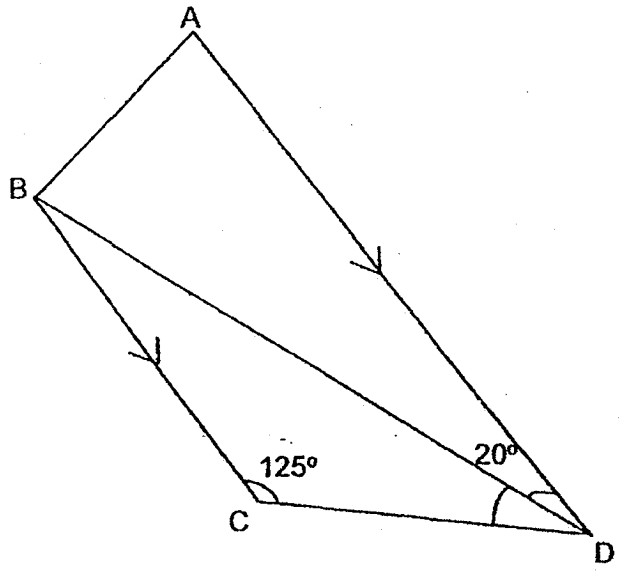
(1) 48 cm^2

(2) 68 cm^2

(3) 96 cm^2

(4) 102 cm^2

6. In the figure, ABCD is a trapezium where AD is parallel to BC. Find $\angle BDC$.



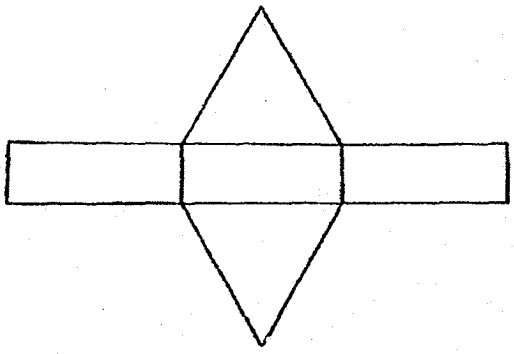
(1) 20°

(2) 35°

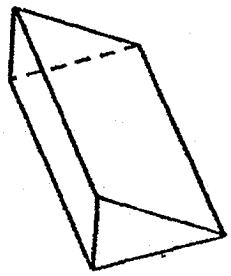
(3) 55°

(4) 160°

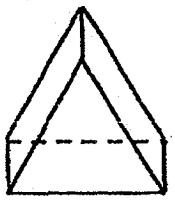
7. The diagram shows the net of a solid Which of the following is the correct solid?



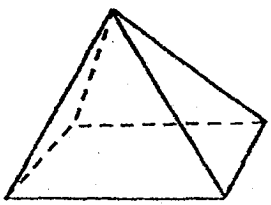
(1)



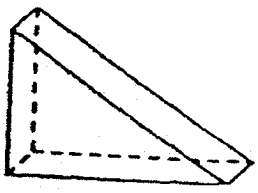
(2)



(3)



(4)



8. Given that p : q = 5 : 2 and q : r = 3 : 4, express r as a fraction of p.

(1) $\frac{3}{5}$

(2) $\frac{8}{15}$

(3) $\frac{4}{5}$

(4) $\frac{5}{4}$

9. _____ ÷ 17 = 86. What is the missing number in the blank?

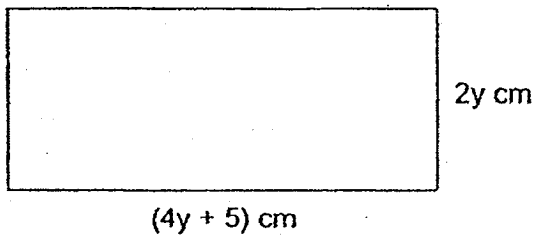
(1) 688

(2) 1422

(3) 1462

(4) 1862

10. The length and breadth of a rectangle are (4y + 5) cm and 2y cm respectively. What is the perimeter of the rectangle?



(1) 11y cm

(2) 22y cm

(3) (6y + 5) cm

(4) (12y + 10) cm

11. A wallet and a pen cost $99. The cost of the pen is 20% less than the cost of the wallet. How much does the pen cost?

(1) $44

(2) $45

(3) $54

(4) $55

12. Raffles Kitchen Set Meal A

Item	Cost
Chilli crab	$54.65
Tofu	$9.90
Fried vegetables	$12.90

Mr Tan ordered the above dishes and paid using 2 fifty-dollar notes. How much change did he receive?

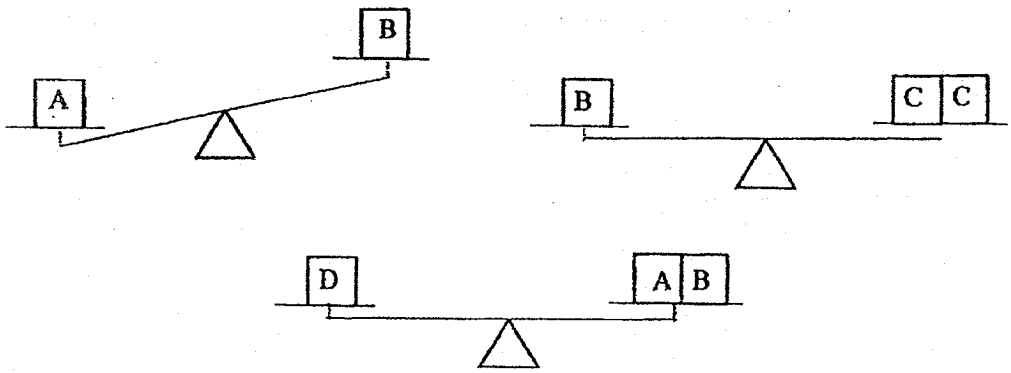
(1) $22.55

(2) $23.45

(3) $23.55

(4) $77.45

13. Which is the heaviest block?



(1) A

(2) B

(3) C

(4) D

14. John paid $900 for a laptop at a discount of 10% at an electronics shop. He signed up as a member of the shop and enjoyed an additional 10% discount on top of the discounted price. What was the total discount John received for buying the laptop?

(1) $190

(2) $180

(3) $100

(4) $90

15. Machine A and B can print a total of 348 pages in 4 minutes while Machine B and C can print a total of 276 pages in 3 minutes. Each machine prints an equal number of pages every minute. At this rate, how many more pages can Machine C print than Machine A in 5 minutes?

(1) 60

(2) 47

(3) 35

(4) 25

Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale.

---

16. Find the value of 5 hundreds, 7 tenths and 9 thousandths.

Ans: _____

17. What is the correct number in the box?

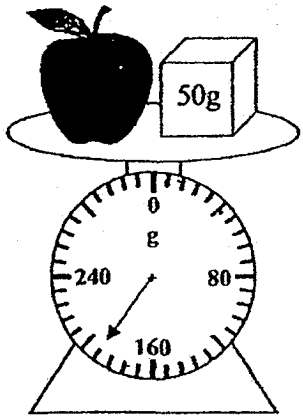
$$2\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{\square}{4}$$

Ans: _____

18. Ali and 8 other classmates gave Ella a birthday treat. The total amount was $108.45 and they decided to share the cost equally. How much did each of them pay?

Ans: $_____

19. Find the mass of the apple.



Ans: _____ g

20. Natasha had a roll of ribbon of length that is k cm long. She cut 17 equal pieces from it and had 8 cm of ribbon left. What was the length of each piece of ribbon? Express your answer in terms of k.

Ans: _____ cm

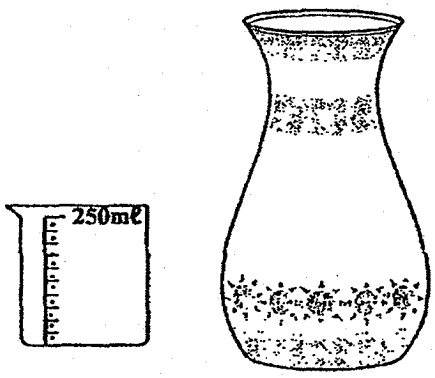
Questions **21** to **30** carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the space provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale.

---

21. Chef Tan used $1\frac{3}{10}$ kg of flour to bake some muffins. He used $\frac{5}{8}$ kg of flour to bake a cake. How much flour did he use altogether? Express your answer as a mixed number.

Ans: _____kg

22.



The water from the beaker can fill up $\frac{1}{8}$ of the vase. Find the volume of the vase.

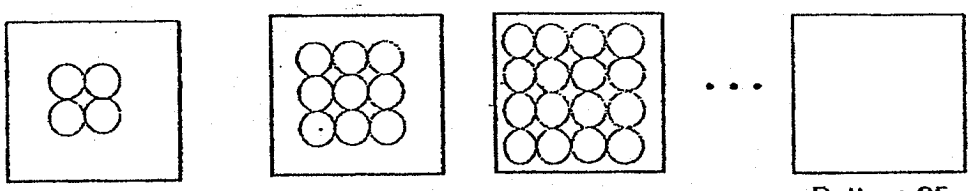
Ans: _____.$m\ell$

23. The table shows the number of books the pupils borrowed from a school library in four days. The average number of books borrowed each day from Monday to Thursday was 50. What was the number of books borrowed on Thursday?

	Monday	Tuesday	Wednesday	Thursday
Number of books borrowed	38	54	17	?

Ans: _____

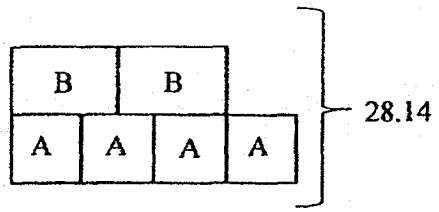
24. How many circles are there in Pattern 25?



Pattern 1 Pattern 2 Pattern 3 Pattern 25

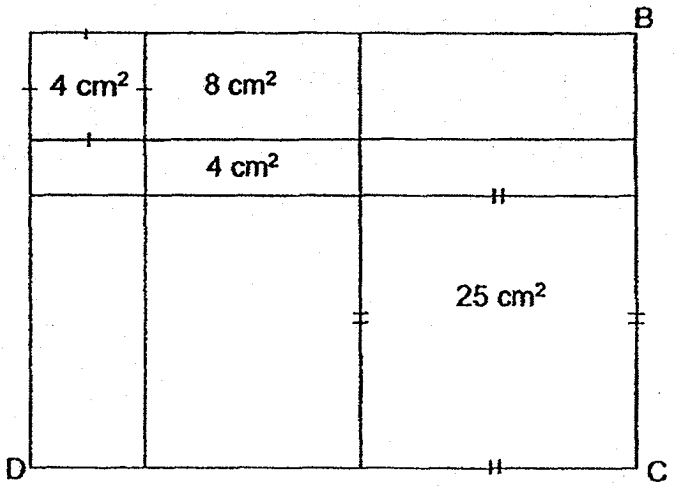
Ans: _____

25. Ravi drew a model to help him solve a word problem.
What was the value of A?



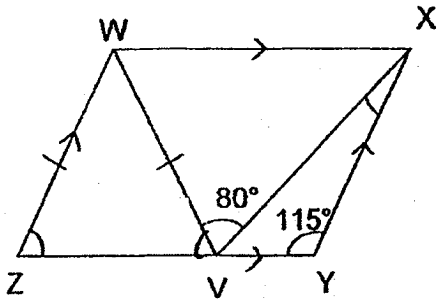
Ans: _____

26. In the figure, rectangle ABCD is made up of 9 smaller parts, consisting of squares and rectangles. The area of some of the parts are shown. Find the perimeter of rectangle ABCD.



Ans: _____ cm

27. The diagram shows a parallelogram WXYZ. WVZ is an isosceles triangle. Find $\angle VXY$.



Ans: _____ °

28. Kenneth and Marshall started cycling from the same starting point along a track. Both started cycling at the same time and they did not change their speeds throughout. Kenneth reached the end of the track in 2 hours. Marshall covered only $\frac{4}{5}$ of the track in that time. Given that Kenneth's average speed was 2 km/h faster than Marshall, find the length of the track.

Ans: _____ km

29. The pie chart shows how Anita spent her time in a 24-hour day.

Anita spent 4 hours of her day doing housework. She spent half of the day sleeping and playing golf. If the time spent on cooking and baking was the same, how much time did she spend on cooking?

Ans: _____h

30. Kendrick has 34 more coins than Su Mei at first. Su Mei gives 12 of her coins to Kendrick. In the end, Kendrick has thrice as many coins as Su Mei.

Based on the information above, put a tick in the correct box.

	True	False	Impossible to tell
a) Su Mei has 40 coins at first.			
b) Kendrick has more money than Su Mei at first.			

End of Paper

☺ Please check your work carefully ☺

RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6

Name: _____ ( )

Form class: P6 _____ Math Teacher : _____

Date: 24 Aug 2018 Duration: 1 h 30 min

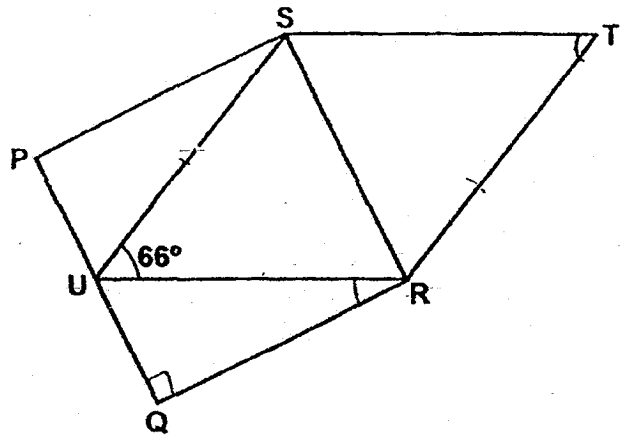
INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

Questions **1** to **5** carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided.
All diagrams are not drawn to scale.
For questions which require units, give your answers in the units stated. (10 marks)

---

1. The figure is made up of a square, PQRS, and a rhombus, RTSU.
   Find ∠QRU.



Ans : _____ ° [2]

2. The ratio of the number of pencils to the number of erasers in a box was 3 : 4 at first. After adding 12 pencils and removing 15 erasers from the box, the ratio of the number of pencils to the number of erasers became 1 : 1.
   How many erasers were there in the box at the end?

Ans : _____ [2]

3. Figure A is a square with side 5 cm. When the side of the square is increased by 1 cm, what is the percentage increase in the area of the new square?

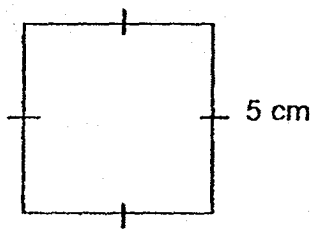


Figure A

Ans : _____ % [2]

4. A muffin costs \$ k and a sandwich costs \$0.40 more than a muffin. Mavis has enough money to buy exactly 2 sandwiches and 1 muffin. If Mavis has \$5.30, find the cost of 1 sandwich.

Ans : \$_____ [2]

5. Sharon had 5 kg of sugar She packed the sugar into packets of $\frac{2}{3}$ kg. How much sugar did she have left?

Ans: _____ kg [2]

For questions **6** to **17**, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in the brackets [ ] at the end of each question or part-question. All diagrams are not drawn to scale. (45 marks)

6.

Special Offer !

1 cheese tart $1.40

Buy 3 and get 1 free

(a) Tony wants to get 4 cheese tarts. How much does he need to pay?

(b) Sonia has $83. What is the most number of cheese tarts that she can get altogether?

Ans: (a) _____ [1]

(b) _____ [2]

7. Jason bought some pencils for his classmates. He paid $7.20 for the pencils. If he gave everyone 5 pencils each, he would have 3 pencils left. If he gave everyone 6 pencils each, he would need 6 more pencils.

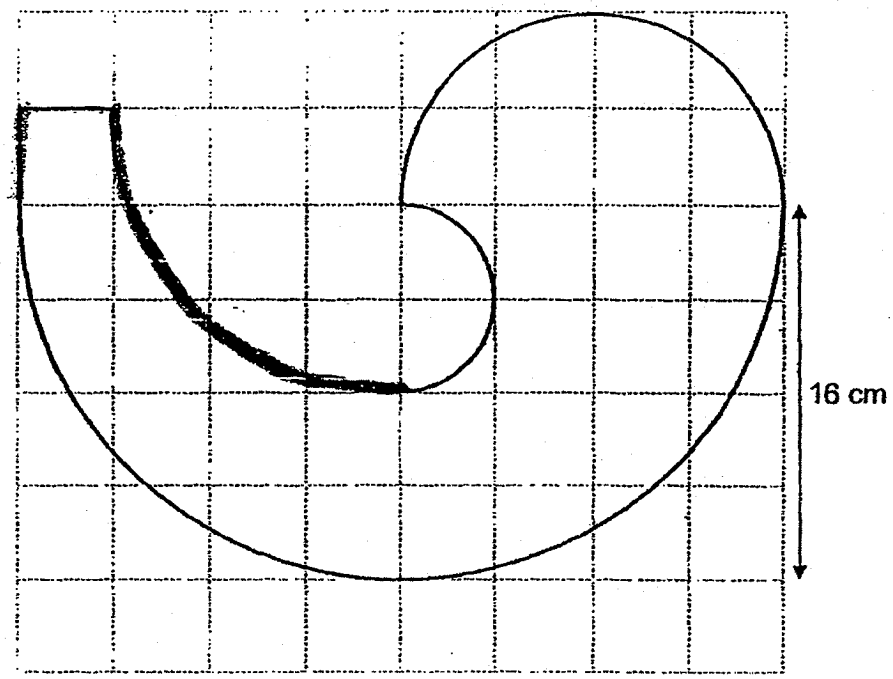
(a) How many classmates did Jason have?

(b) What was the cost of 1 pencil?

Ans: (a) _____ [1]

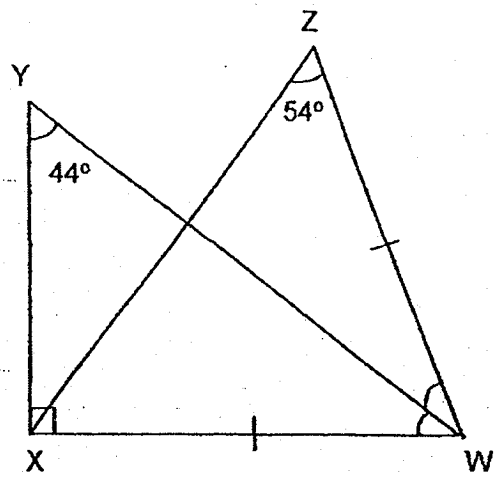
(b) _____ [2]

8. Grace forms the shape below using a piece of wire. The shape is made up of 3 semicircles, 1 quadrant and 2 straight lines. What is the length of wire used to form the shape?
(Take $\pi = 3.14$)



Ans: _____[4]

9. In the figure, WXZ is an isosceles triangle where WX = WZ, and WX is perpendicular to XY.
Find ∠YWZ.

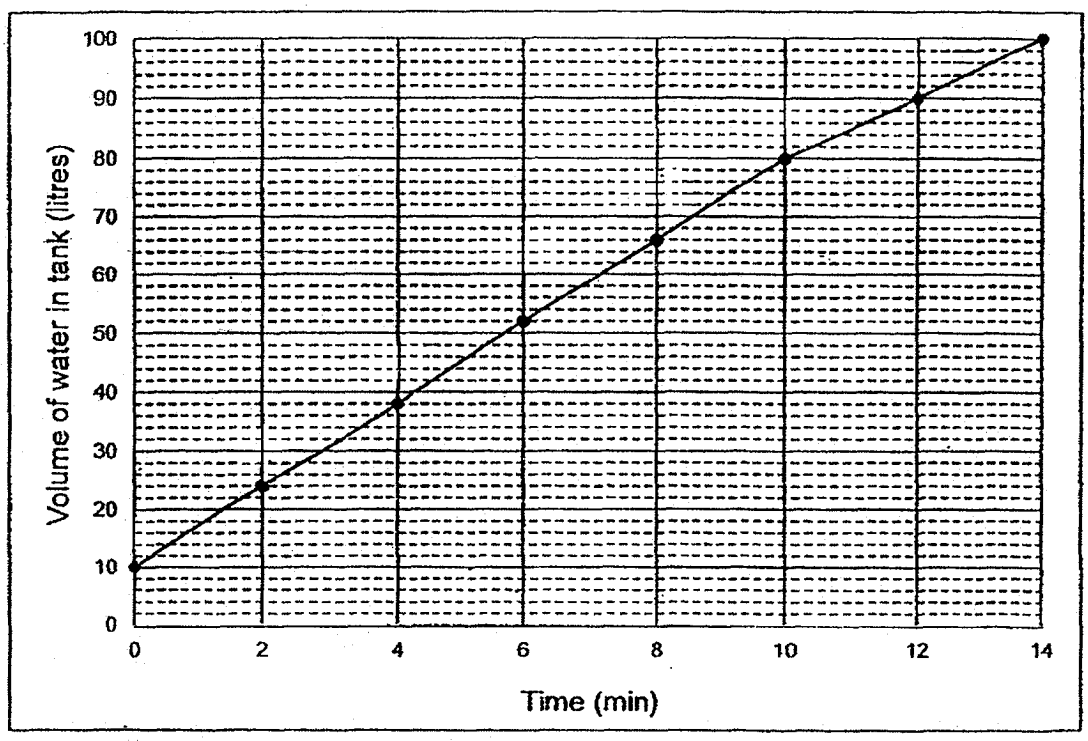


Ans: _____ [3]

10. At a community centre, there were three cooking classes, A, B and C. There were 6 more men in Class B than Class C and 6 fewer men in Class B than Class A. The ratio of the number of men to the number of women in Class A, B and C were 1 : 2, 1 : 3 and 1 : 5 respectively. All the three classes had the same number of participants. How many men were there altogether?

Ans: _____ [3]

11. At first, the rectangular tank was partially filled with water. Mandy turned on two taps, A and B. After 10 minutes, the volume of water was $\frac{4}{5}$ of the volume of the tank. She then turned off Tap A and left Tap B flowing until the tank was completely filled. The graph shows the amount of water in the tank.



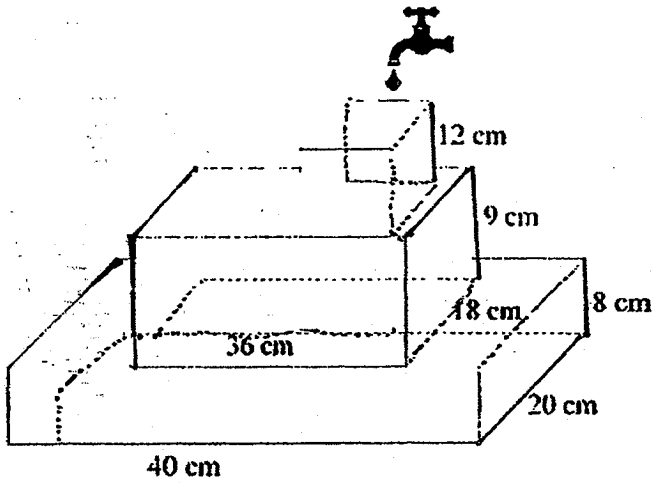
(a) What was the volume of the rectangular tank?

(b) How many litres of water flowed from Tap A every minute?

Ans: (a) _____ [1]

(b) _____ [3]

12. The empty container is made up of 2 cuboids and a cube. The top of the container is a cube. Water flows into the container from the top to the base at 1.619 ℓ/min. What is the height of the water level from the base of the container after 8 minutes?



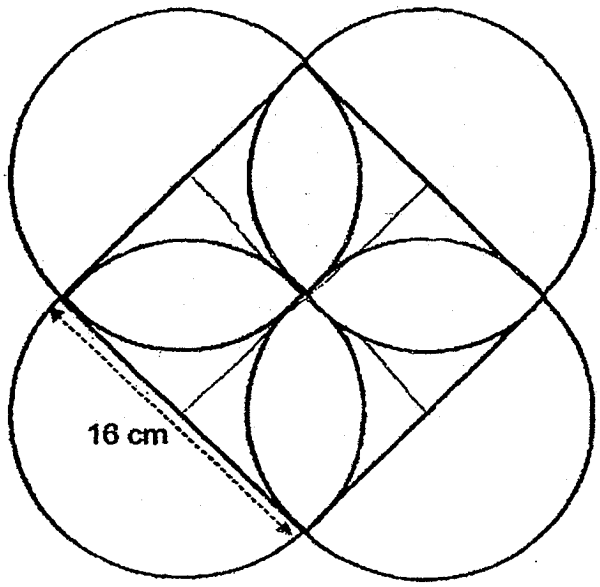
Ans: _____ . [4]

13. The figure is made up of four circles and one square.

(a) Find the perimeter of the unshaded part.

(b) Find the area of the shaded figure.

(Take $\pi = 3.14$)



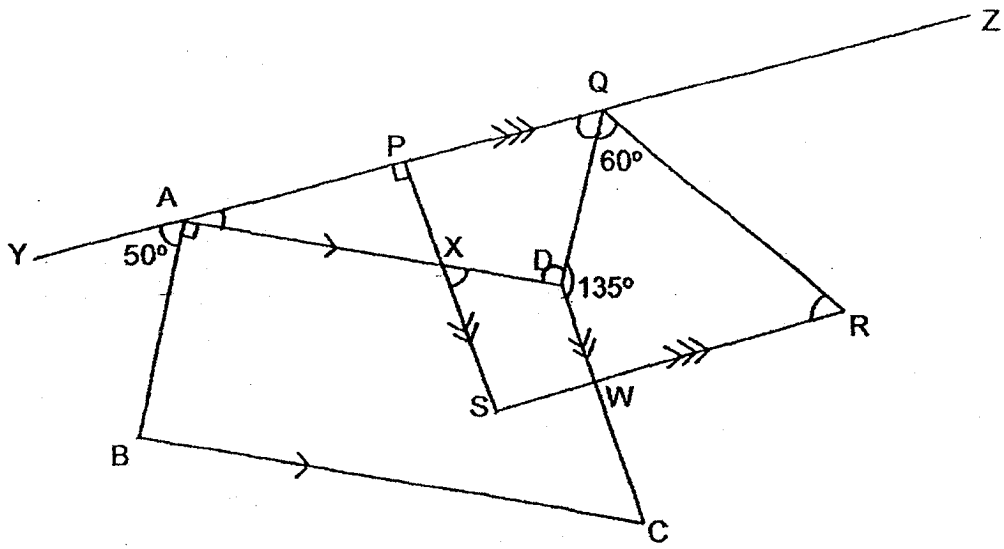
Ans: (a) _____ [1]

(b) _____ [3]

14. In the figure, YZ is a straight line while ABCD and PQRS are overlapping trapeziums. Given that $\angle YAB = 50°$, $\angle QDW = 135°$ and $\angle DQR = 60°$

a) find $\angle DXS$.

b) find $\angle QRW$.



Ans: (a)_____ [1]

(b)_____ [3]

15. At a travel fair, there were 125 more women than men. When 40% of the women and $\frac{3}{4}$ of the men left the fair, there were 243 more women than men remaining at the fair. How many men were there at the travel fair at first?

Ans: _____ [5]

16. Tricia collects stamps as her hobby. $\frac{1}{7}$ of the stamps are from Australia, $\frac{1}{4}$ of the stamps are from China, and the rest are from Singapore and Malaysia. She has an equal number of stamps from Singapore and Malaysia.

(a) If Tricia has 799 Malaysian stamps, how many stamps are from Australia?

(b) Aunty May gave Tricia some Australian stamps. As a result, $\frac{7}{19}$ of Tricia's stamps are from Australia. How many stamps did Aunty May give Tricia?

Ans: (a)_____[3]

(b) _____[2]

17. On Monday, the average number of books donated by each pupil during a donation drive was 23. On Tuesday, 30 pupils donated an average of 14 books each. In the end, the average number of books donated by each pupil on both days was 20. How many books were donated on Monday?

Ans: _____ [3]

End of Paper
Please check your work carefully ☺

ANSWER KEY

YEAR	:	2018
LEVEL	:	PRIMARY 6
SCHOOL :	:	RAFFLES GIRLS' PRIMARY
SUBJECT :	:	MATHEMATICS
TERM	:	PRELIMINARY EXAMINATION

Paper 1

Q1	1	Q4	4	Q7	2	Q10	4	Q13	4
Q2	2	Q5	1	Q8	2	Q11	1	Q14	1
Q3	3	Q6	2	Q9	3	Q12	1	Q15	4

Q16 500.709

Q17 9

Q18 $12.05

Q19 142 g

Q20 $\left(\frac{k-8}{17}\right)$ cm

Q21 $1\frac{37}{40}$ kg

Q22 400 mℓ

Q23 91 books

Q24 676

Q25 4.02

Q26 38 cm

Q27 30°

Q28 20 km

Q29 **1 h**

Q30 **(a)** **False**

(b) **Impossible to tell**

Paper 2

Q1 $(180 - 66) \div 2 = 57$
$90 - 57 \Rightarrow$ **33°**

Q2 $12 + 15 = 27$
$u = 27$
$4u = 108$
$108 - 15 \Rightarrow$ **93 erasers**

Q3 $5 + 1 = 6$
$6 \times 6 = 36$
$36 - 25 = 11$
$5 \times 5 = 25$

$\frac{11}{25} \times 100 \Rightarrow$ **44 %**

Q4 $k + 0.4 + k + 0.4 + k = 3k + 0.8$
$(5.30 - 0.80) \div 3 = 1.5$
$1.5 + 0.4 \Rightarrow$ **$1.90**

Q5 $5 \div \frac{2}{3} = \frac{5}{1} \times \frac{3}{2}$

$= \frac{15}{2}$

$= 7\frac{1}{2}$

$7 \times \frac{2}{3} = 4\frac{2}{3}$

$5 - 4\frac{2}{3} \Rightarrow \frac{1}{3}$ kg

Q6 (a) $1.40 \times 3 \Rightarrow$ <u>$4.20</u>

(b) $83 \div 4.20 = 19$ r 3.20
$19 \times 4 = 76$
$3.20 \div 1.40 \approx 2$
$76 + 2 \Rightarrow$ <u>78 cheese tarts</u>

Q7 (a) $3 + 6 \Rightarrow$ <u>9 classmates</u>

(b) $9 \times 5 + 3 = 48$
$7.20 \div 48 = 0.15$
$\$0.15 \Rightarrow$ <u>15¢</u>

Q8 $16 \div 4 = 4$
$4 \times 2 = 8$
$8 \times 4 = 32$

$\frac{1}{2} \times 32 \times 3.14 = 50.24$

$6 \times 4 = 24$

$\frac{1}{4} \times 24 \times 3.14 = 18.84$

$2 \times 4 = 8$

$\frac{1}{2} \times 8 \times 3.14 = 12.56$

$4 \times 4 = 16$

$\frac{1}{2} \times 16 \times 3.14 = 25.12$

$25.12 + 8 + 50.24 + 18.84 + 12.56 \Rightarrow$ <u>114.76 cm</u>

Q9 $180° - 44° - 90° = 46°$
$180° - 54° - 54° = 72°$
$72° - 46° \Rightarrow$ <u>26°</u>

Q10

	M	:	W	:	Total
A	1	:	2	:	3
	= 4	:	8	:	12
B	1	:	3	:	4
	= 3	:	9	:	12
C	1	:	5	:	6
	= 2	:	10	:	12

$4 - 3 = 1$
$1u = 6$
$4u + 3u + 2u \Rightarrow$ <u>54 men</u>

Q11 (a) $\frac{4}{5} \rightarrow 80$

$80 \div 4 \times 5 = 100$
$100\ \ell \Rightarrow$ <u>100 000 cm^3</u>

(b) 2 min $\rightarrow 10\ \ell$
10 min $\rightarrow 10\ \ell$
$24 - 10 = 14$
$14 - 10 = 4$
$4 \div 2 \Rightarrow$ <u>2 ℓ / min</u>

Q12 $1.619 \times 8 = 12.952$
$12.952\ \ell = 12952$ cm^3
$40 \times 20 \times 8 = 6400$
$12952 - 6400 = 6552$
$36 \times 18 \times 9 = 5832$
$6552 - 5832 = 720$
$720 \div (12 \times 12) = 5$
$5 + 9 + 8 \Rightarrow$ <u>22 cm</u>

Q13 **(a)** $\frac{1}{4} \times 16 \times 3.14 = 12.56$

$12.56 \times 8 \Rightarrow$ **100.48 cm**

(b) $16 \div 2 = 8$
$2 \times 8 \times 8 \times 3.14 = 401.92$
$8 \times 16 = 128$

$\frac{1}{2} \times 8 \times 8 \times 3.14$

$128 - 100.48 = 27.52$
$27.52 \times 4 = 110.08$
$110.08 + 401.92 \Rightarrow$ **512 cm²**

Q14 **(a)** $180° - 50° - 90° = 40°$
$180° - 40° - 90° \Rightarrow$ **50°**

(b) $180° - 50° = 130°$
$360° - 130° - 135° = 95°$
$180° - 95° - 40° = 45°$
$180° - 45° - 60° \Rightarrow$ **75°**

Q15

	Men	Women
At 1st	20u	20u + 125
Went	15u	8u + 50
End	5u	12u + 75

$12u + 75 = 5u + 243$
$7u = 168$
$u = 24$
$20u \Rightarrow$ **480 men**

Q16 (a) $1 - \frac{1}{7} - \frac{1}{4} = \frac{17}{28}$

$799 \times 2 = 1598$

$1598 \div 17 \times 28 = 2632$

$\frac{1}{7} \times 2632 \Rightarrow$ <u>376 stamps</u>

(b) $2632 - 376 = 2256$

$1 - \frac{7}{19} = \frac{12}{19}$

$2256 \div 12 \times 7 = 1316$

$1316 - 3376 \Rightarrow$ <u>940 stamps</u>

Q17 $30 \times 14 = 420$

X = no. of pupils who donated books on Monday

$23 \times X = 23X$

$\frac{420 + 23X}{30 + X} = 20$

$20 \times (30 \times X) = 420 + 23X$

$600 + 20X = 420 + 23X$

$3X = 180$

$X = 60$

$60 \times 23 \Rightarrow$ <u>1380 books</u>

慈学校

恭寬信敏

RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2018 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date :

BOOKLET A

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

---

1 Find the value of (260 – 80 + 120) ÷ (10 – 4).

(1) 10
(2) 26
(3) 48
(4) 50

2 Which digit in 69.87 is in the tenths place?

(1) 6
(2) 7
(3) 8
(4) 9

3 Which of the following is the same as 30.02 *l* ?

(1) 3 *l* 2 ml
(2) 3 *l* 20 ml
(3) 30 *l* 2 ml
(4) 30 *l* 20 ml

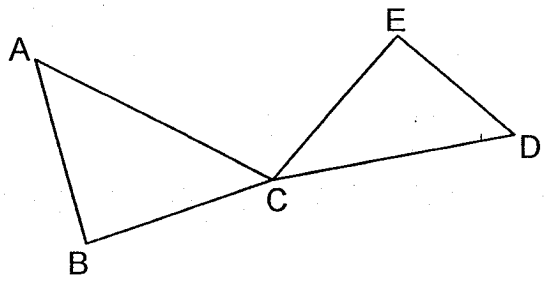
4 Which one of the following would be the most likely radius of a wheel of a bus?

(1) 5 m
(2) 5 cm
(3) 50 m
(4) 50 cm

5 Eliana took a flight from 06 45 to 16 00. How long was the flight?

(1) 8 h 15 min
(2) 8 h 55 min
(3) 9 h 15 min
(4) 9 h 55 min

6 Which two lines in the figure are perpendicular to each other?



(1) AB and BC
(2) AC and ED
(3) AC and CE
(4) CE and ED

7 The table below shows the number of people who attended a party last weekend.

		Number of people
Male	Boys	24
	Men	18
Female	Girls	16
	Women	30

Find the total number of children who attended the party.

(1) 40
(2) 42
(3) 46
(4) 48

8 Find the value of $7e - 3 + 2e$ when $e = 4$.

(1) 17
(2) 23
(3) 27
(4) 33

9 Which one of the following is nearest to 6?

(1) $5\frac{4}{5}$

(2) $5\frac{2}{3}$

(3) $6\frac{1}{2}$

(4) $6\frac{1}{4}$

10 A triangular piece of paper XYZ with XY = XZ is folded along the dotted line as shown in Diagram 1. Find $\angle k$.

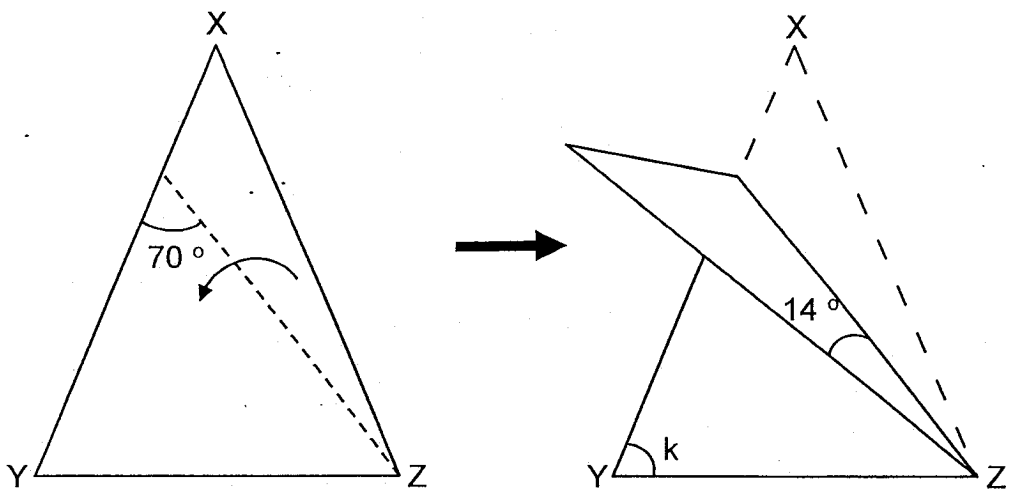
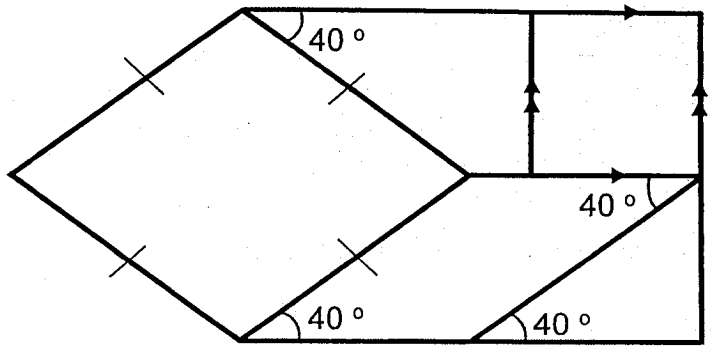


Diagram 1 before folding

Diagram 2 after folding

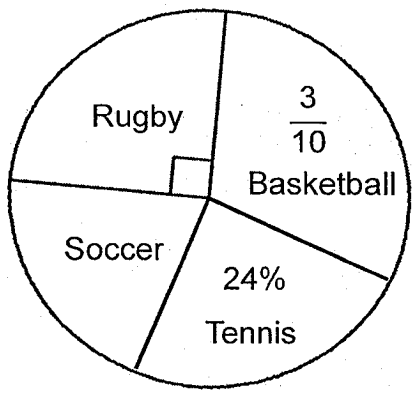
(1) 55 °
(2) 56 °
(3) 62 °
(4) 70 °

11 How many parallelogram(s) are there in the figure?



(1) 5
(2) 2
(3) 3
(4) 4

12 The pie chart below shows the favourite sport of a group of boys.



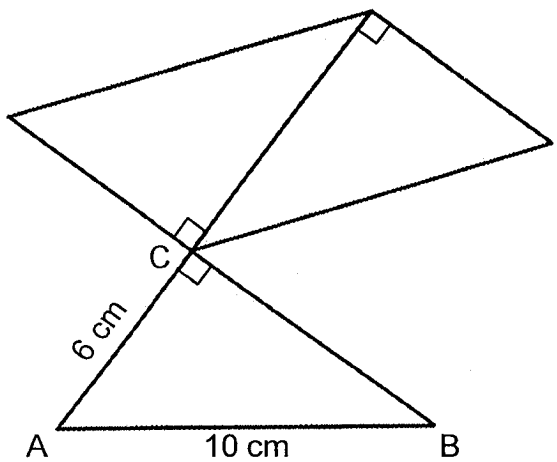
What is the ratio of the number of boys who like basketball to the number of boys who like soccer?

(1) 1 : 7
(2) 5 : 4
(3) 10 : 7
(4) 15 : 11

13 A driver travelled $\frac{1}{2}$ of his journey in 2 hours. He then travelled the remaining 180 km at a speed of 60 km/h. Find his average speed for the whole journey.

(1) 60 km/h
(2) 72 km/h
(3) 75 km/h
(4) 90 km/h

14 Nurul cut out three identical right-angled triangles. She joined them to form the figure below. AB = 10 cm and AC = 6 cm. The perimeter of the figure is 56 cm.



Find the area of Triangle ABC.

(1) 24 cm^2
(2) 30 cm^2
(3) 40 cm^2
(4) 50 cm^2

15 There were 60 more children in Room Y than in Room X. The number of boys in Room Y was 10 more than the number of boys in Room X. Given that there were 30 more girls than boys in Room X, how many more girls than boys were there in Room Y?

(1) 50
(2) 70
(3) 80
(4) 90

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

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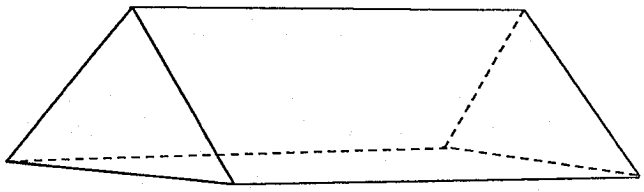
16 Find the value of 0.34×80.

Ans: _____

---

17 Name the solid below.



Ans: _____

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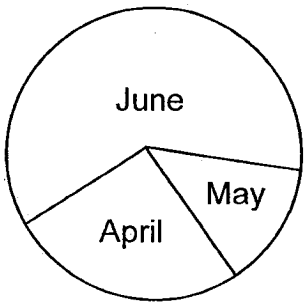
18 The pie chart shows the number of jackets sold by a shop in three months.

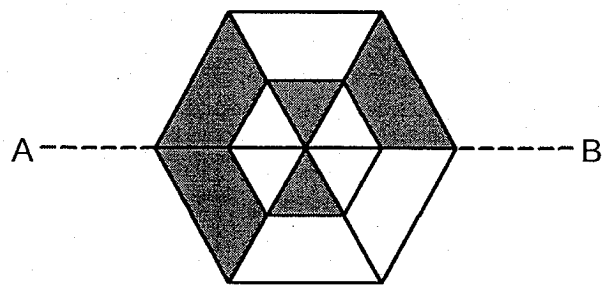


In which month did the shop sell the least number of jackets?

Ans: _____

---

19 The figure below is made up of six identical triangles and trapeziums. Shade the figure so that the figure has AB as its line of symmetry with $\frac{2}{3}$ of the figure shaded.



---

20 Mr Tan started baking cupcakes at 8 a.m. on Friday at a rate of 40 cupcakes per hour. Mrs Shanti started baking cupcakes at 9 a.m. on the same day, at a rate of 50 cupcakes per hour. After every 2 hours of baking, both of them will stop for an hour for a break. Find the total number of cupcakes baked by Mr Tan and Mrs Shanti by 12 noon on the same day.

Ans: _____

Questions 21 to 30 carry 2 marks each. Show your workings clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(20 marks)

---

21 Find the sum of $\frac{2}{3}$ and $\frac{1}{8}$.

Ans: _____

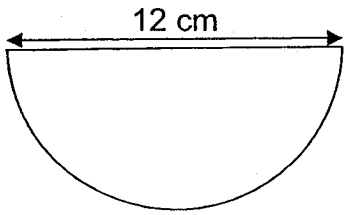
---

22 The average height of 3 children is 1 m 24 cm. What is their total height? Give your answer in m and cm.

Ans: _____m_____ cm

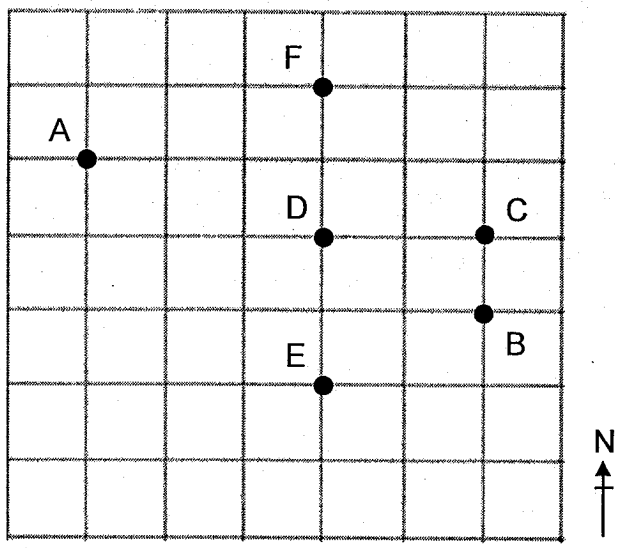
---

23 The figure below shows a semicircle. Find the perimeter of the semicircle. Leave your answer in terms of π.



Ans: _____cm

24



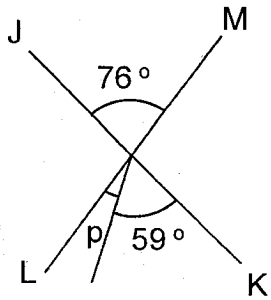
Refer to the square grid above and fill in the blanks with A, B, C, D, E or F.

(a) Point _____ is north-east of point E.

(b) Point D is south of point _____.

---

25 In the figure, JK and LM are straight lines. Find $\angle p$.



Ans: _____ °

---

26 Express 3.25 as an improper fraction in its simplest form.

Ans: _____

---

27 The table below shows how Mindy spent her money in the month of July.

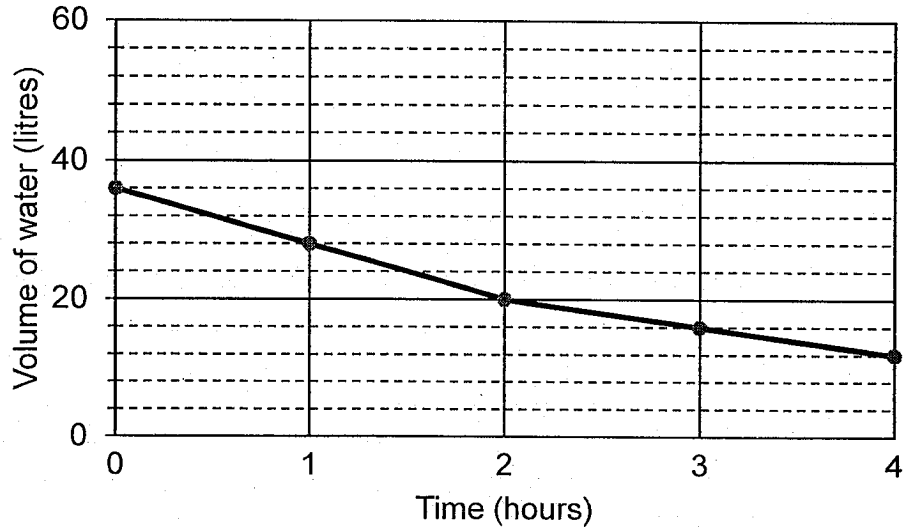
Expenditure	**Amount ($)**
Transport	?
Food	180
Books	?
Total amount spent	420

Given that the amount spent on food is twice the amount spent on books, how much did Mindy spend on transport in July?

Ans: $_____

Use the information below to answer questions **28** and **29**.

A rectangular tank, with a capacity of 50 000 cm^3, was partly filled with water. Tap A was then turned on to drain water out of the tank. After 2 hours, Tap B was turned on to fill the tank with water. The line graph below shows the volume of water in the tank at regular intervals of time.



28 What fraction of the tank was filled with water at first?

Ans: _____

29 Each statement below is either true, false or not possible to tell from the information given above. For each statement, put a tick (√) in the correct column.

	True	False	Not possible to tell
20 litres of water is being drained out from Tap A in 2 hours.			
The rate in which water is being drained out from Tap A is higher than the rate of water entering the tank from Tap B.			

30 Sam is twice as old as Brian now. In w years' time, the sum of their ages will be 40. Find Brian's age 5 years ago. Give your answer in terms of w.

Ans: _____

END OF PAPER

Questions 1 to 5 carry 2 marks each. Show your workings clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

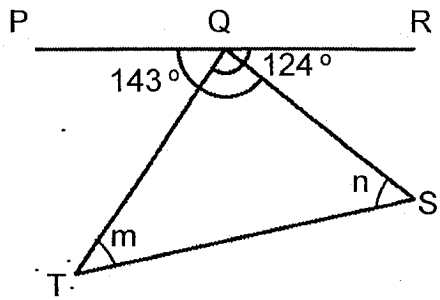
---

1 Royston and Song Qi had a total of 174 cards at first. After Royston bought 34 more cards and Song Qi gave away 18 cards, both had equal number of cards left. How many cards did Royston have at first?

Ans: _____

---

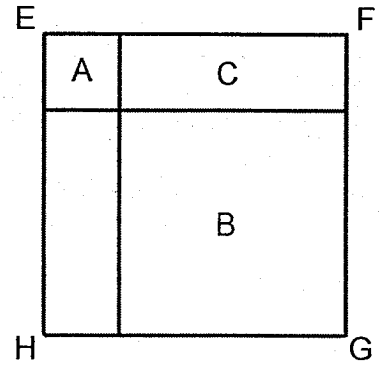
2 In the figure below, PQR is a straight line and QST is a triangle. $\angle PQS = 143^\circ$ and $\angle RQT = 124^\circ$. Find the sum of $\angle m$ and $\angle n$.



Ans: _____ °

---

3 In the figure below, the ratio of the area of rectangle C to the area of square B is 1 : 3. Find the ratio of the area of square A to the area of square EFGH.



Ans: _____

---

4 Mrs Tan distributed 60 pencils and 45 erasers equally among all her students in her class.

(a) Find the largest possible number of students in her class.

(b) Find the least number of pencils each student could have received.

Ans: (a)_____ [1]

(b)_____ [1]

---

5 36 workers are supposed to pack some boxes of oranges. However, 2 workers fell sick and did not report for work. As a result, the rest of the workers need to pack n more boxes of oranges each. Find the total number of boxes of oranges that were packed in terms of n.

Ans: _____

For Questions 6 to 17, show your workings clearly in the space below each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(45 marks)

---

6 Joe spent $\frac{3}{5}$ of his money on a can of drink and a plate of chicken rice. The plate of chicken rice cost \$3 more than the can of drink. Joe then spent the rest of his money to buy another 2 similar cans of drink and had \$1 left, find the cost of the can of drink.

Ans: _____ [3]

---

7 The ratio of the volume of milk in Glass A to the volume of milk in Glass B is 1 : 5. The ratio of the volume of milk in Glass B to the volume of milk in Glass C is 3 : 2. Given that there is 980 ml of milk in the three glasses altogether, how much milk is there in Glass A?

Ans: _____ [3]

---

8 Raju had some money. He spent 40% of his money on a bag and 50% of the remainder on a shirt.

(a) Which item, the bag or the shirt, is more expensive?

(b) Sandy, who had twice the amount of money Raju had at first, bought three of the same bags. What percentage of her money had she left?

Ans: (a)_____ [1]

(b)_____ [2]

---

9 Mrs Kim had $\frac{6}{7}$ kg of flour in a container. She packed them into some bags, each bag containing $\frac{1}{9}$ kg of flour.

(a) How many bags of flour did Mrs Kim pack at most?

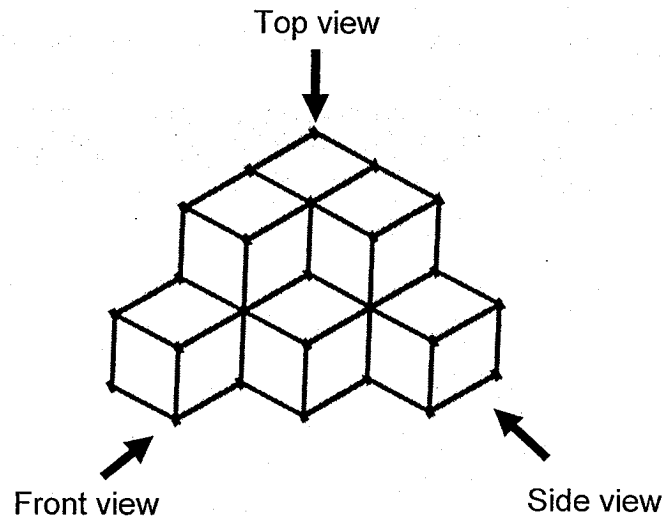
(b) How many kilograms of flour had she left in the container? Give your answer as a fraction in its simplest form.

Ans: (a)_____ [2]

(b)_____ [1]

---

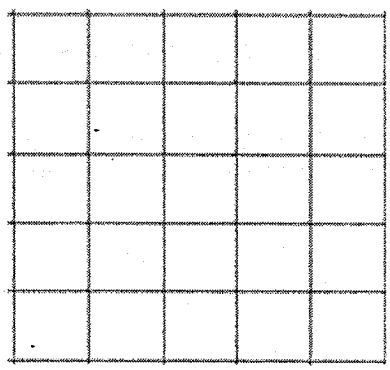
10 The figure below shows 9 identical 4-cm cubes which are glued together to form a solid.



(a) Find the volume of the solid.

(b) The whole solid, including the base, is then painted red. How many cubes have at least three of their faces painted red?

(c) Draw the front view of the solid on the square grid below.



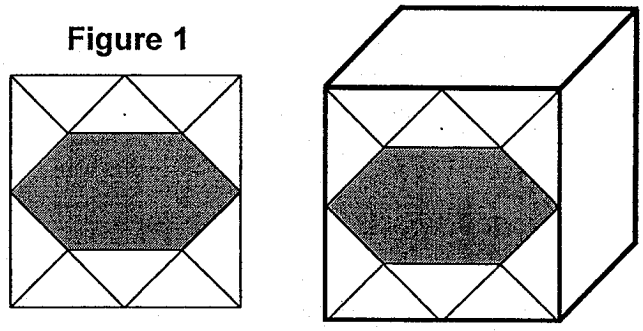
[1]

Ans: (a)_____ [1]

(b)_____ [1]

11 Jason had a cube. He drew Figure 1 on only one of the faces of his cube. The inner square in Figure 1 is formed by joining the mid-points of the sides of the outer square. The area of the shaded part is 24 cm^2.

Figure 1



(a) What fraction of Figure 1 is shaded?

(b) Find the length of one edge of the cube.

(c) The net drawn for his cube in Figure 2 is incorrect.
Put a cross 'X' on the face that does not fit the net of his cube.

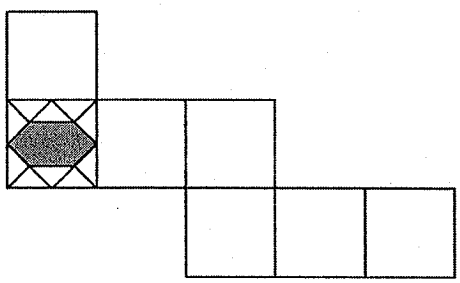


Figure 2 [1]

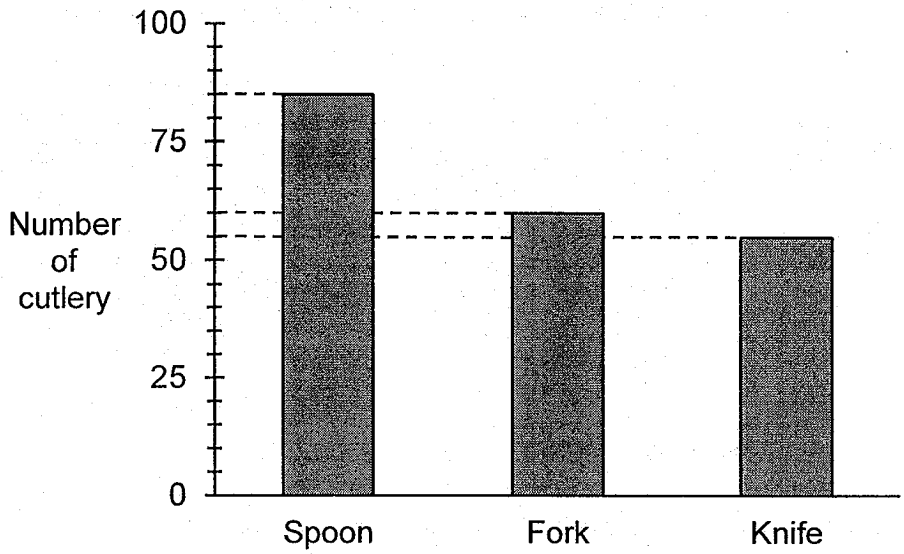
(d) Find the perimeter of the correct net of his cube.

Ans: (a)_____ [1]

(b)_____ [2]

(d)_____ [1]

12 The bar graph shows the number of each type of cutlery sold in a shop.



The table shows the prices of the cutlery.

Type of cutlery	Price per cutlery
Spoon	$1.40
Fork	$2.50
Knife	$4.10

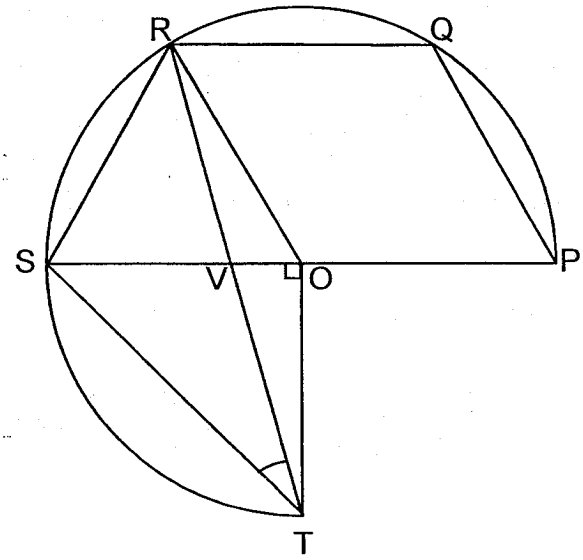
(a) How many more spoons than knives were sold?

(b) Find the average amount of money collected from the cutlery sold. Round off your answer to the nearest dollar.

Ans: (a)_____ [2]

(b)_____ [3]

13 In the figure below, O is the centre of the circle and SOP is a straight line. OPQR is a rhombus, SOT is a right-angled triangle and RS = OT.



(a) Name a trapezium in the figure above.

(b) Find $\angle$RTS.

Ans: (a)_____ [1]

(b)_____ [2]

14

☆☆☆ STAR BAKERY ☆☆☆
Special Discount

Buy 4 buns and get 1 bun Free

Siti had 10 buns, 120 muffins and 30 cookies after spending 50% of her money at Star Bakery. The cost of each muffin to the cost of each cookie is 1 : 2. The amount she spent on all the muffins is thrice the amount she spent on all the buns.

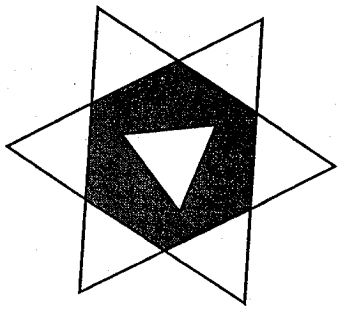
(a) Find the percentage discount for the buns.

(b) Siti then decided to spend the rest of her money on buns. How many free buns will she get from spending the rest of her money on buns in Star Bakery?

Ans: (a)_____ [1]

(b)_____ [3]

15 The figure below is made up of seven identical unshaded equilateral triangles and a shaded region. The perimeter of each equilateral triangle is 18 m.



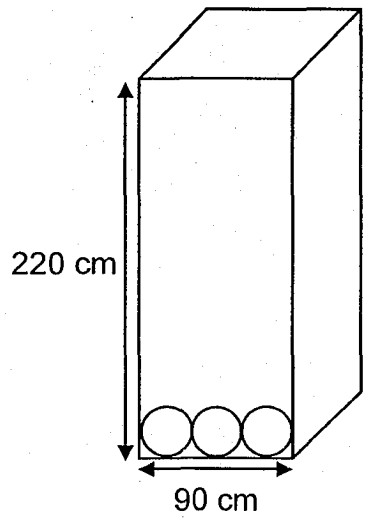
(a) Find the perimeter of the figure in metres.

(b) Given that the area of the shaded region is $60y$ m^2. Find the area of the figure in terms of y.

Ans: (a)_____ [2]

(b)_____ [2]

16 A box with an open top has a square base of side 90 cm. The height of the box is 220 cm. Ken cut circular cardboards out from the faces of the open box. The figure below shows how he cut out 3 circular cardboards from one of the faces. Take $\pi = 3.14$.



(a) Find the area of each circular cardboard.

(b) What is the greatest number of circular cardboards Ken can cut from the open box?

Ans: (a)_____ [2]

(b)_____ [2]

17 Ali uses rods to form figures that follow a pattern. The first five figures are shown below.

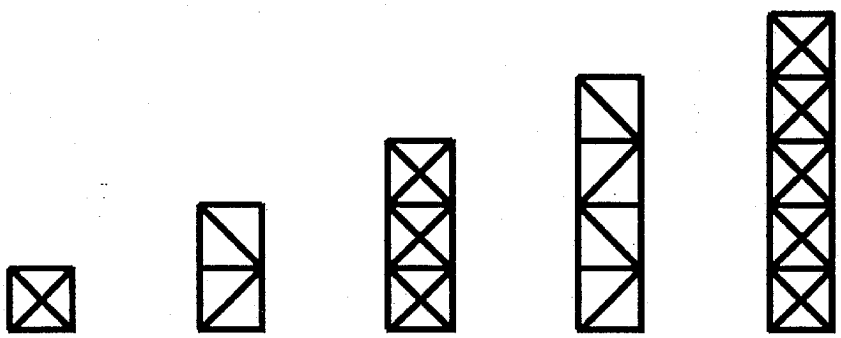


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

(a) The table below shows the number of rods used and the number of triangles found in each figure. Complete the table for Figure 6.

Figure Number	Number of rods used	Number of triangles
1	6	4
2	9	4
3	16	12
4	17	8
5	26	20
6	25	

[1]

(b) How many rods would he use in Figure 7?

(c) How many rods would he use in Figure 30?

Ans: (b)_____ [2]

(c)_____ [2]

END OF PAPER

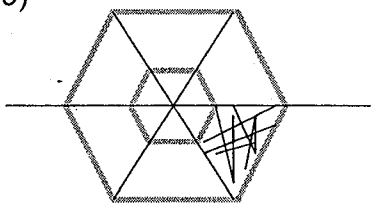
SCHOOL : RED SWASTIKA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

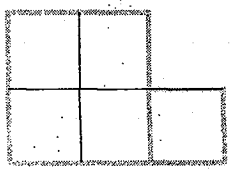
Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	3	4	4	3	4	1	4	1	3

Q 11	Q12	Q13	Q14	Q15
3	3	2	1	2

PAPER 1 BOOKLET B

Q16)	**27.2**
Q17)	**Prism**
Q18)	**May**
Q19)	
Q20)	**220**
Q21)	**19/24**
Q22)	**3 m 72 cm**
Q23)	**(6∏+ 12)cm**
Q24)	**a)C** **b)F**
Q25)	**17°**
Q26)	**13/4**
Q27)	**$150**
Q28)	**18/25**
Q29)	**False** **True**
Q30)	**40 – 2w /3 – 5**

PAPER 2

Q1)	174 + 34 – 18 = 190 190 →2u 1u = 190/2 1u = 95 Royston = 95 – 34 = 61
Q2)	143° + 124° = 267° ∢TQS = 267° – 180° = 87° Sum of ∢ m + ∢n = 180° – 87° = 93°
Q3)	1 : 16
Q4)	a)LCM of 60 and 45 1 , 3 , 5 , 15 b)60÷15 = 4
Q5)	36 – 2 = 34 34 x n = 34n 34n = No of boxes 2 workers had to pack 17n = No of boxes 1 worker had to pack No of boxes that were packed = 36 x 17m = 612n
Q6)	Chicken Rice = Can drink + $3 CR + CD = 3/5 of money 2CD + $1 = 2/5 of money 1/5 of money→$3 – $1 = $2 Can drink→$2 x 2 – $1 / 2 = $1.50
Q7)	980ml = 3u + 15u + 10u = 28u 1u = 980ml/28 = 35ml A = 35ml x 3 = 105ml
Q8)	a)The boy b)Bag = 4u Sandy = 20u 20u – 4u = 16u 16/20 x 100% = 80%
Q9)	a)7 b)5/63kg
Q10)	a)4 x 4 x 4 = 64 64 x 9 = 576 b)1 x 7 = 7 c) 4cm 

Q11) a)shaded = 6u

Figure 1 = 16u

6/16 = 38

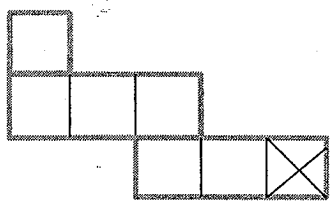
b)24cm2 = 6u

1u = 4cm2

16u = 64cm2

$\sqrt{64cm2}$ = 8cm

c)



d)8cm x 14 = 112cm

Q12) a)85 – 55 = 30

b)85 x $1.40 = $119

60 x $2.50 = $150

55 x $4.10 = $225.50

Total = $494.50

Average = $494.50 ÷ (85 + 60 + 55) = $2.4725

≈ $2

Q13) a)RQPS

b)∢STO = ∢OST = 180° – 90° / 2 = 45°

∢ROP = 180° – 60° = 120°

∢OTR = 180° – 60° – 90° / 2 = 15°

∢RTS = 45° – 15° = 30°

Q14) a)20%

b)M : C

1 : 2

1 cookie = 2 Muffin

120 Muffin = 30 Buns

1 Bun = 4 Muffin

½ money = 10Bun + 120 Muffin + 30 cookie

= 40 muffin + 120 muffin 60 muffin

= 220 muffin

220 ÷ 5 = 44

Q15) a)18 ÷ 3 x 2 = 12

12 x 6 = 72

b)Shade Region = 5 △

5△ = 60 ym2

1△ = 12ym2

7 △+ 5△ = 12ym2 x 12 = 144ym2

Q16)	**a)90 ÷ 3 = 30** **30 ÷2 = 15** **15 x 15 x Π** **= 15 x 15 x 3.14 = 706.5cm2** **b)220÷30 = 7 R10** **90÷30 = 3** **N0. Of circular cardboards Ken can cut** **= 3 x 3 + 7 x 3 x 4 = 93**
Q17)	**a)12** **b)26 + 10 = 36** **c)30÷2 = 15** **15 – 1 = 14** **14 x 8 + 9 = 121**

RIVER VALLEY PRIMARY SCHOOL

PRELIMINARY EXAMINATION

2018

MATHEMATICS

PRIMARY SIX

Date : 21 August 2018

Duration : 60 min (Total time for Booklets A and B)

PAPER 1

(BOOKLET A)

INSTRUCTIONSTO CANDIDATES

1. Write your Name, Register No. and Class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.
6. You are **not** allowed to use a calculator.

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (20 marks)

---

1. Which of the following is **not** a common factor of 18 and 30?

(1) 6

(2) 2

(3) 3

(4) 5

2. 6 ones, 5 tenths and 9 thousandths is _____.

(1) 0.659

(2) 6.059

(3) 6.509

(4) 6.59

3. Arrange the following numbers from the smallest to the largest.

8.001 , 8.1 , 8.01 , 81.01

(1) 81.01 , 8.1 , 8.01 , 8.001

(2) 8.01 , 8.1 , 8.001 , 81.01

(3) 8.001 , 8.01 , 8.1 , 81.01

(4) 8.001 , 8.1 , 8.01 , 81.01

4. Which of the following fractions is the greatest?

(1) $\frac{3}{7}$

(2) $\frac{5}{9}$

(3) $\frac{5}{11}$

(4) $\frac{6}{13}$

5. The table below shows the charges for parking at a shopping centre.

PARKING CHARGES	
For the first hour	\$3.00
For every subsequent $\frac{1}{2}$ hour or part thereof	\$1.20

Rex parked his car in the car park from 10.30 a.m. to 12.40 p.m. on the same day. How much did he pay altogether for the parking fee?

(1) \$5.40

(2) \$4.20

(3) \$6.60

(4) \$7.80

6. Simplify $10c + 8 - 5c + 2c - 2$.

(1) $7c + 10$

(2) $7c + 6$

(3) $3c + 10$

(4) $3c + 6$

7. Mrs Lim exchanged a $10 note for 20 coins. All the coins had the same value. What was the value of each coin?

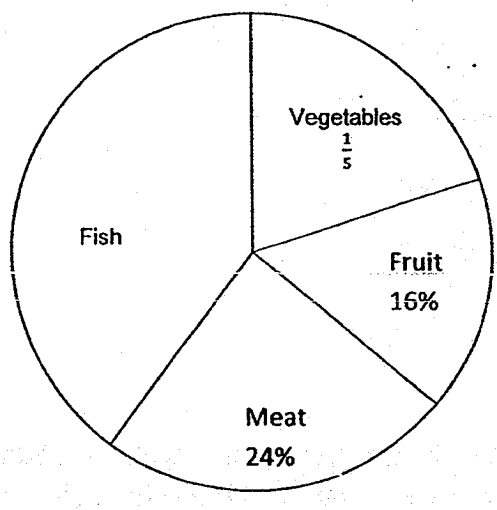
(1) 5 cents

(2) 10 cents

(3) 20 cents

(4) 50 cents

8. The pie chart below shows how Mrs Gomez spent her money at the supermarket last month. What was the ratio of the amount of money Mrs Gomez spent on meat to the amount of money she spent on fish?



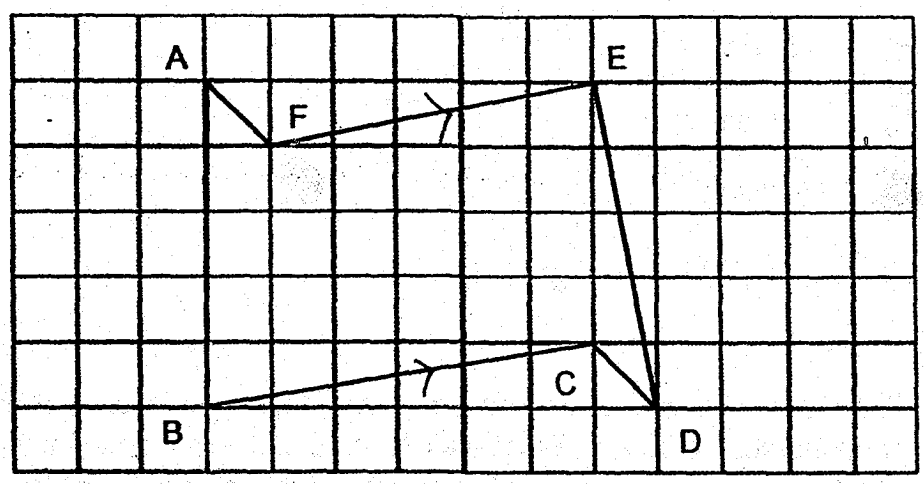
(1) 5 : 3

(2) 3 : 5

(3) 2 : 3

(4) 2 : 1

9. Which two lines in the figure below are parallel to each other?



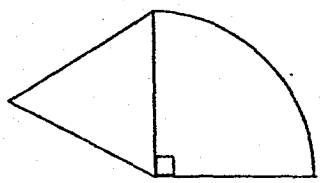
(1) FE and BC

(2) AB and ED

(3) AF and ED

(4) AF and CD

10. The figure below is made up of an equilateral triangle and a quadrant. The radius of the quadrant is 10 cm. Find the perimeter of the figure. Leave your answer in terms of π.



10 cm

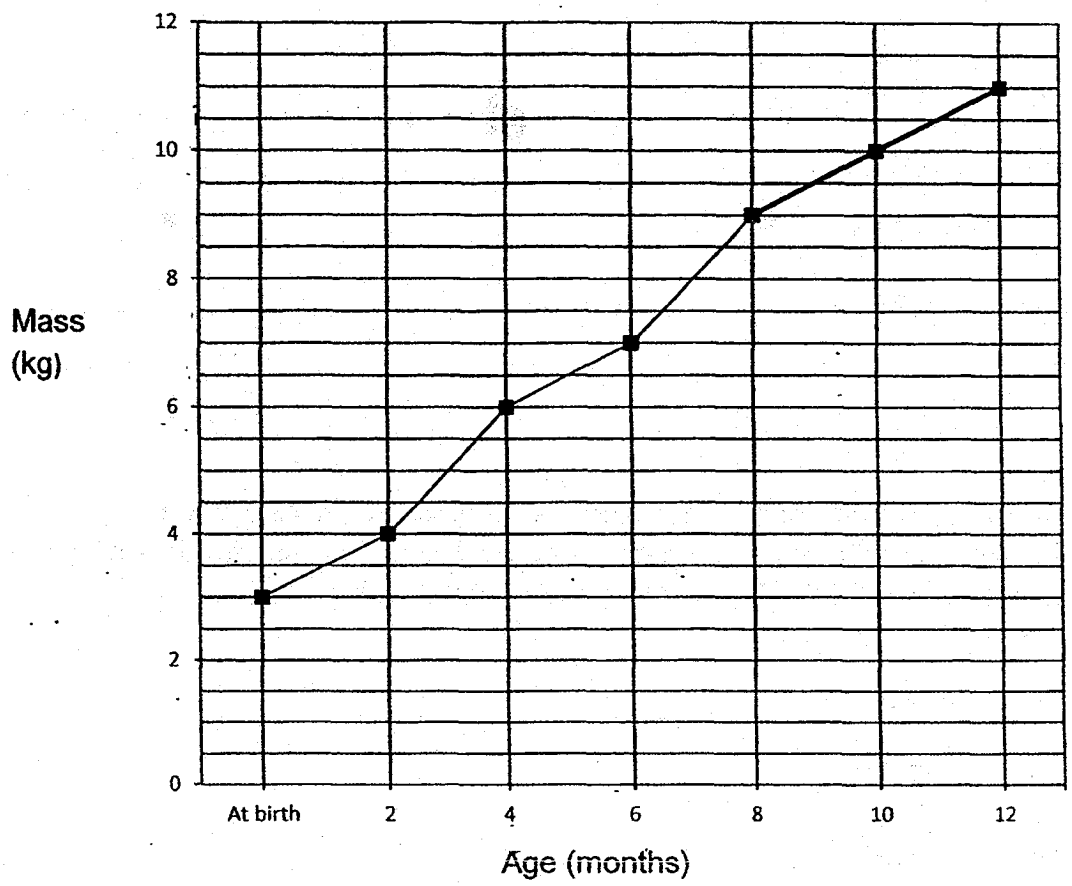
(1) $(2.5\pi + 30)$ cm

(2) $(5\pi + 30)$ cm

(3) $(20\pi + 30)$ cm

(4) $(25\pi + 30)$ cm

11. The line graph below shows Peter's mass from birth to his first birthday.



At what age was Peter's mass three times his mass at birth?

(1) 10 months

(2) 8 months

(3) 6 months

(4) 4 months

12. The average mass of Alice, Bella and Carol is 36 kg. Alice is 11 kg heavier than Bella and 7 kg heavier than Carol. What is the mass of Carol?

(1) 31 kg

(2) 35 kg

(3) 37 kg

(4) 42 kg

13. In April, Samy spent $60 of his monthly allowance and saved the rest. In May, he increased his spending by 30% and as a result, his savings decreased by 20%. How much was his monthly allowance?

(1) $90

(2) $150

(3) $168

(4) $210

14. A bus can carry either 40 adults or 85 children. If there are already 24 adults and 13 children in the bus, how many more children can board the bus?

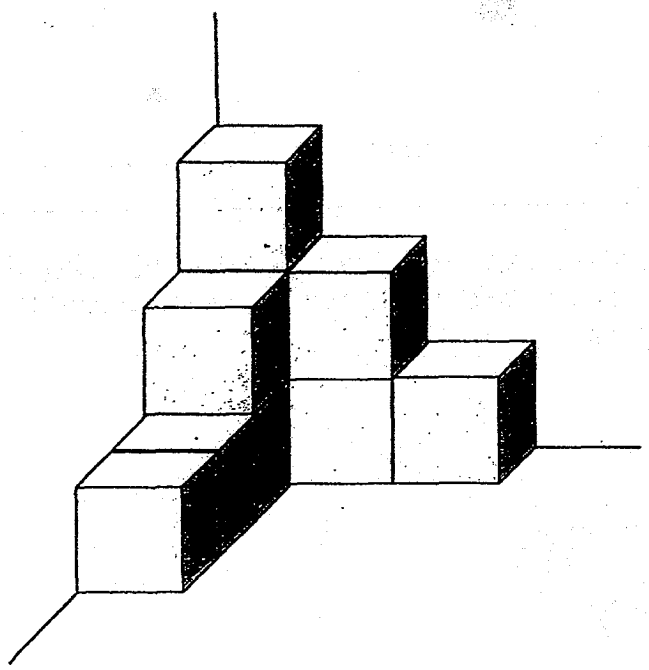
(1) 21

(2) 34

(3) 48

(4) 72

15. The solid below is made up of identical cubes that are glued together. What is the **least** number of such cubes that must be added to make the solid into a bigger cube?



(1) 10

(2) 17

(3) 54

(4) 57

- End of Booklet A -

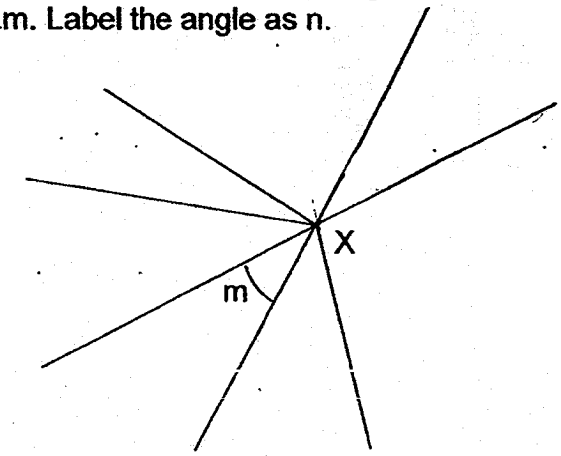
Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write In this space

16. Find the value of $\frac{6}{7} \div 42$.

Ans : _____

17. The figure below shows angles at point X. Without using a protractor, draw another angle at X which is the same size as ∠m. Label the angle as n.



18. The opening hours of CSC Library are shown below. How long is the library open each day? Give your answer in hours and minutes.

CSC Library

Opens Daily

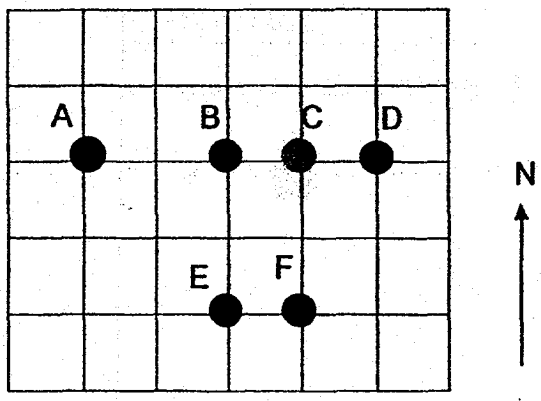
10.15 a.m. to 9.30 p.m.

(Closes for lunch from 12.30 p.m. to 1.30 p.m.)

Ans : _____ h _____ min

Do not write
In this space

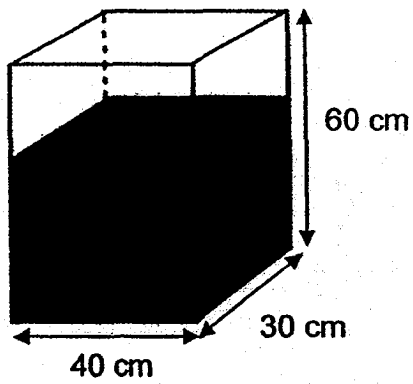
19. Study the square grid below.



Point _____ is northeast of Point _____.

Ans : _____ , _____

20. The rectangular tank below measures 40 cm by 30 cm by 60 cm. It is two-third filled with water. How much water is in the tank? (1 ℓ = 1000 cm^3)



Ans : _____ ℓ

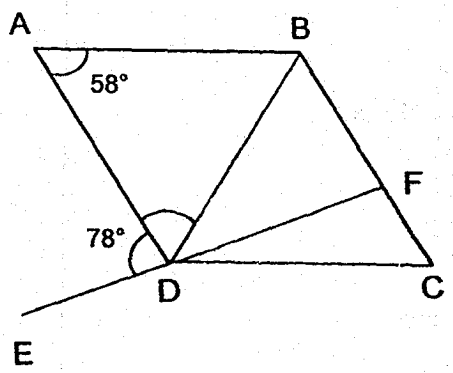
Questions 21 to 30 carry 2 marks each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

Do not write In this space

21. Find the value of $3y + \frac{5y}{8} - 8$ when $y = 4$. Give your answer as a mixed number in the simplest form.

Ans : _____

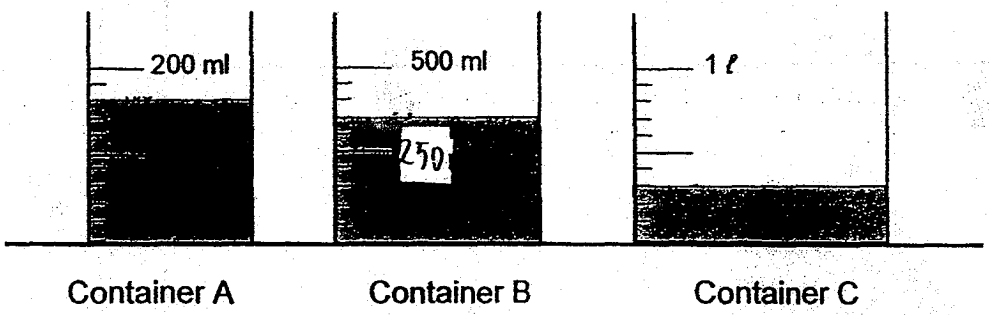
22. In the figure, ABCD is a rhombus. EDF is a straight line. $\angle BAD = 58°$ and $\angle ADE = 78°$. Find $\angle FDC$.



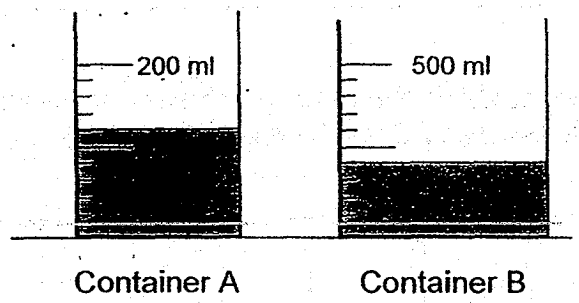
Ans : _____ °

23. At first, Containers A, B and C contained some water as shown below.

Do not write In this space



Then, Ali poured some water from Containers A and B into Container C without any spilling over. The amount of water left in Containers A and B is shown below.

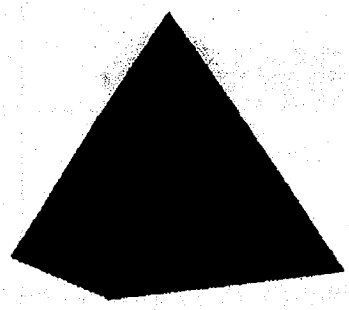
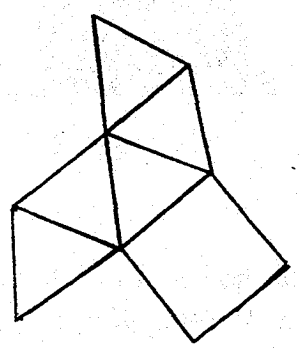


What would be the amount of water in Container C in the end?

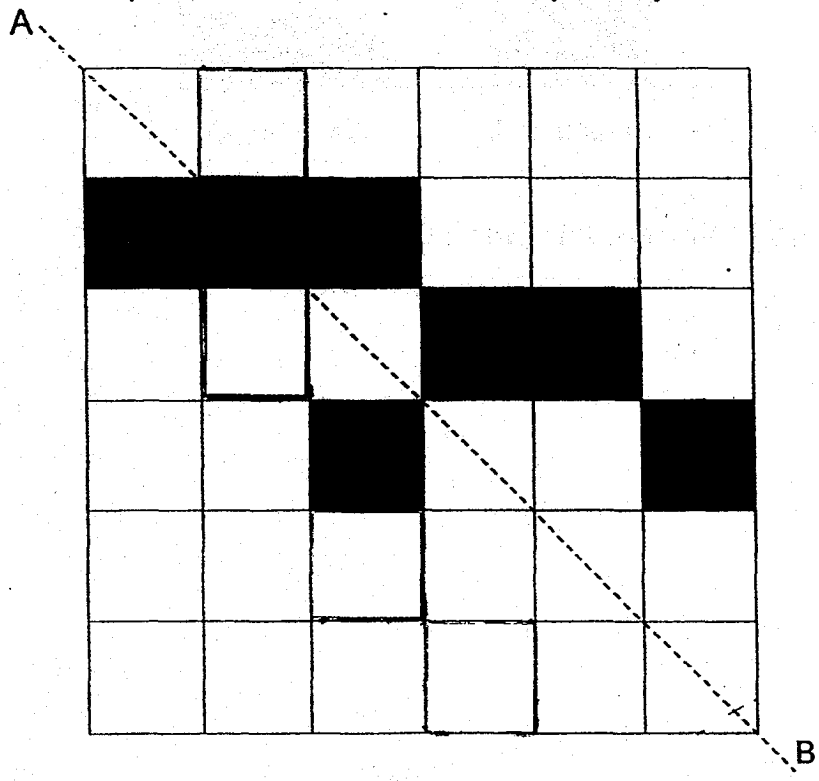
Ans : _____ ml

24a. The net drawn for the solid below is **incorrect**. Shade the face that **does not** fit.

Do not write In this space

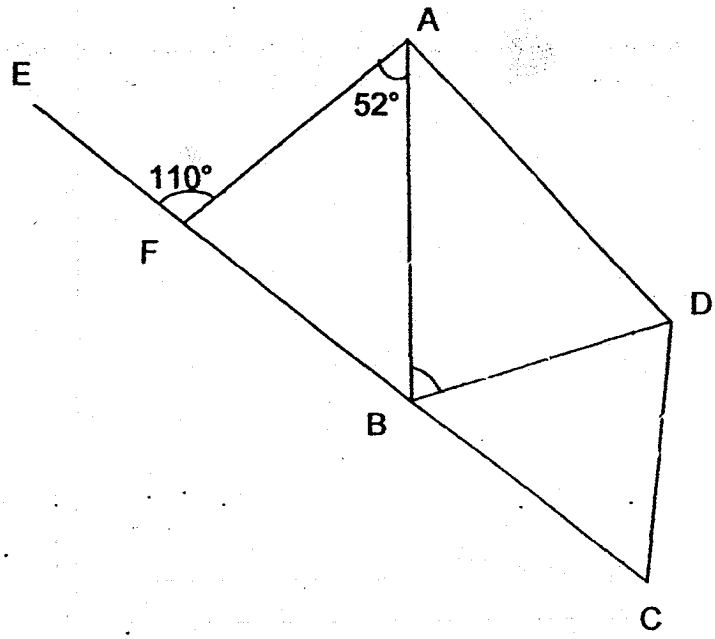
Solid	Net
 Pyramid	

24b. In the figure below, shade the **least** number of squares to form a symmetrical pattern with AB as the line of symmetry.



25. In the figure, ABCD is a trapezium and BCD is an isosceles triangle. DB = DC, BAF = 52° and ∠AFE = 110°. Find ∠BDC.

Do not write In this space



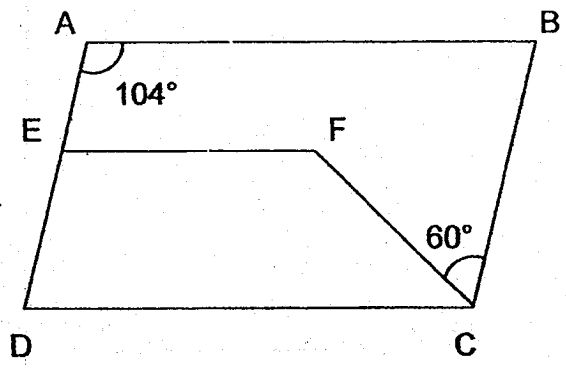
Ans : _____ °

Do not write In this space

26. A group of boys shared some stamps among themselves. They tried taking 12 stamps each, but found that the last boy had only 7 stamps. When they tried taking 10 stamps each, they found that there were 25 stamps left over. How many stamps were there altogether?

Ans : _____

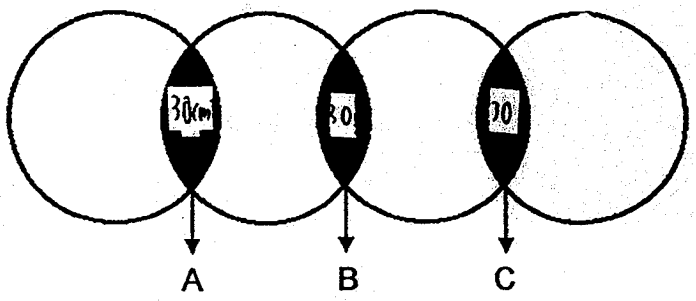
27. In the figure, ABCD is a parallelogram. AB // EF // DC. $\angle BAE = 104°$ and $\angle BCF = 60°$. Find $\angle EFC$.



Ans : _____ °

28. The figure below is made up of 4 identical circles, each with a radius of 7 cm. The circles overlap at the shaded parts A, B and C. The area of each shaded part is 30 cm^2. Find the total area of the **unshaded** parts. (Take $\pi = \frac{22}{7}$)

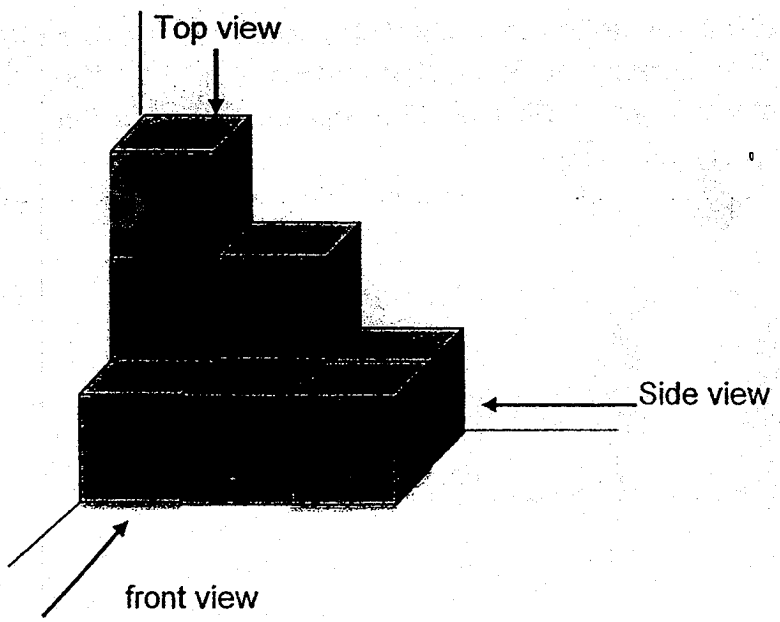
Do not write In this space



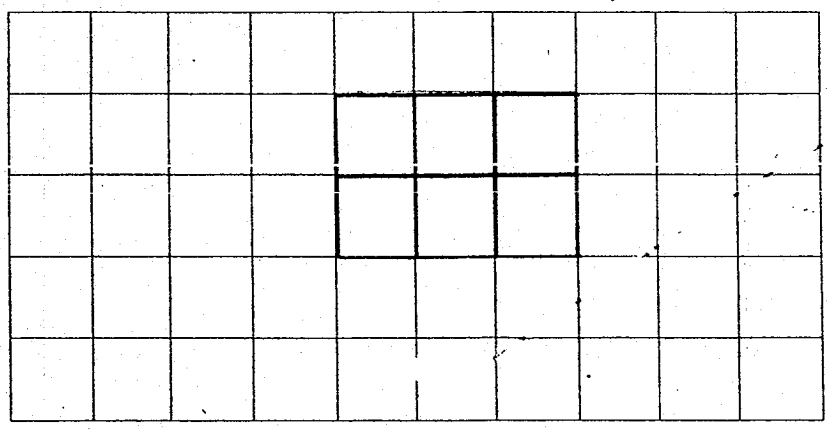
Ans : _____ cm^2

29. The solid below is made up of identical cubes. Draw the top view and front view of the solid in the square grids below.

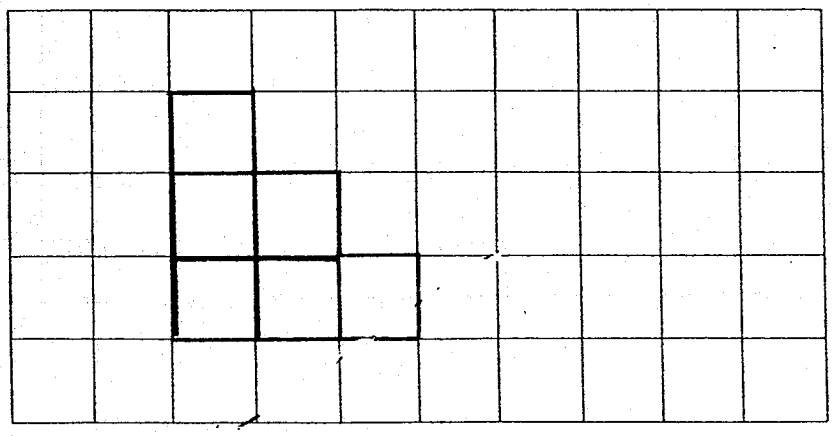
Do not write In this space



Top view



Front view



30. The average savings of a group of boys and girls is $245. There is an equal number of boys and girls. The average savings of the boys is $300.

Do not write In this space

Each statement below is either true, false or not possible to tell from the information given above. For each statement, put **one** tick (✓) in the correct column.

Statement	True	False	Not possible to tell
Each boy saves more than each girl.			
The average savings of the girls is more than $300.			

- End of Booklet B -

RIVER VALLEY PRIMARY SCHOOL

PRELIMINARY EXAMINATION

2018

MATHEMATICS

PRIMARY SIX

Date : 21 August 2018

Duration : 1 h 30 min

PAPER 2

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Register No. and Class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. You are **allowed** to use a calculator.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answer in the units stated. (10 marks)

Do not write in this space

1. Shah spent $\frac{2}{5}$ of his money while Harrison spent $\frac{3}{8}$ of his money. Then they each had $120 left. How much did the two boys have altogether at first?

Ans : $ _____

2. The table below shows the number of tickets sold by 3 girls. Lisa sold half as many tickets as the total number of tickets sold by Jane and Kerry. Jane sold 38 tickets. How many tickets did Lisa sell?

Girls	Number of tickets sold
Jane	3p + 8
Kerry	2p - 4
Lisa	

Ans : _____

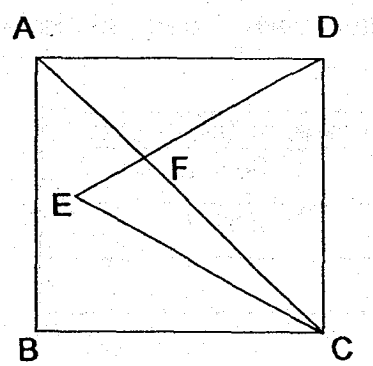
3. The average of 6 two-digit numbers shown below is 60. A digit from each of the last two numbers is missing. What are the last two numbers?

Do not write in this space

58	46	77	62	6	7

Ans : _____ and _____

4. In the figure below, ABCD is a square. CED is an equilateral triangle and AFC is a straight line. Find ∠AFD.



Ans : _____ °

5. The graph below shows the results of a survey on the favourite sports of a group of students.

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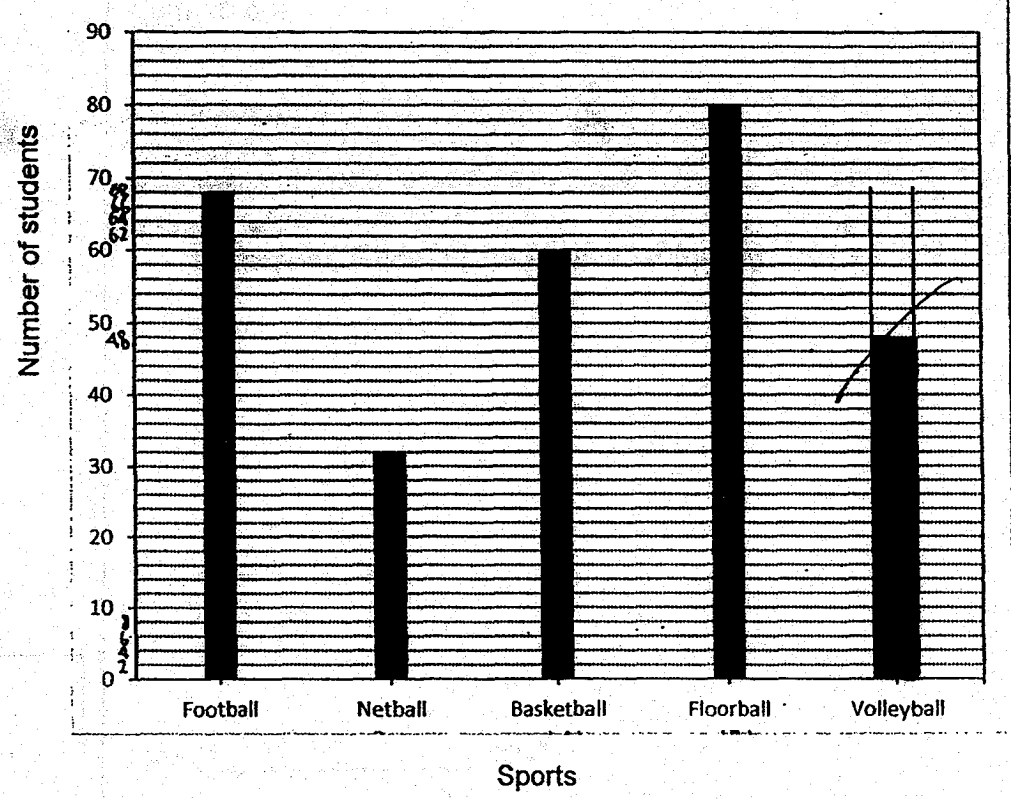


$\frac{1}{6}$ of the students chose volleyball as their favourite sport.

Draw the bar in the graph to show the number of students who chose volleyball as their favourite sport.

For questions 6 to 17, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(45 marks)

Do not write in this space

6. Jane packs all her books into a suitcase and the total mass of her books and the suitcase is 59.4 kg. Rahim packs all his books into an identical suitcase and the total mass of his books and the suitcase is 20.1 kg. The mass of Jane's books is four times as heavy as that of Rahim's books. What is the mass of the empty suitcase?

Ans: _____ (3m)

7. Alice and Peggy went shopping together with a total sum of $105.50. The ratio of the amount of money Peggy spent to the amount Alice spent was 2 : 3. The amount of money Peggy had left was $9 more than what she had spent. Alice had $\frac{1}{2}$ as much money left as Peggy. How much money did Peggy have left?

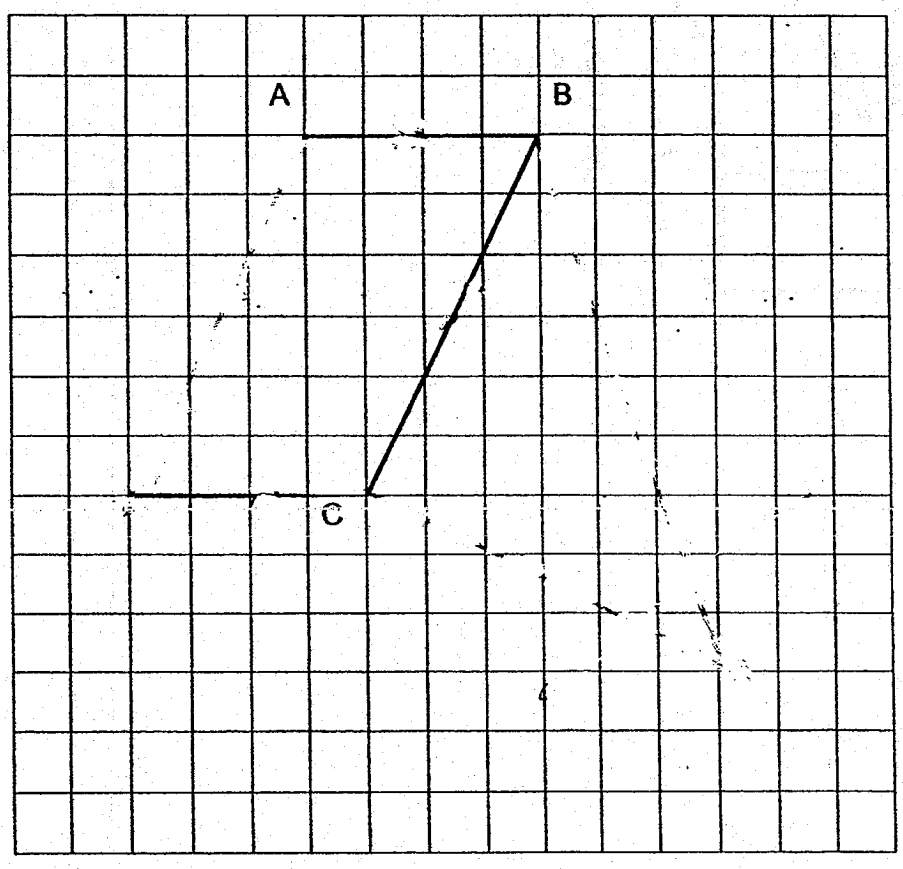
Ans: _____ (3m)

8. In the square grid below, two sides of a parallelogram ABCD have been drawn.

Do not write in this space

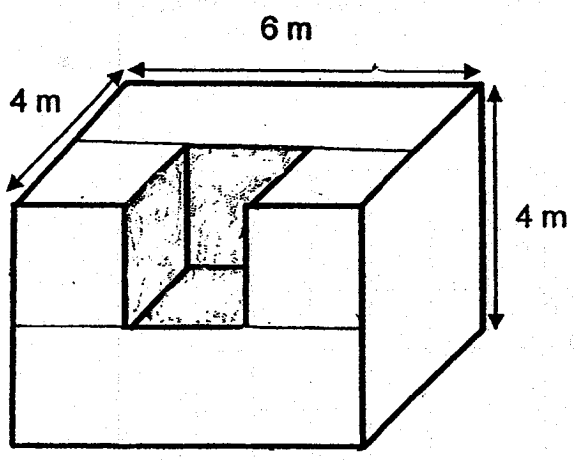
(a) Complete the drawing of the parallelogram ABCD. **Label** your drawing. (1 mark)

(b) BC also forms one side of a triangle BCE in which ∠BCE is a right angle and BC = CE. Complete the drawing of the triangle BCE within the grid. (2 marks)



9. A solid measures 6 m by 4 m by 4 m. A 2-m cube was cut out from the centre of the solid. The remaining solid is then completely dipped into a pail of red paint. What is the total area of the surfaces that are red?

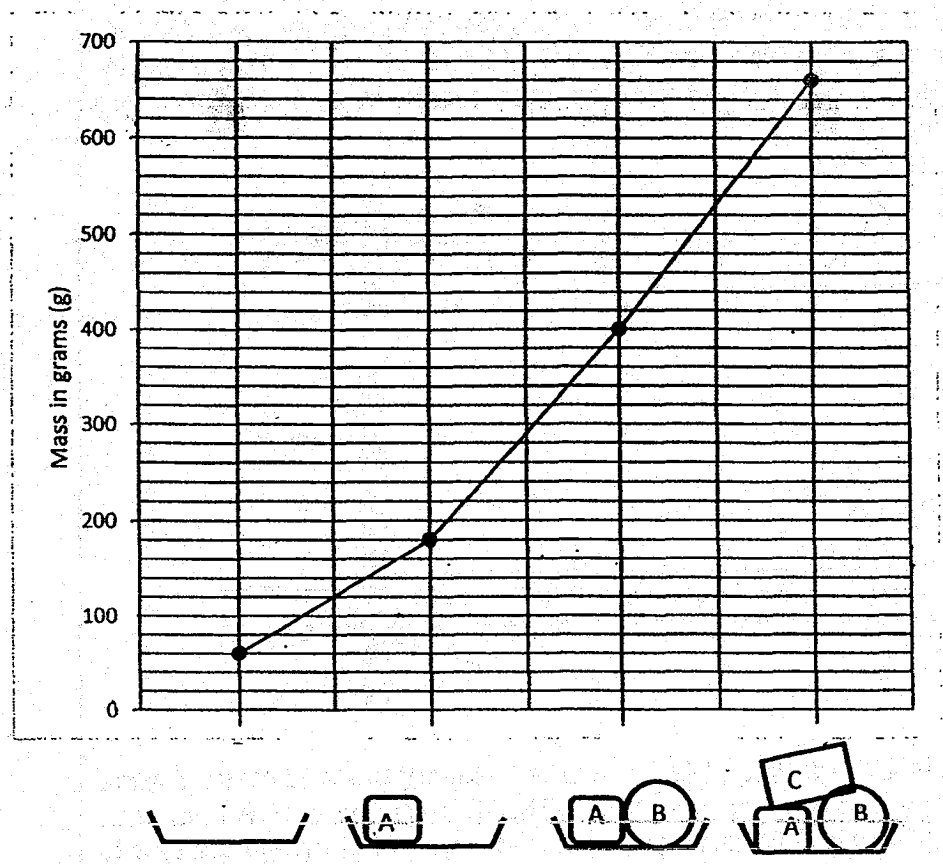
Do not write in this space



Ans: _____ (3m)

10. Three objects A, B and C were placed on a container, one after another. The line graph below shows the mass of the container when empty and the mass when different objects were placed on it.

Do not write in this space



(a) What is the mass of Object A?

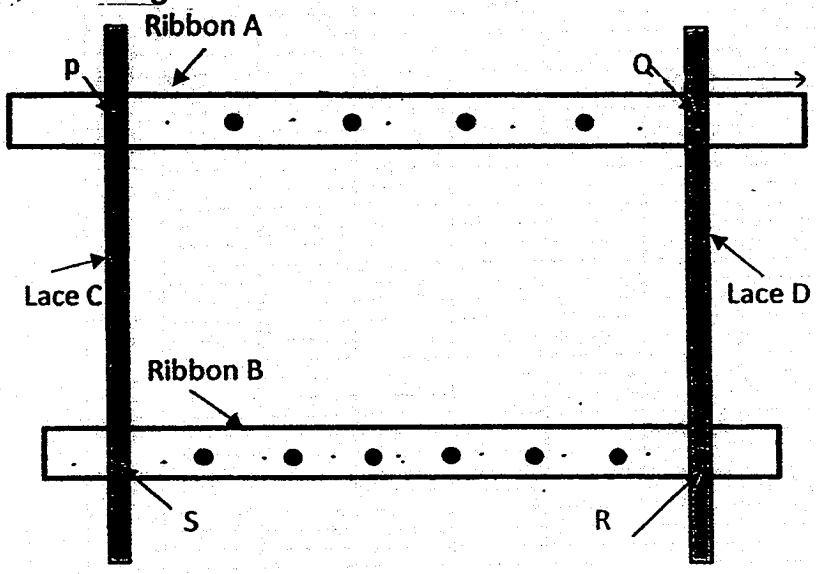
(b) Find the average mass of the three objects.

Ans: (a)_____ (1m)

(b) _____ (2m)

11. Two similar ribbons, A and B, of different lengths, and two similar laces C and D are sewn together to make a frame as shown below.
There are 6 buttons on Ribbon A which divide the ribbon into 7 equal parts. There are 8 buttons on Ribbon B which divide it into 9 equal parts.
In the frame, P, Q, R and S are buttons that are sewn on the four corners of a rectangle.

Do not write in this space



Ribbon A is 294 cm long. Marisa wants to buy ribbons to make 3 such frames to give to the Senior's Home. The ribbons are sold in rolls of 9 m each. What is the minimum number of rolls of ribbon Marisa needs to buy?

Ans : _____ (3m)

12. Ben bought some large-sized, medium-sized and small-sized T-shirts to be sold in his shop. 40% of the T-shirts he bought were large-sized T-shirts. 60% of the remaining T-shirts were medium-sized and the rest were small-sized T-shirts.

Do not write in this space

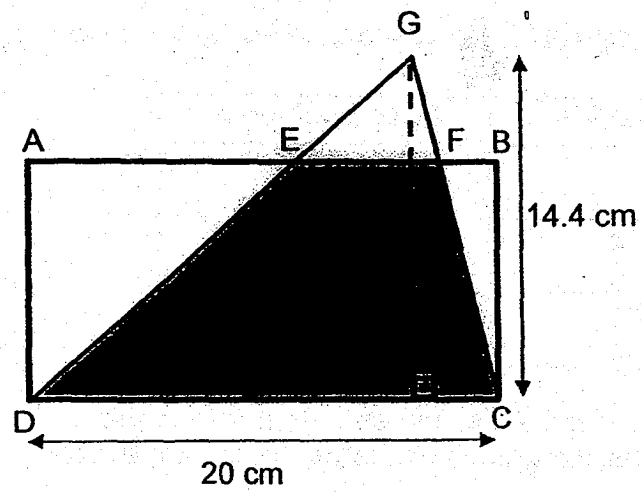
The price of each type of T-shirt is shown in the table below.

Types of T-shirts	Price per T-shirt
Large-sized	$18
Medium-sized	$10
Small-sized	$8

He paid $672 more for the medium-size T-shirts than the small-sized T-shirts. How much did he pay for the large-sized T-shirts?

Ans : _____ (4m)

13. In the figure, ABCD is a rectangle. DC = 20 cm and the height of the triangle GDC is 14.4 cm. The area of the shaded part EFCD is $\frac{5}{6}$ of the area of triangle GDC. The ratio of the shaded part to the area of the rectangle is 3 : 5.



(a) What is the area of the shaded part?

(b) What is the length of AD?

Do not write in this space

Ans : (a) _____ (2m)

(b) _____ (2m)

14. Alan and Benny took part in a charity race which started at 8.00 a.m. Alan's speed was 60 m/min slower than Benny's speed. Both boys did not change their speeds throughout the race. When Benny completed the race at 8.40 a.m., Alan only covered $\frac{3}{5}$ of the distance.

Do not write in this space

(a) What was the total distance of the race?

(b) What was Alan's speed in m/min?

Ans : (a) _____ (2m)

(b) _____ (2m)

15. Jason bought some bookmarks and gave half of them to Kelvin. Kelvin bought some stickers and gave half of them to Jason.

Then Jason gave 7 bookmarks to his sister and found that he had $\frac{1}{9}$ as many bookmarks as stickers left. Kelvin gave 12 stickers to his younger brother and found that he had $\frac{1}{6}$ as many bookmarks as stickers left.

(a) How many stickers did Kelvin have in the end?

(b) How many bookmarks did Jason buy?

Do not write in this space

Ans : (a)_____ (3m)

(b)_____ (2m)

16. The figure below is made up of a semi-circle, 2 small quadrants and a rectangle. O is the centre of the semi-circle. The diameter of the semi-circle is 32 cm and the radius of each quadrant is 8 cm. Find the area of the shaded parts. (Take $\pi = 3.14$)

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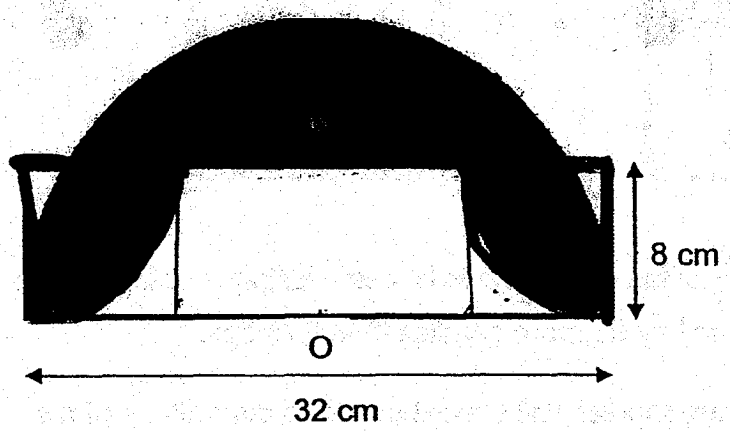
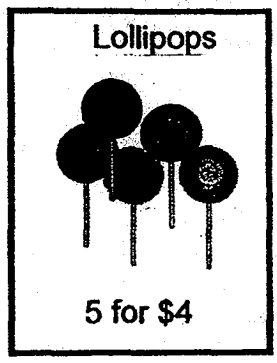
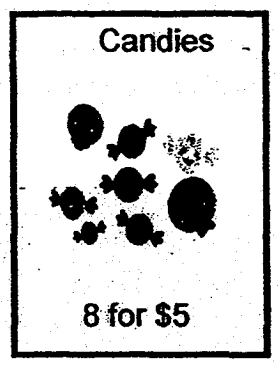


Ans : _____ (5m)

17. At a supermarket, the prices of lollipops and candies are shown below.

Do not write in this space





If Govin uses $\frac{2}{5}$ of his allowance to buy only lollipops or candies, he will be able to buy 98 more candies than lollipops.

(a) How many candies will Govin be able to buy with $\frac{2}{5}$ of his allowance?

(b) How much is Govin's allowance?

Ans : (a) _____ (3m)

(b) _____ (2m)

- End of Paper 2 -

EXAM PAPER 2018

LEVEL : PRIMARY 6

SCHOOL : RIVER VALLEY PRIMARY SCHOOL

SUBJECT : MATHEMATICS

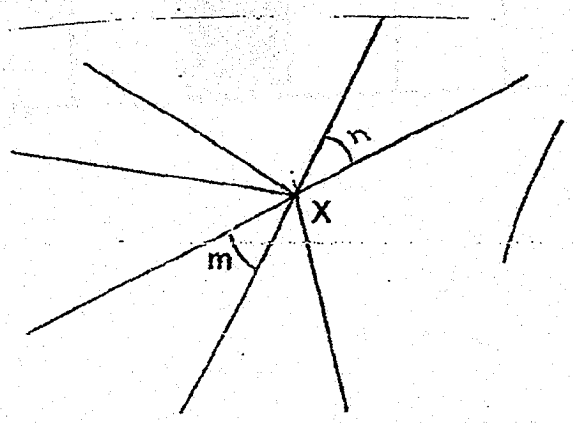
TERM : PRELIM

BOOKLET A

Q1	Q2	Q3	Q4	Q5	Q6	Q7
4	3	3	2	3	2	4
Q8	Q9	Q10	Q11	Q12	Q13	Q14
2	4	2	2	2	2	1
Q15						
3						

Q16. $\frac{1}{49}$

Q17.



Q18. 10h 15min

Q19. D, E

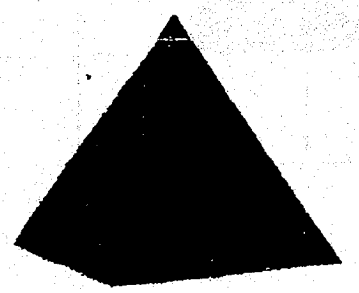
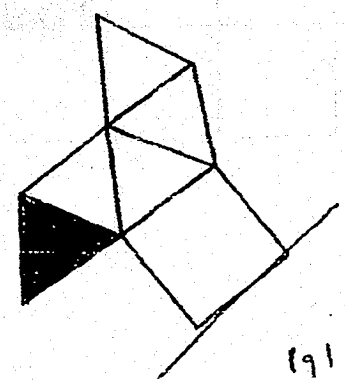
Q20. $48l$

Q21. $6\frac{1}{2}$

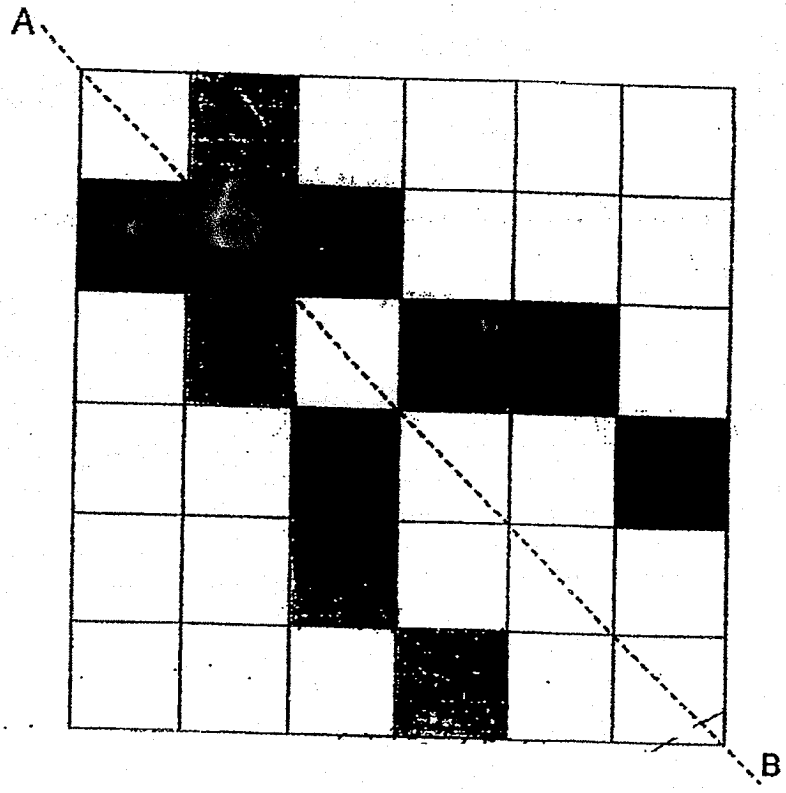
Q22. 20°

Q23. $490ml$

Q24. (a)

Solid	Net
 Pyramid	

(b)



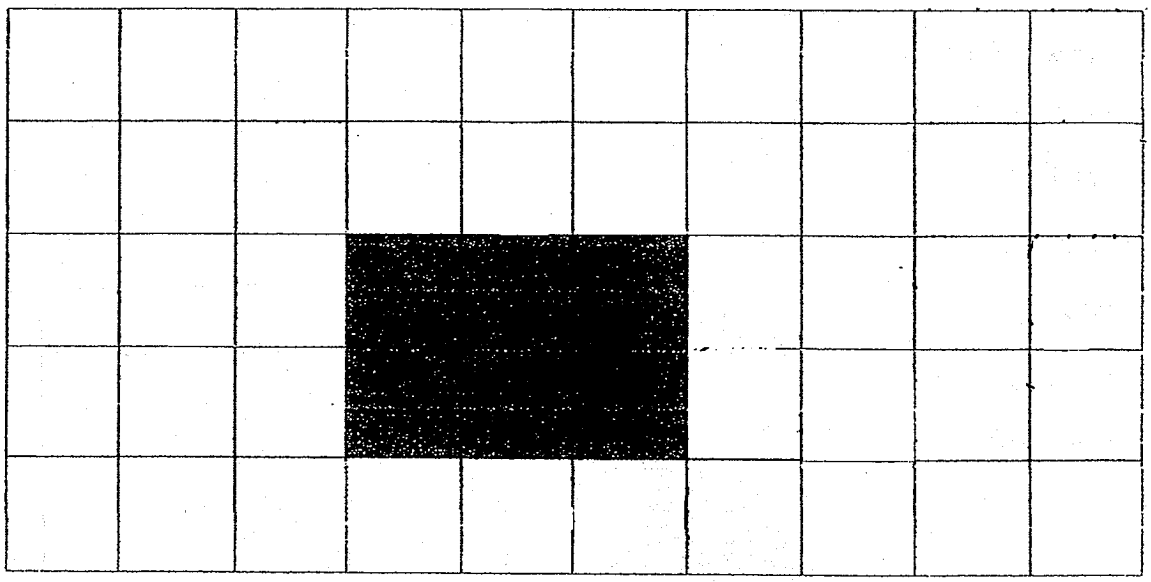
Q25. 64°

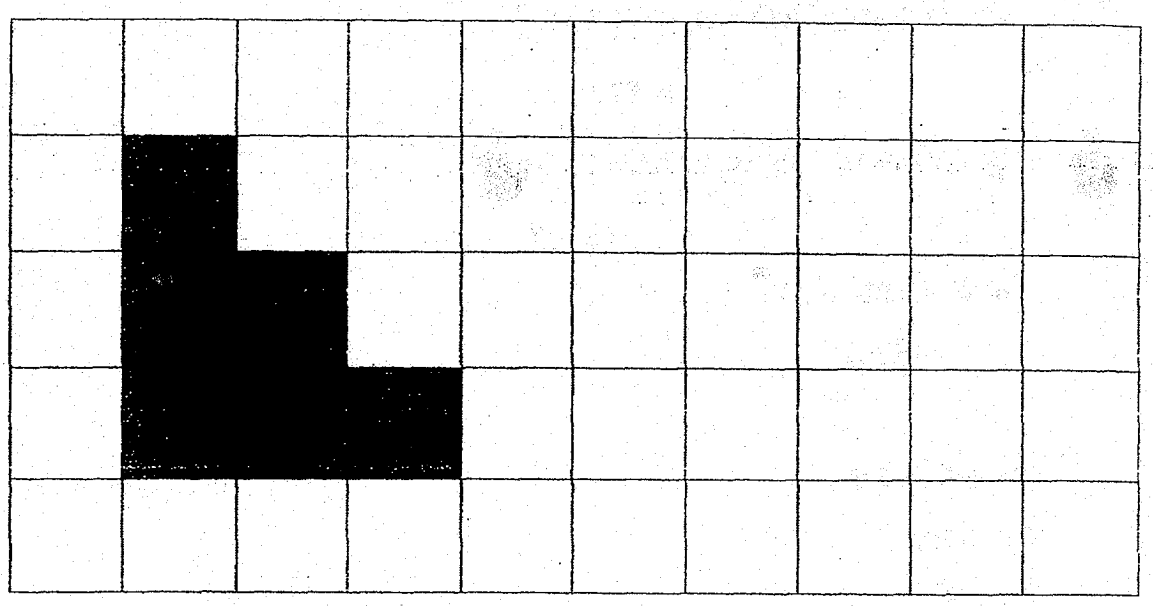
Q26. 175

Q27. 136°

Q28. 436cm^2

Q29.





Q30.

Statement	True	False	Not possible to tell
Each boy saves more than each girl			√
The average savings of the girls is more than $300		√	

Q1. Amt. of money Shah has $= \$120 \times \frac{5}{3}$

$= \$200$

Amt. of money Harrison has $= \$120 \times \frac{8}{5}$

$= \$192$

Total $= 200 + 192$

$= \$392$

Q2. $3p + 8 = 38$

$3p = 30$

$p = 10$

Kerry $= (10 \times 2) - 4$

$= 16$

Lisa $= (16 + 38) \div 2$

$= 27$ tickets

Q3. Total $= 6 \times 60$

$= 360$

$360 - 58 - 46 - 77 - 62 = 117$

$117 - 60 = 57$

Ans: 60 and 57

Q4. Angle CAD $= 90° \div 2$

$= 45°$

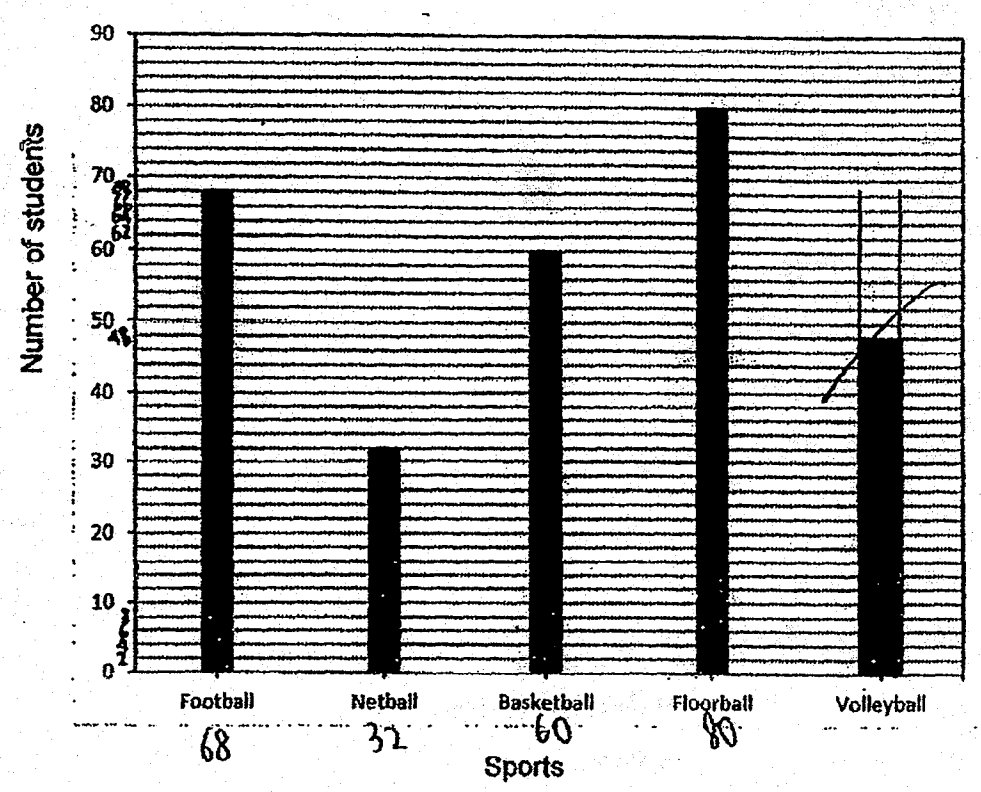
Angle ADF $= 90° - 60°$

$= 30°$

Angle AFD $= 180° - 45° - 30°$

$= 105°$

Q5.


Number of students
90
80
70
60
50
40
30
20
10
0
Football
Netball
Basketball
Floorball
Volleyball
68
32
60
80
Sports

Solutions to Word Problems

River Valley Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Let mass of Rahim's books = u

Mass of Jane's books = 4u

4u – u = 59.4 – 20.1 (Jane's suitcase minus Rahim's)

3u = 39.3

u = 39.3 ÷ 3 = 13.1 kg

Mass of empty suitcase = 20.1 – 13.1 = 7 kg

Ans: 7 kg

---

7. Ratio of spending of Peggy to spending of Alice → 2u : 3u

Peggy's amount left minus amount spent = +9

Ratio of money left of Peggy to those of Alice → 2 : 1 → (2u+9) : $\frac{1}{2}$ (2u+9)

→ 2u + 9 : 1u + 4.5

Total amount = 2u + 3u + 2u + 9 + 1u + 4.5 = 8u + 13.50 = 105.50

8u = 105.50 – 13.50 = 92

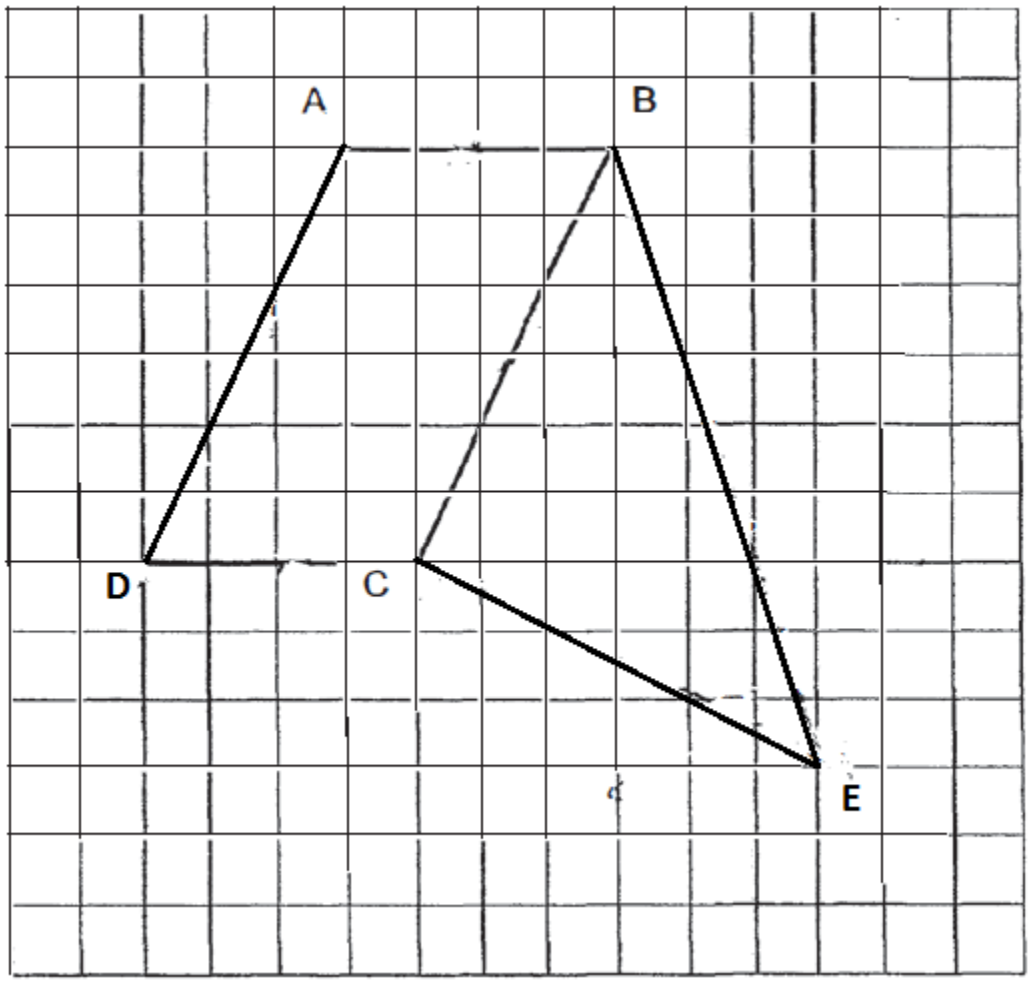
u = 92 ÷ 8 = 11.5

Amount Peggy had left = 2u + 9 = 2 x 11.5 + 9 = $32

Ans: $32

.

8.



Ans: (a) as shown

(b) as shown

---

9. Surface area of original solid = 4 x 6 x 4 + 4 x 4 x 2 = 128 cm^2

Total surface area that is red = 128 + 2x2 + 2x2 = 136 cm^2

Ans: 136 cm^2

---

10. a)

Mass of object A = 180 – 60 = 120 g

b)

Total mass of A,B,C = 660 – 60 = 600g

Average mass of A,B,C = 600 ÷ 3 = 200 g

Ans: (a) 120 g
(b) 200 g

---

11. $\frac{5}{7}$ of ribbon A = $\frac{5}{7}$ x 294 = 210 cm

$\frac{7}{9}$ of ribbon B = 210 cm

$\frac{9}{9}$ of ribbon B = 210 ÷ 7 x 9 = 270 cm

Length of 3 frames = (294 + 270) x 3 = 1692 cm = 16.92 m

Number of rolls of ribbon = 16.92 ÷ 9 = 1.88 ≈ 2

Ans: 2 rolls

---

12. Let total number of T-shirts = 100u

Number of large-sized T-shirts = 40u

Number of medium-sized T-shirts = 0.6 x 60u = 36u

Number of small-size T-shirts = 100u – 40u – 36u = 24u

Difference in price between medium-size and small-sized T-shirts =

36u x 10 – 24u x 8 = 168u = $672

u = 672 ÷ 168 = 4

Price of large-sized T-shirts = 40 x 4 x 18 = $2880

Ans: $2880

---

13. a)

Area of triangle GDC = $\frac{1}{2}$ x 14.4 x 20 = 144 cm^2

Area of shaded part = $\frac{5}{6}$ x 144 = 120 cm^2

b)

Area of rectangle = $\frac{5}{3}$ x 120 = 200 cm^2

Length of AD = 200 ÷ 20 = 10 cm

Ans: (a) 120 cm^2

(b) 10 cm

---

14. a)

Additional distance of Alan = 60 m/min x 40 min = 2400 m

$\frac{2}{5}$ of distance → 2400m

$\frac{5}{5}$ of distance → 2400 ÷ 2 x 5 = 6000 m

Total distance = 6000 m

b)

Benny's speed = 6000 ÷ 40 = 150 m/min

Alan's speed = 150 – 60 = 90 m/mn

Ans: (a) 6000 m

(b) 90 m/mn

15. Let number of bookmarks initially = b

Let number of stickers initially = s

At first, both Jason and Kevin's ratio of bookmarks to stickers → $\frac{1}{2}$ b : $\frac{1}{2}$ s

At last, ratio of Jason's bookmarks to stickers → $\frac{1}{2}$ b - 7 : $\frac{1}{2}$ s

At last, ratio of Kelvin's bookmarks to stickers → $\frac{1}{2}$ b : $\frac{1}{2}$ s - 12

$\frac{1}{2}$ b – 7 = $\frac{1}{9}$ x $\frac{1}{2}$ s (1)

9b – 126 = s (2) = (1) x 18

$\frac{1}{2}$ b = $\frac{1}{6}$ x ($\frac{1}{2}$ s – 12) (3)

9b = $\frac{3}{2}$ s – 36 (4) = (3) x 18

$\frac{1}{2}$ s = 126 + 36 = 162 (5) = (4) – (2)

s = 162 x 2 = 324

9b - 126 = 324 substitute s to (2)

b = (324+ 126) ÷ 9 = 50

a)

Kelvin's stickers at the end = $\frac{1}{2}$ s – 12 = $\frac{1}{2}$ x 324 – 12 = 150

b)

Bookmarks Jason bought = b = 50

Ans: (a) 150
(b) 50

16. Area of semi-circle = $\frac{1}{2}$ x π x 16 x 16 = 128π cm^2

Area of 2 quadrant = $\frac{1}{2}$ x π x 8 x 8 = 32π cm^2

Area of 2 crescents = 8 x 8 x 2 - 32π = 128 - 32π cm^2

Area of rectangle = 16 x 8 = 128 cm^2

Area of shaded parts = 128π – 128 - (128 - 32π) = 160π - 256 = 246.4 cm^2

Ans: 246.4 cm^2

---

17. a)

Number of lollipops $20 can buy = 20 ÷ 4 x 5 = 25

Number of candies $20 can buy = 20 ÷ 5 x 8 = 32

Difference in number in each set = 32 – 25 = 7

Number of sets required = 98 ÷ 7 = 14

Number of candies = 14 x 32 = 448 candies

b)

Cost of 14 sets = 14 x 20 = $280

Govin's allowance = $\frac{5}{2}$ x 280 = $700

Ans: (a) 448 candies

(b) $700

ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1
PRIMARY 6

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 20 August 2018 Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

Booklet A

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Shade your answers in the Optical Answer Sheet (OAS) provided.
4. You are **not** allowed to use a calculator.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of 8 pages (including this cover page).

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

All diagrams in this paper are not drawn to scale unless stated otherwise.

(20 marks)

---

1. Round off 41 856 to the nearest thousands.

(1) 41 000
(2) 41 860
(3) 41 900
(4) 42 000

2. Arrange these distances from the longest to the shortest:

5.01 m,	0.55 km,	505 cm

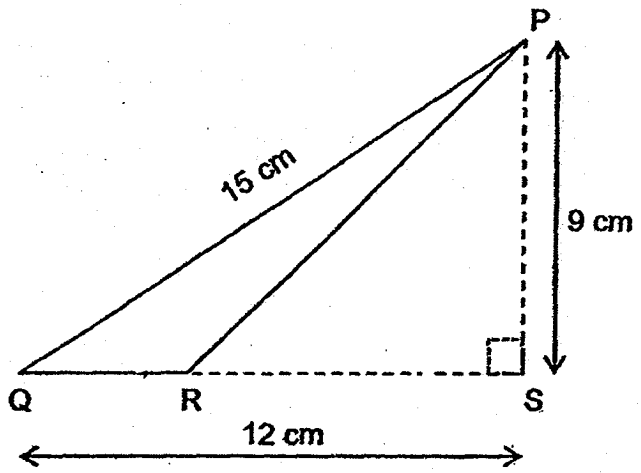
	Longest				Shortest
(1)	0.55 km	,	505 cm	,	5.01 m
(2)	0.55 km	,	5.01 m	,	505 cm
(3)	505 cm	,	5.01 m	,	0.55 km
(4)	5.01 m	,	505 cm	,	0.55 km

3. Express $14m - 12 - 6m + 7m$ in its simplest form.

(1) $3m$
(2) $m + 2$
(3) $m - 12$
(4) $15m - 12$

(Go on to the next page)

4. In the figure below, PS = RS. Find the area of triangle PQR.



(1) 13.5 cm^2

(2) 22.5 cm^2

(3) 54 cm^2

(4) 67.5 cm^2

5. Ali travelled at an average speed of 60 km/h from home to his work place. He took 20 min for the journey. What was the distance travelled?

(1) 12 km

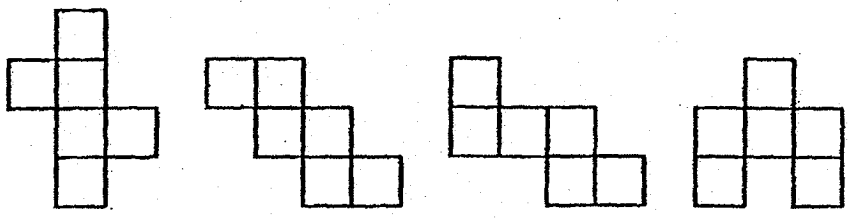
(2) 20 km

(3) 3 km

(4) 1200 km

(Go on to the next page)

6. Which of the following nets can be folded to form a cube?



(A) (B) (C) (D)

(1) A and B only

(2) A, B and C only

(3) A, C and D only

(4) All of the above

7. The opening hours of Chan's Clinic are shown below.
How long is the clinic open each day?

Chan's Clinic
Opening Hours
9 a.m. to 1 p.m.
6.45 p.m. to 10 p.m.

(1) 6 h 15 min

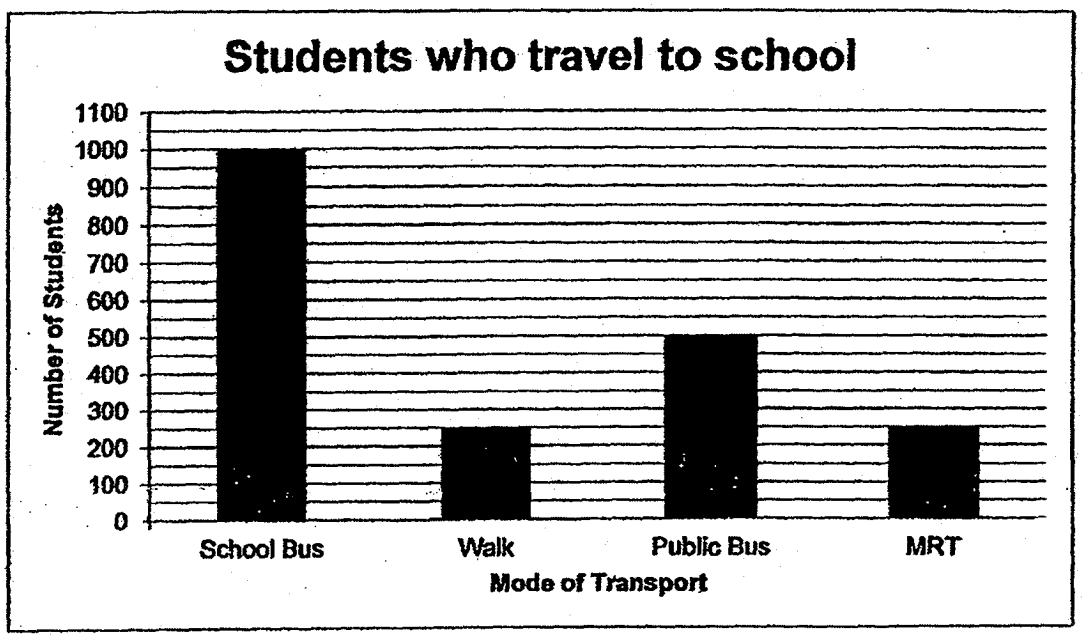
(2) 6 h 45 min

(3) 7 h 15 min

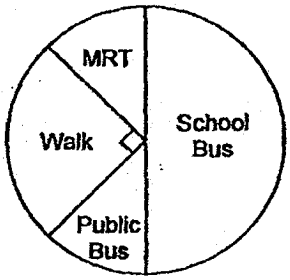
(4) 7 h 45 min

(Go on to the next page)

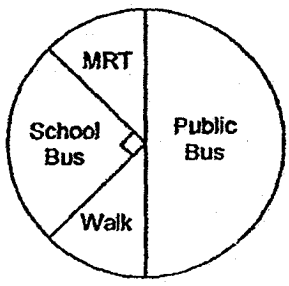
8. The table shows the number of students who travels to school using different modes of transport during school days. Which pie chart represents the data correctly?



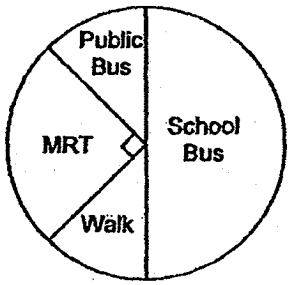
(1)



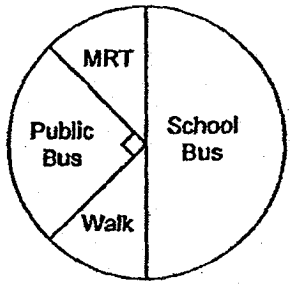
(2)



(3)



(4)



(Go on to the next page)

9. Read the following statements and decide whether the statement(s) is/are Not always True, True or False.

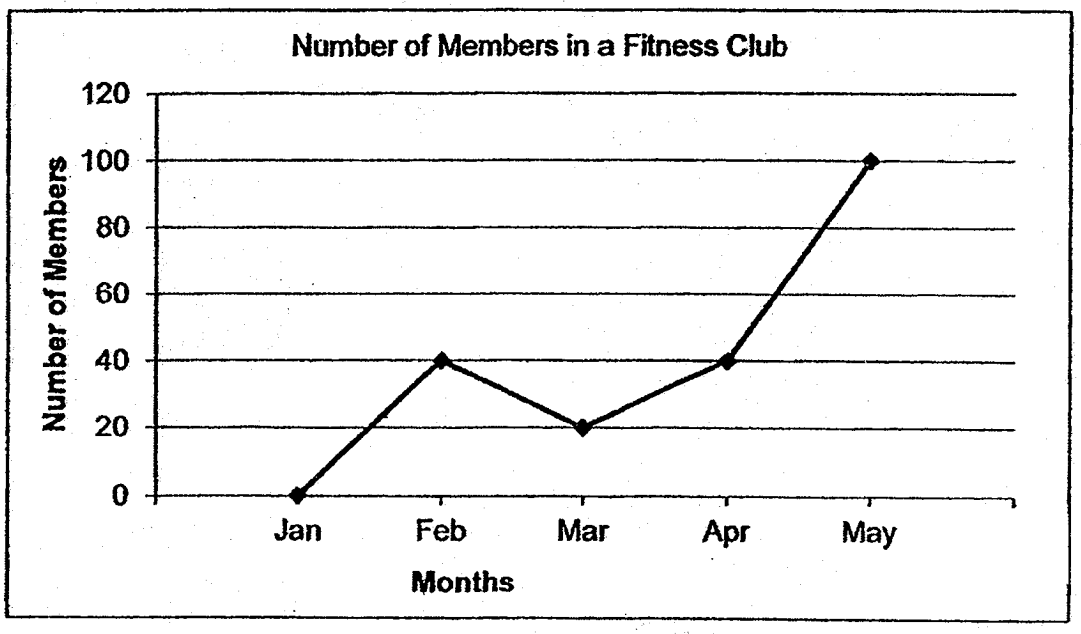
A. All four-sided shapes can always be divided into 2 triangles.

B. There are no parallel lines in a trapezium.

C. Every square is a parallelogram.

	A	B	C
(1)	Not always true	True	False
(2)	True	False	Not always true
(3)	True	False	True
(4)	Not always true	False	Not always true

10. The graph below shows the number of members in a fitness club over a period of time.



Which month did the fitness club have the greatest increase in the number of members?

(1) Jan to Feb

(2) Feb to Mar

(3) Mar to Apr

(4) Apr to May

(Go on to the next page)

11. Mrs Tan had 15 kg of flour. She packed the flour equally into bags, each weighing $\frac{4}{5}$ kg. How much flour was left unpacked?

(1) $\frac{1}{5}$ kg

(2) $\frac{1}{4}$ kg

(3) $\frac{3}{5}$ kg

(4) $\frac{3}{4}$ kg

12. Thomas had a total of 600 red, blue and black pens. $\frac{2}{5}$ of the pens were red. $\frac{1}{5}$ of the remaining pens were blue. How many black pens were there?

(1) 72

(2) 192

(3) 240

(4) 288

13. In the equation below, find the number in the box.

$$0.5 \times 240 = \boxed{\ ?\ } \times 1200$$

(1) 0.01

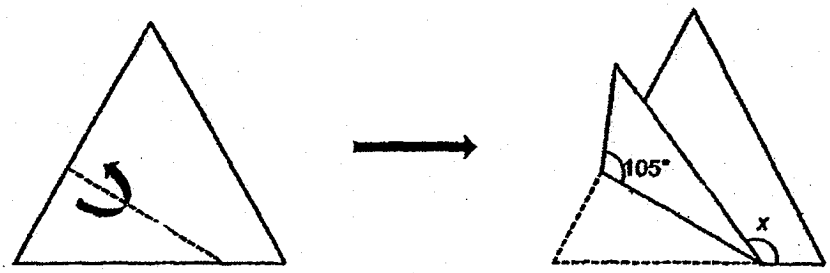
(2) 0.1

(3) 2.5

(4) 5

(Go on to the next page)

14. A piece of paper in the shape of an equilateral triangle is folded along the dotted line as shown below. Find $\angle x$.



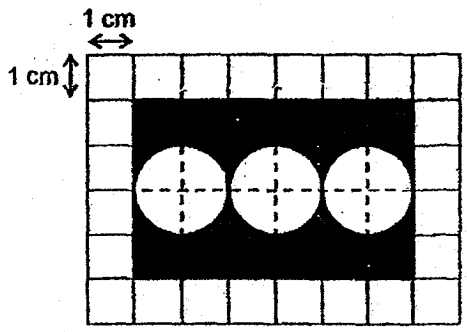
(1) 15°

(2) 30°

(3) 105°

(4) 150°

15. The figure below is made up of a rectangle and 3 identical circles. Find the area of the shaded part. Leave your answer in terms of π.



(1) $(24 - 3\pi)$ cm²

(2) $(24 - \pi)$ cm²

(3) $(6 - 3\pi)$ cm²

(4) $(6 - \pi)$ cm²

Go on to Booklet B

ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1
PRIMARY 6

Name: _____ Register No. _____

Class: Pr 6 - _____ Group: _____

Date: 20 August 2018 Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

Booklet B

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. You are **not** allowed to use a calculator.
4. Write your answers in the booklet.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	25	

* This booklet consists of 10 pages (including this cover page).

Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

All diagrams in this paper are not drawn to scale unless stated otherwise.

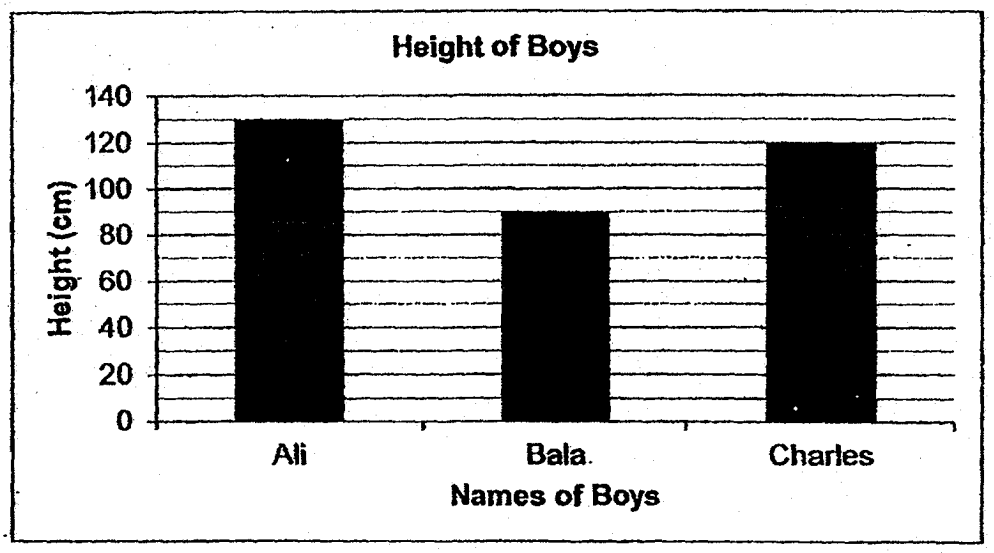
(5 marks)

Do not write in this space

16. Find the sum of 3 tens, 33 hundredths and 300 thousandths.

Answer : _____

17. The graph below shows the height of 3 boys Ali, Bala and Charles. Find the total height of Ali and Charles.



Answer : _____ cm

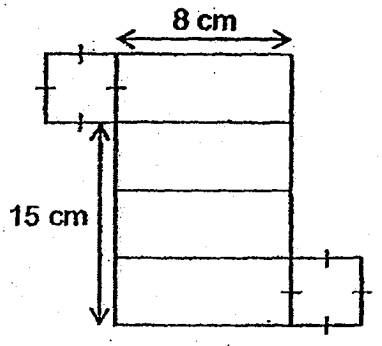
(Go on to the next page)

18. Find 0.5% of 500.

Do not write in this space

Answer : _____

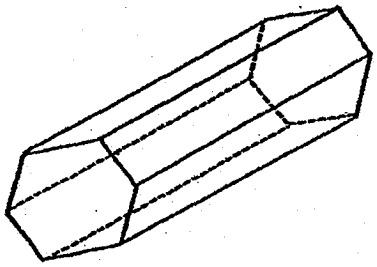
19. The net shown below can be folded to form a cuboid.
What is the volume of the cuboid?



Answer : _____ cm^3

(Go on to the next page)

20. How many faces does the following solid have?



Answer : _____

Do not write in this space

(Go on to the next page)

Questions **21** to **30** carry 2 marks each. Show your workings clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

Do not write in this space

All diagrams in this paper are not drawn to scale unless stated otherwise.

(20 marks)

21. Find the value of $(87 - 23) \times 2 \div 4 - (36 - 24)$.

Answer : _____

22. The table below shows the parking charges of a carpark.

First hour	\$1.20
Every additional 10 minutes or part thereof	\$0.80

How much does it cost to park from 3 p.m. to 5.06 p.m.?

Answer : _____

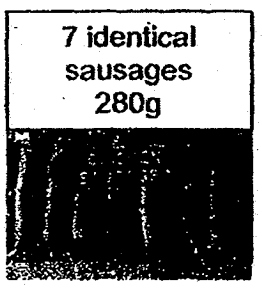
(Go on to the next page)

23. In a class, every group of 4 boys was given 6 stickers and every group of 3 girls was given 8 stickers. The class teacher gave the stickers to an equal number of boys and girls. What was the minimum number of stickers needed?

Do not write in this space.

Answer : _____

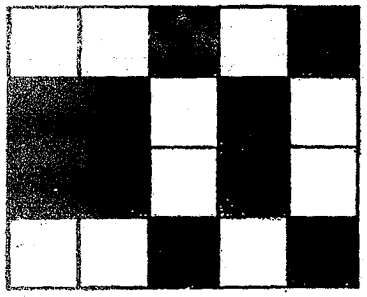
24. A packet of sausages is shown below. Mrs Lee bought 1kg 400g of sausages. How many sausages did she buy?



Answer : _____

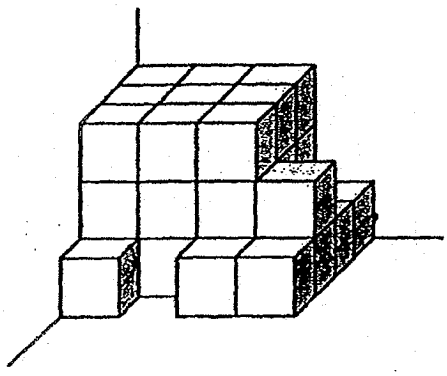
(Go on to the next page)

25. The figure below is made up of squares.
Shade two more squares so that the figure has a line of symmetry.



Do not write in this space

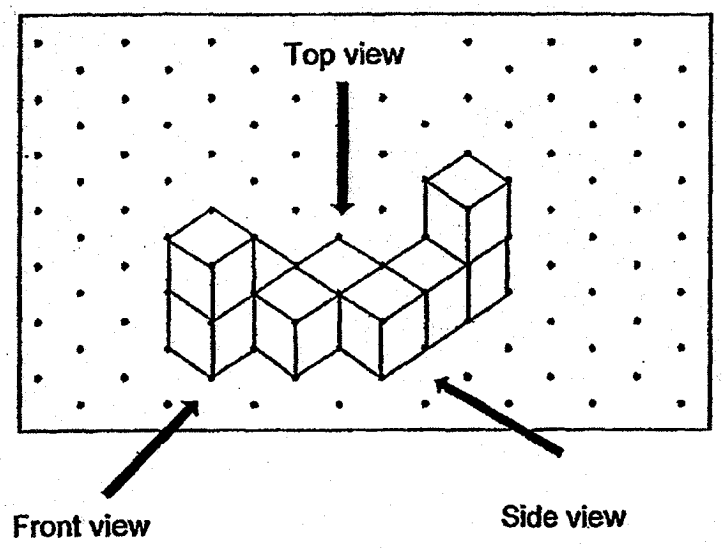
26. The figure below shows 1-cm unit cubes stacked against a corner. What is the least number of unit cubes that must be removed to form a cube?



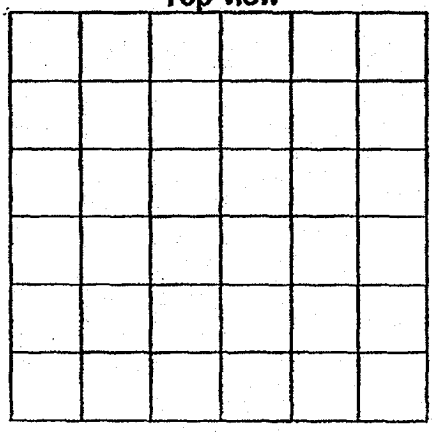
Answer : _____

(Go on to the next page)

27. Draw the top view of the solid in the grid below.



Top view



Do not write in this space

28. The total cost of 3 apples and 2 pears is $\$(5y + 3)$. The cost of 2 apples is \$2 more than the cost of 2 pears. What is the total cost of an apple and a pear? Express the answer in terms of y.

Answer : \$ _____

(Go on to the next page)

29. Figure A is made up of 8 identical squares. There are 3 squares removed from Figure A to form Figure B. The perimeter of Figure B is 120 cm. What is the perimeter of Figure A?

Do not write in this space

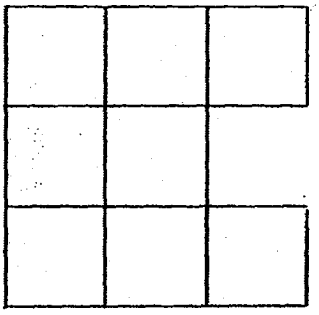


Figure A

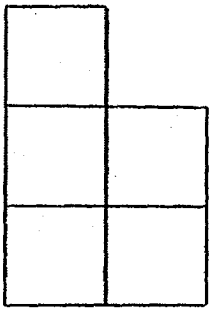


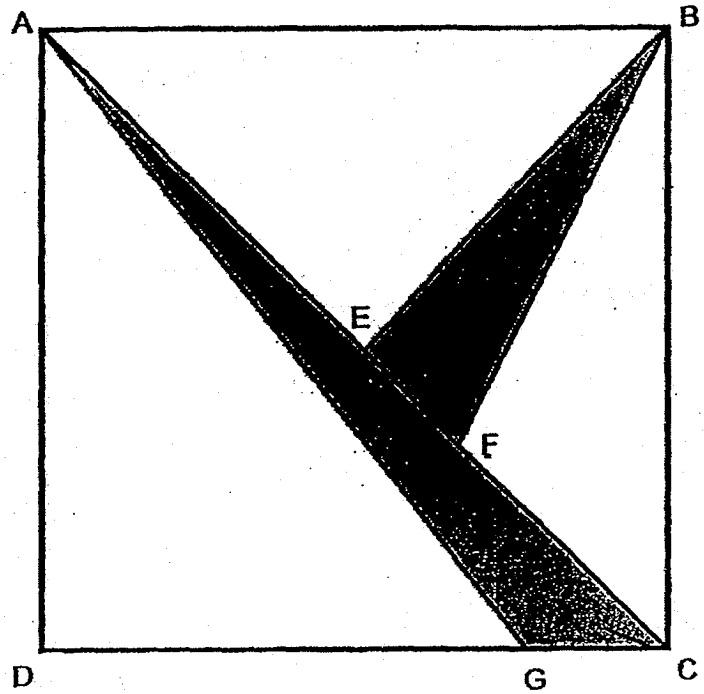
Figure B

Answer : _____ cm

(Go on to the next page)

30. The square ABCD was cut into 5 parts. Given that the ratio of BE : EC is 1 : 1, the ratio of EF : FC is 1 : 2 and the ratio of DG : GC is 3 : 1. What fraction of the square is shaded?

Do not write in this space



Answer : _____

End of paper
Have you checked your work?

ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 2
PRIMARY 6

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 20 August 2018 Parent's Signature: _____

Time: 1 h 30 min

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. **Show your workings clearly** as marks are awarded for correct working.
4. Write your answers in this booklet.
5. You are allowed to use a calculator.
6. Answer all questions.

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 17	45	

Section	Maximum Mark	Marks Obtained
Paper 1	45	
Paper 2	55	
Total	100	

* This booklet consists of 16 pages (including this cover page).

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

Do not write in this space

1. Tricia had 70 chocolates. She gave $3w$ chocolates to her brother. Then she gave the rest equally to her 5 cousins. How many chocolates did each cousin receive? Leave your answer in terms of w.

Answer : _____

2. Mrs Pradeep bought some flour. She used $2\frac{1}{5}$ kg of the flour and gave $\frac{3}{7}$ of the remaining flour to her sister. In the end, she was left with $1\frac{3}{5}$ kg of the flour. How much flour did she buy at first?

Answer : _____ kg

3. Ariel was at a fun-fair. The table below shows the number of points which can be exchanged for tickets. Ariel wanted to win a soft-toy which required 80 tickets. How many points must Ariel get in order to exchange for her soft-toy?

Points	Tickets
885	300

Answer : _____

4. Miss Lee gave away an almond on Day 1. She increased the number of almonds given away every day by 100%. Find the ratio of the number of almonds given on Day 7 to the number of almonds given on Day 3. Give your answer in the simplest form.

Answer : _____

Do not write in this space

5. The average of the odd numbers below is 7. What odd number must be added so that the average of all the numbers becomes 10?

1 , 3 , 5 , 7 , 9 , 11 , 13

Answer : _____

Do not write in this space

For Questions **6** to **17**, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. For questions which require units, give your answers in the units stated.

(45 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

Do not write in this space

6. A crate was filled with an equal number of apples and oranges. The apples were sold for \$315 and the oranges were sold for \$225. Each apple cost \$0.20 more than each orange. How many oranges were sold?

Answer : _____ [3]

7. The ratio of the number of Dawn's stickers to the number of Evelyn's stickers was 1 : 4. After Dawn and Evelyn gave away $\frac{1}{3}$ and $\frac{3}{4}$ of their stickers respectively, they were left with 90 stickers altogether. How many stickers did they have at first?

Do not write in this space

Answer : _____ [3]

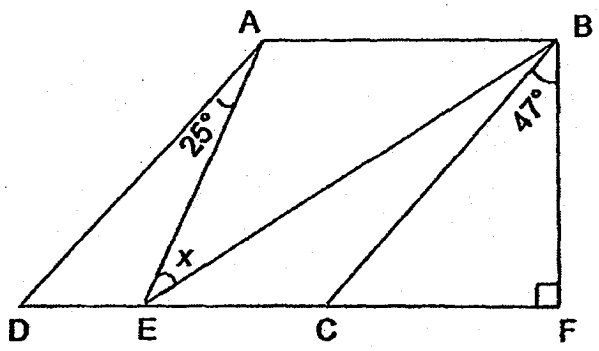
8. The average mass of 8 baskets of fruits at a zoo feeding station was 23 kg. Some baskets of fruits with an average mass of 20.4 kg were added. The average mass of all the baskets of fruits became 22 kg. How many baskets of fruits were added?

Do not write in this space

Answer : _____ [3]

9. In the figure below, ABCD is a parallelogram and AE = AB. ∠BFC is a right angle. ∠FBC = 47°and ∠EAD = 25°. Find ∠x.

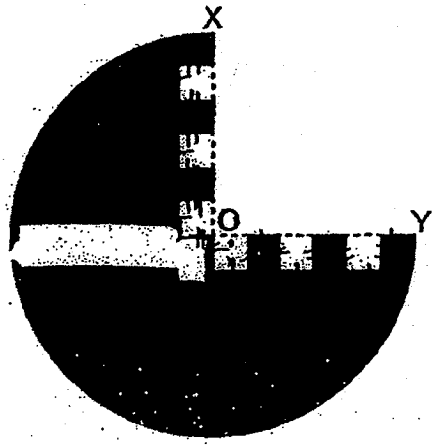
Do not write in this space



Answer : _____ [3]

10. The figure below is made up of three quadrants and six identical squares. Each side of the squares is 1 cm. The length of OX is 6 cm. Find the perimeter of the shaded part. Take the calculator value of π and give your answer correct to 2 decimal places.

Do not write in this space



Ans: _____ [3]

11. Amos and his sister shared $1674. Amos spent 25% of his money and his sister spent 70% of her money. After that, Amos had twice as much money left as his sister.

(a) How much did Amos have in the end?
(b) What was the percentage decrease in the total sum of money?

Do not write in this space

Ans: a) _____ [3]

b) _____ [2]

12. A bakery sold durian, chocolate and strawberry puffs in the ratio of 3 : 4 : 2. Each durian, chocolate and strawberry puff was sold for \$5, \$3 and \$4. A total of \$560 was collected on a Sunday afternoon. Find the amount of money collected from the sale of durian puffs.

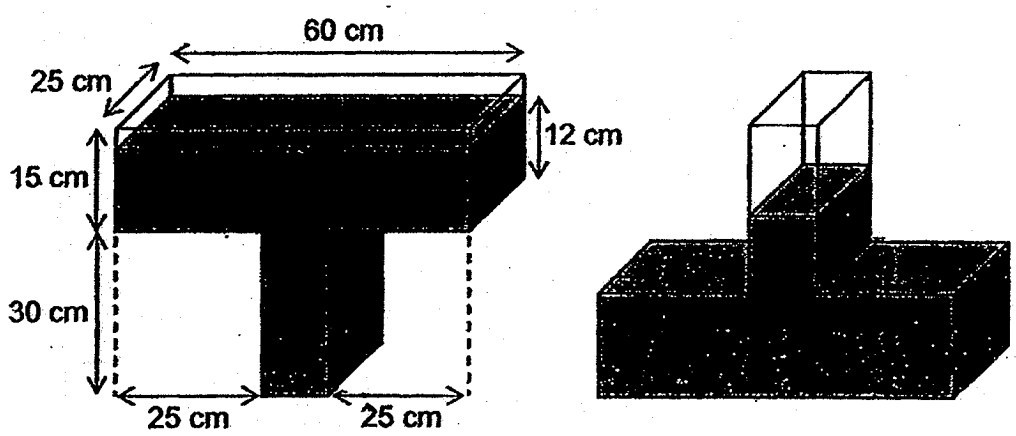
Do not write in this space

Ans : _____ [4]

13. Two identical T-shaped containers, P and Q, are shown below. Both of them have the same amount of water in it.

(a) Find the volume of the water in container P.
(b) Find the height of the water in container Q.

Do not write in this space



Container P

Container Q

Answer : a) _____ [2]

b) _____ [3]

14. In a donation drive, a class of 40 boys and girls helped to distribute some food items. Each boy distributed 4 bags while each girl distributed 3 bags. The boys distributed 62 more bags than the girls. How many boys were there?

Do not write in this spac

Answer : _____ [4]

15. Sam and Ben started swimming at the same time from the opposite ends of a 30-m swimming pool. Each boy would turn in the opposite direction and continue swimming upon reaching the end of the pool. The average speed of Sam was 1 m/s and the average speed of Ben was 0.6 m/s. How many times did they meet each other if they swam for 10 min? (Assuming that the turning time is neglected.)

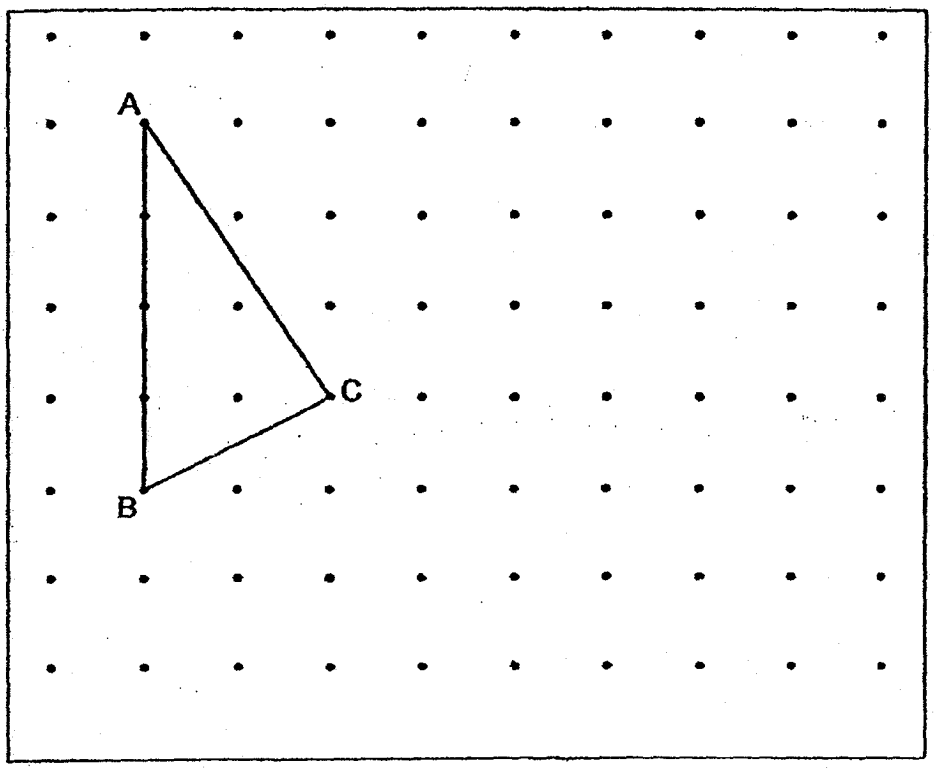
Do not write in this space

Answer : _____ [4]

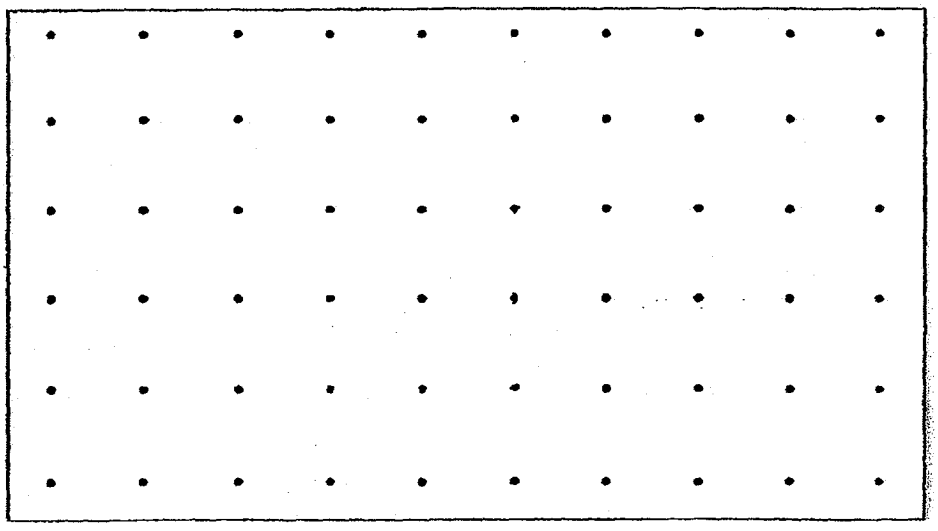
16. The figure below shows a triangle ABC drawn on a grid.

Do not writ in this spac

a) BCD is another triangle with the same area as triangle ABC. Draw BCD on the grid below such that BCD does not overlap with ABC. [2m]



(b) Draw a 4-sided figure with the same area as triangle ABC in part (a). [2m]



17. 25% of Elle's money was spent on 5 files and 10 erasers. The cost of each file was twice the cost of each eraser. Elle bought some more erasers with 40% of her remaining money. How many erasers did she buy altogether?

Do not write in this space

Ans : _____ [4]

End of paper
Have you checked your work?

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : ROSYTH SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

PAPER 1 BOOKLET A

Q1	4	Q2	1	Q3	4	Q4	1	Q5	2
Q6	2	Q7	3	Q8	4	Q9	3	Q10	4
Q11	3	Q12	4	Q13	2	Q14	4	Q15	1

PAPER 1 BOOKLET B

Q16) 30.63

Q17) 250cm

Q18) 2.5

Q19) $200cm^3$

Q20) 8 faces

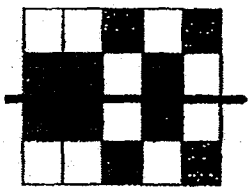
Q21) 20

Q22) $6.80

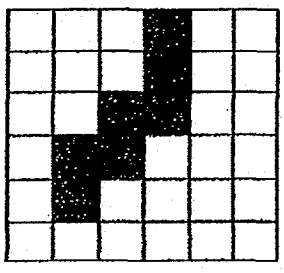
Q23) 50 stickers

Q24) 35 sausages

Q25)



Q26) 7 cubes

Q27) 

Q28) (2y + 1)

Q29) 168cm

Q30) $\frac{5}{24}$

PAPER 2

Q1) $(\frac{70-3w}{5})$

Q2) 5kg

Q3) 236 points

Q4) 16 : 1

Q5) 31

Solutions to Word Problems

Rosyth Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Difference in sale price between apples and oranges = \$315 - \$225 = 90
Difference in cost between one apple and orange = \$0.20

Number of oranges = 90 ÷ 0.20 = 450

Ans: 450

---

7. Ratio between number of Dawn's stickers vs number of Evelyn's stickes →
1 : 4 → 3 : 12 → 3u : 12u

After Dawn and Evelyn gave away $\frac{1}{3}$ and $\frac{3}{4}$ of their stickers respectively,

Number of stickers Dawn has left = 3u – 1u = 2u

Number of stickers Evelyn has left = 12u – 9u = 3u

2u + 3u = 90
5u = 90
u = 90 ÷ 5 = 18

Number of stickers they had at first = 3u + 12u = 15u = 15 x 18 = 270

Ans: 270 stickers

---

8. Total mass of 8 baskets = 23 x 8 = 184 kg

Let n = number of fruit baskets added

Mass of additional fruit baskets = 20.4 x n

Total mass after adding additional baskets =
(8 + n) x 22 = 184 + 20.4n

176 + 22n = 184 + 20.4n
22n – 20.4n = 184 – 176
1.6n = 8
n = 8 ÷ 1.6 = 5

Number of additional fruit baskets = 5

Ans: 5 baskets

---

9. As AD is parallel to BC

∠DAB = 47 + 90 = 137°

∠EAB = 137 – 25 = 112°

△ABE is an isosceles triangle where AEB = ABE

X = (180 – 112) ÷ 2 = 34°

Ans: 34°

---

10. radius = 6 cm

Perimeter of 3 quadrants = $\frac{3}{4}$ x π x 6 x 2 = 9π cm

Perimeter of jagged edge = 4 x 6 = 24 cm

Total perimeter = 9 x 3.142 + 24 = 52.274 ≈ 52.27 cm

Ans: 52.27 cm

---

11. a)

Let amount his sister had left = u

Amount Amos had left = 2u

75% → 2u

100% → 100 ÷ 75 x 2u = $\frac{8}{3}$ u = amount Amos had at first

30% → u

100% → 100 ÷ 30 x u = $\frac{10}{3}$ u = amount his sister had at first

$\frac{8}{3}$ u + $\frac{10}{3}$ u = 1674

6u = 1674

u = 1674 ÷ 6 = 279

Amount Amos has in the end = 2u = 2 x 279 = $558

b)

Percentage decrease = (6u – 3u) ÷ 6u = 50%

Ans: (a) $558

(b) 50%

:

---

12. Ratio of number of durian, chocolate and strawberry puffs → 3u : 4u : 2u
Ratio of total cost of durian, chocolate and strawberry puff →
3u x 5 : 4u x 3 : 2u x 4 → 15u : 12u : 8u

15u + 12u + 8u = 560
35u = 560
u = 560 ÷ 35 = 16

Sale of durian puffs = 15u = 15 x 16 = $240

Ans: $240

---

13. a)
Volume of container P = 10 x 30 x 25 + 60 x 12 x 25 = 25,500 cm^3

b)
Volume of bottom part of container Q = 60 x 15 x 25 = 22,500 cm^3

Volume of top part of container Q = 25,500 – 22,500 = 3000 cm^3

Height of water in top part of container Q = 3000 ÷ (10 x 25) = 12 cm

Total height of water in container Q = 12 + 15 = 27 cm

Ans: (a) 25,500 cm^3

(b) 27 cm

14. Let number of boys = u
Number of girls = 40 – u

Number of bags distributed by boys = 4u
Number of bags distributed by girls = 3 x (40 – u) = 120 – 3u

Difference in bags distributed = 4u – (120 – 3u) = 7u – 120 = 62
7u = 62 + 120 = 182
u = 26
Number of boys =26

Ans: 26 boys

---

15. Number of seconds for Sam to swim one length of the pool = 30 ÷ 1 = 30s
Number of seconds for Ben to swim one length of the pool = 30 ÷ 0.6 = 50s

Number of laps Sam swim in 600 secs (10 mins) = 600 ÷ 30 = 20 laps
Number of laps Ben swim in 600 secs (10 mins) = 600 ÷ 50 = 12 laps

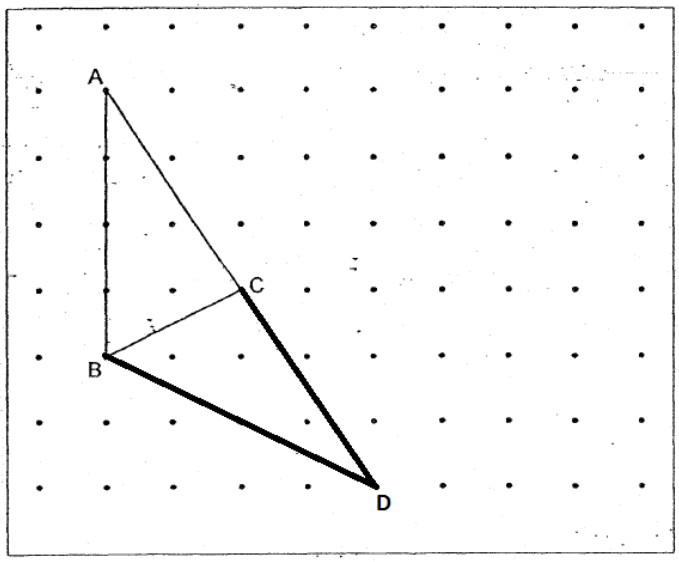
The faster swimmer met slower swimmer exactly once per lap,
While slower swimmer met faster swimmer once or twice per lap, that is not exact.

Therefore number of times they met = 20

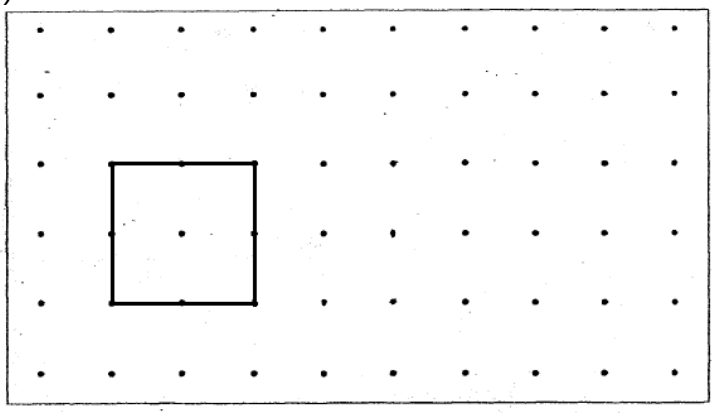
Ans: 20

---

16. a)



b)



17. Let Cost of 1 eraser = u
Cost of 1 file = 2u
Cost of 5 files and 10 erasers = 5 x 2u + 10 x u = 20u
25% of Elle's money = 20u

40% of 75% Elle's money = 30%
30% of Elle's money = 30 ÷ 25 x 20u = 24u

Number of erasers she bought with 24u = 24u ÷ u = 24

Total number of erasers bought = 10 + 24 = 34

Ans: 34 erasers

Index No | | | | | | — | |

SINGAPORE CHINESE GIRLS' SCHOOL

PRELIMINARY EXAMINATION 2018

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET A

Name : _____( )

Class : Primary 6 24 August 2018

		Marks attained	Max Mark
Paper 1	Booklet A		20
	Booklet B		25
Paper 2			55
Total Marks			100

Parent's Signature

15 Questions
20 Marks

Total Time for Booklets A and B: ~~50 min~~

INSTRUCTIONS TO CANDIDATES
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
You are **not allowed** to use a calculator

Booklet A

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. **(20 marks)**

---

1. What is the value of the digit 7 in 507 030?

   (1) 7
   (2) 70
   (3) 700
   (4) 7000

2. Find the value of 0.16 ÷ 40.

   (1) 0.004
   (2) 0.04
   (3) 0.4
   (4) 4

3. What is the approximate height of a flagpole?

   (1) 45 cm
   (2) 250 cm
   (3) 52.5 m
   (4) 0.15 km

4. Which of the following fraction is closest to $\frac{1}{3}$?

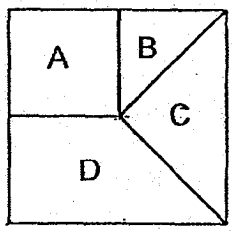
   (1) $\frac{1}{6}$
   (2) $\frac{4}{9}$
   (3) $\frac{1}{12}$
   (4) $\frac{4}{15}$

5. What is the value of $36-6\div3+2\times4$?

(1) 18
(2) 26
(3) 42
(4) 48

6. The square is cut from the center into 4 parts. Which of the following three parts will add up to form $\frac{5}{8}$ of the square?

(1) A, B and C
(2) A, B and D
(3) A, C and D
(4) B, C and D

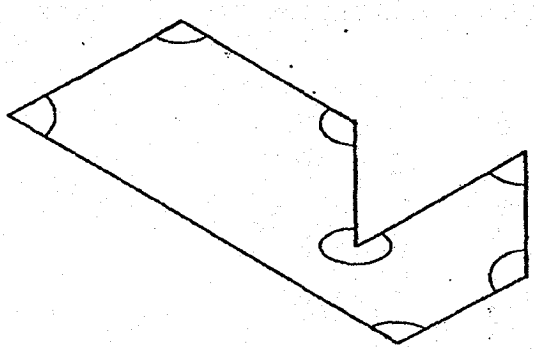


7. Find the sum of all the factors of 12.

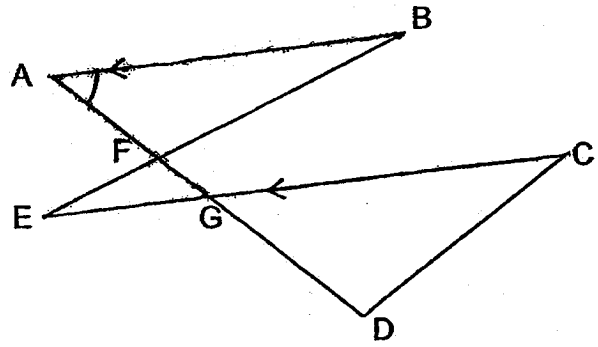
(1) 13
(2) 15
(3) 27
(4) 28

8. In the figure below, how many angles are greater than 90°?

(1) 5
(2) 2
(3) 3
(4) 7



9. Which angle is similar to $\angle BAF$?



(1) $\angle AGC$

(2) $\angle AGE$

(3) $\angle BEC$

(4) $\angle BFD$

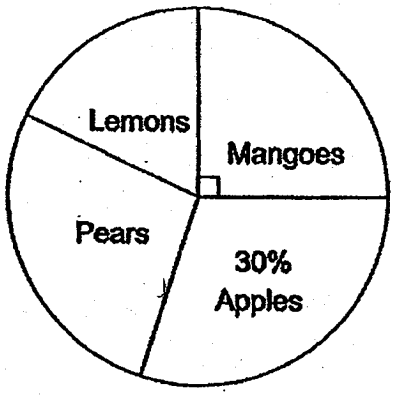
10. Mr Chong sold fruits as shown in the pie chart below. He sold $\frac{2}{3}$ as many lemons as pears. What is the ratio of the number of apples to the number of lemons sold?

(1) 2 : 3

(2) 3 : 1

(3) 3 : 2

(4) 5 : 3



11. Kavani packed 30 sweets equally into some goodie bags. She also packed 48 chocolates equally into these ~~good~~ bags. How many sweets and chocolates are there in each bag? goodie

(1) 6
(2) 12
(3) 13
(4) 4

12. 25% of the fruits at the fruit stall are oranges. 20% of the remainder are apples. The rest are pears. What percentage of the fruits are pears?

(1) 5%
(2) 15%
(3) 55%
(4) 60%

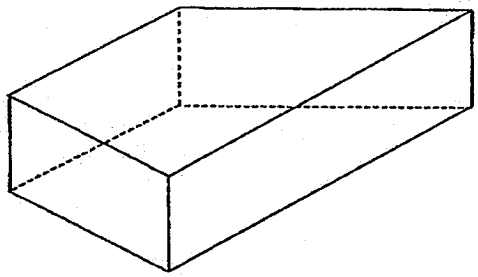
13. Dani can read 4 pages in 18 minutes. How long will she take to finish a book with 30 pages?

(1) 1h 15 min
(2) 1h 35 min
(3) 2 h 15 min
(4) 2h 35 min

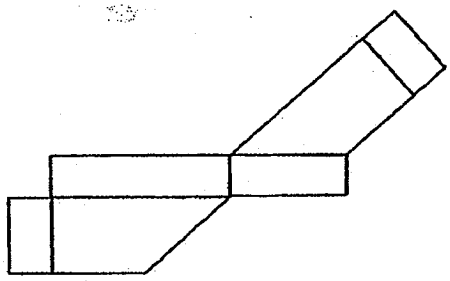
14. There was a $3 discount for every $30 spent at a departmental store. Charlotte paid $82 for the dress. What was the original price of that dress?

(1) $84
(2) $88
(3) $90
(4) $91

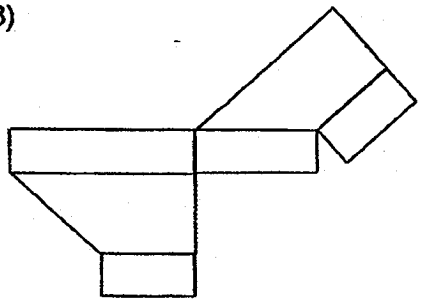
15. Which of the following is the net of the cuboid below?



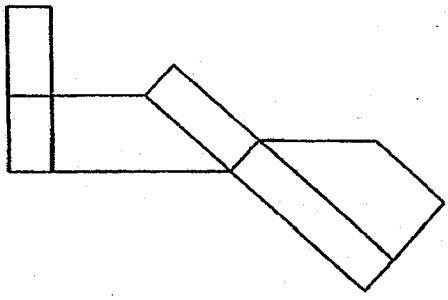
(1)



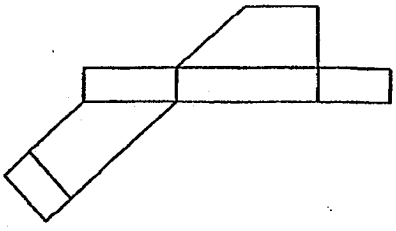
(3)



(2)



(4)



End of Booklet A

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SINGAPORE CHINESE GIRLS' SCHOOL

PRELIMINARY EXAMINATION 2018

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET B

Name : _____( )

Class : Primary 6 24 August 2018

Paper 1	Mark attained	Max Mark
Booklet B		25

15 Questions
25 Marks

Total Time for Booklets A and B: 50 min

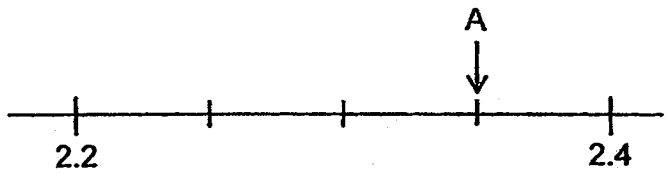
INSTRUCTIONS TO CANDIDATES
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
You are **not allowed** to use a calculator

Booklet B

Questions **16** to **20** carry **1** mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(5 marks)**

Do not write in this column

16. Find the value of A.



Ans: _____

17. Round off 1.095 to the nearest hundredth.

Ans; _____

18. Find the average of 1.51, 2.02 and 3.4.

Ans: _____

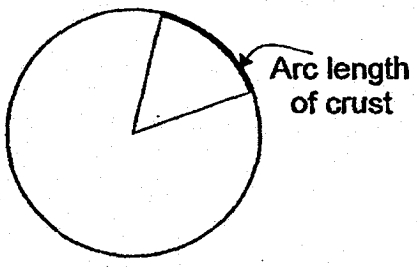
3

19. Express 0.85 as a percentage.

Do not write this column

Ans: _____ %

20. A pizza with a radius of 7 cm is shared equally among x people. What is the arc length of the crust each person will get? Express your answer in terms of x. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

2

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(20 marks)**

Do not write i this column

21. Use all the digits 3,4,5,8 to form
    a) largest even number, and
    b) a number closest to 5000.

Ans: (a) _____

(b) _____

22. Min Leng had 2 ℓ of milk. She poured milk into 4 equal glasses and realised that she had $1\frac{2}{5}$ ℓ left. How much milk did she pour into each glass?

Ans: _____ ℓ

4

23. $\frac{4}{9}$ of a number is 32. What is the number?

Do not write in this column

Ans: _____

24. $\frac{1}{6}$ of Pauline's money is equal to $\frac{2}{3}$ of Sandra's money. How much money does Pauline have if she has \$90 more than Sandra?

Ans: \$_____

4

25. The total surface area of a cube is 54 cm^2. Find the volume of the cube.

Do not write this column

Ans: _____ cm^3

26. Donna has an elder brother. Her brother is 6 years more than twice of Donna's age. How old is Donna if their total age 30?

Ans: _____

/4

27. Every time Danny saves \$0.50, his father would add another \$0.20 to his savings. How much did his father put into his savings if Danny had \$14 in his savings?

Do not write this column

Ans: \$_____

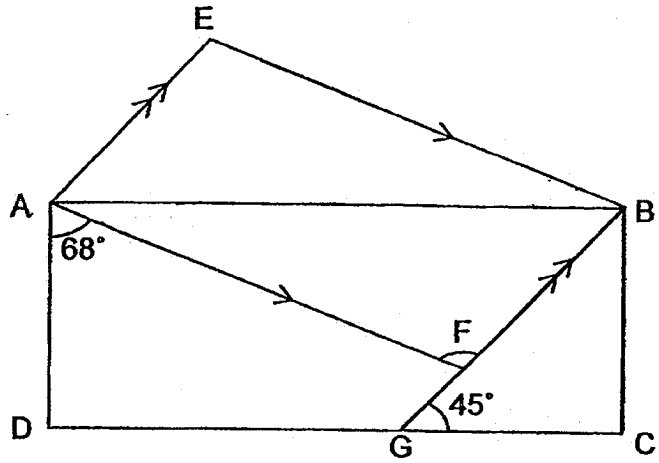
28. The perimeter of the rectangle is 6 times its breadth. What is the area of the rectangle if the length is 12 cm?

Ans: _____ cm^2

4

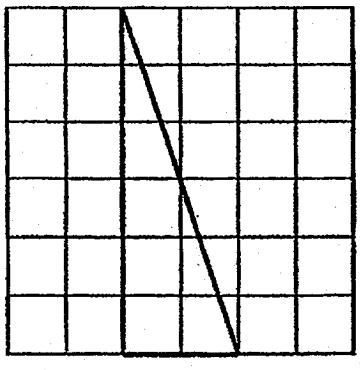
29. The figure below is made up of rectangle ABCD, parallelogram AEBF and isosceles triangle BCG. ∠DAF is 68° and ∠BGC is 45°. Find ∠AFB.

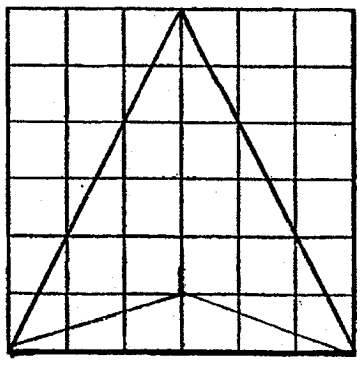
Do not write this column



Ans:_____°

30. Draw an isosceles triangle with half the area as the triangle shown below.





4

End of Booklet B

Index No | | | | | | — | |

SINGAPORE CHINESE GIRLS' SCHOOL

PRELIMINARY EXAMINATION 2018

PRIMARY 6

MATHEMATICS

PAPER 2

Name : _____( )

Class : Primary 6

24 August 2018

	Mark	Max Mark
Paper 2		55

Parent's Signature

17 Questions
55 Marks

Total Time For Paper 2: ~~1 h 40 min~~

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
You **are allowed** to use the calculator

Questions **1** to **5** carry 2 marks each. Show your working clearly in the space below each question and write your answers in the space provided. For questions which require units, give your answers in the units stated. **(10 marks)**

Do not write in this column

1. There are 16 boys and 25 girls in the class. 25% of the boys and 40% of the girls wore spectacles. How many students wore spectacles?

Ans: _____

2. The average of height of 3 children is 1.25 m. A 4th child joins the group. What is the average height of the 4 children if the 4th child is 1.33 m?

Ans: _____ m

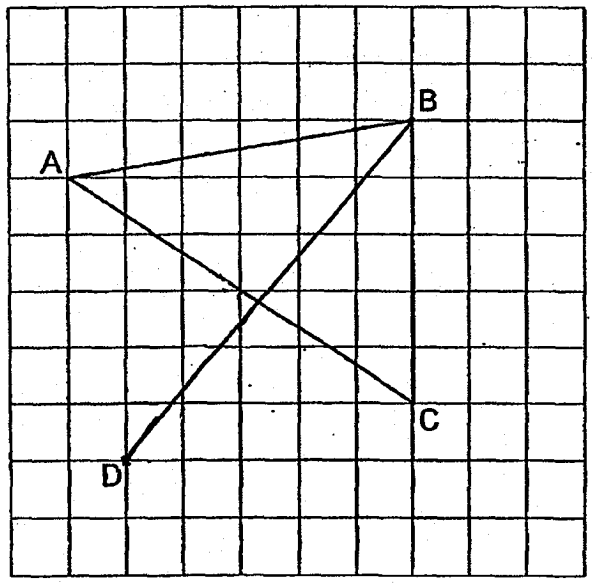
4

3. Mr Lim has a bookshelf which can be fully packed with either 18 school files or 42 exercise books. Mr Tan also has an identical bookshelf. If Mr Tan has 14 exercise books in his bookshelf, how many school files are needed to fill up the bookshelf?

Do not write in this column

Ans: _____

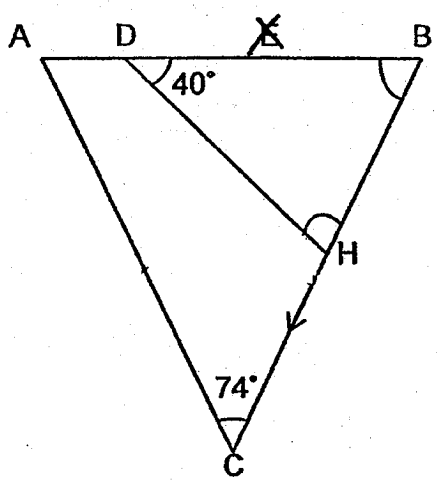
4. Triangle ABC is drawn in the grid below.
   a) Measure ∠ACB.
   b) Draw a line perpendicular to line AC that touches point D.



Ans: (a) _____° [1]

4

5. In the figure below, ABC is an isosceles triangle where AC is equal to BC. ∠ ACB is 74° and ∠BDH is 40°. Find ∠DHC.



Do not write in this column

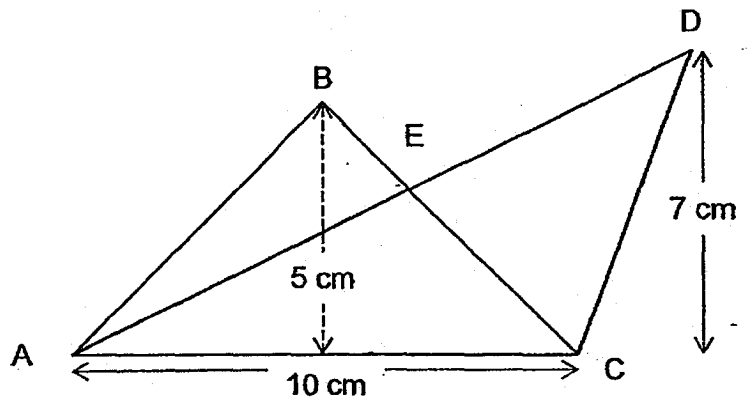
Ans: _____°

2

For questions **6** to **17**, show your working clearly in the space below each question and write your answers in the spaces provided. The number of marks awarded is shown in brackets [ ] at the end of each question or part-question. **(50 marks)**

Do not write in this column

6. The figure below shows 2 overlapping triangles, ABC and ACD. Find the area of the figure given that the area of Triangle AEC is 15 cm^2.



Ans: _____ [3]

3

Do not write in this column

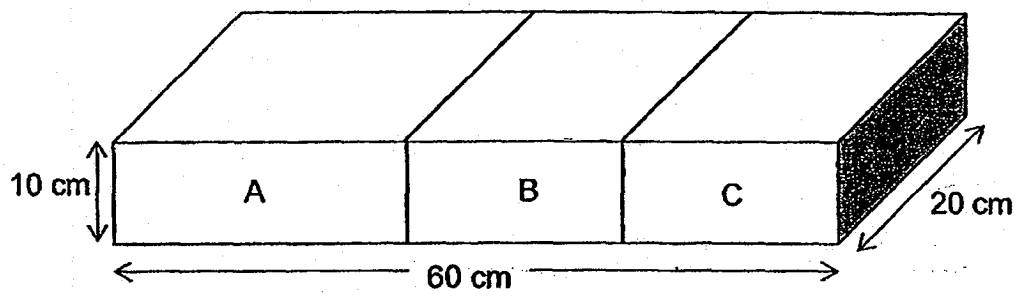
7. At a stationery fair, Cailin bought 4 more pens than files. Each pen costs $2 and each file costs $5. She spent $28 more on files than pens. How many pens did Cailin buy?

Ans: _____ [3]

3

Do not write in this column

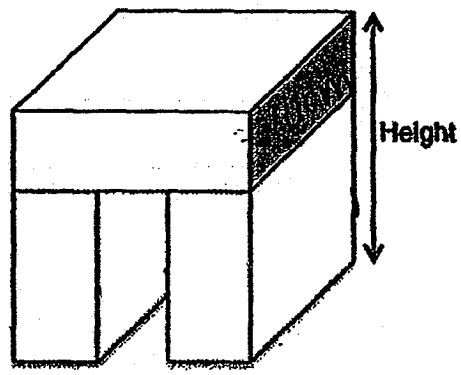
8. Mr Ali wanted to make a stool from a block of wood, 10 cm by 60 cm by 20 cm, as shown below. He cuts the wood into 3 parts, A, B and C in the ratio of 4 : 3 : 3.



He then nails the 2 smaller pieces to part A as shown below.

(a) Find the height of the stool.

(b) What is the **lowest** possible height if he were to stack 5 such stools, one on top of another?



Ans: (a) _____ [2]

(b) _____ [1]

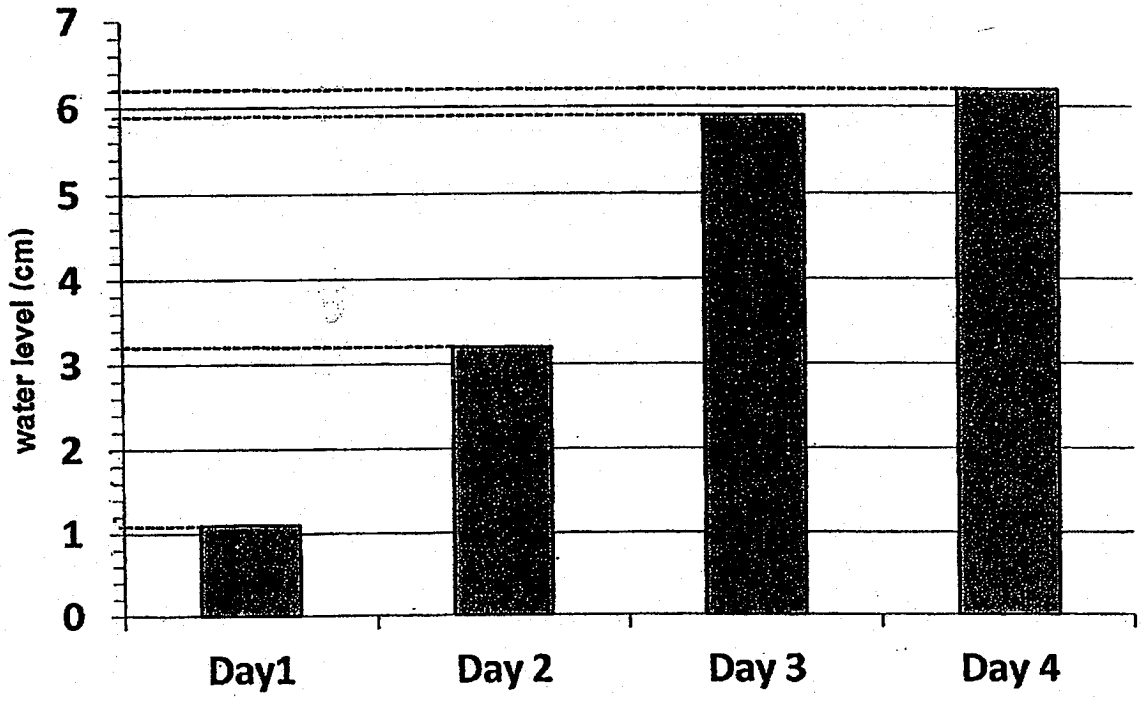
3

9. Mr Chee wanted to measure the amount of rainfall during a rainy season. He placed an empty beaker and observed the water level of the beaker and the results are shown in the graph below.

(a) What is the increase in water level from Day 1 to Day 2?

(b) Find the average water level in the beaker over 4 days.

Do not write in this column



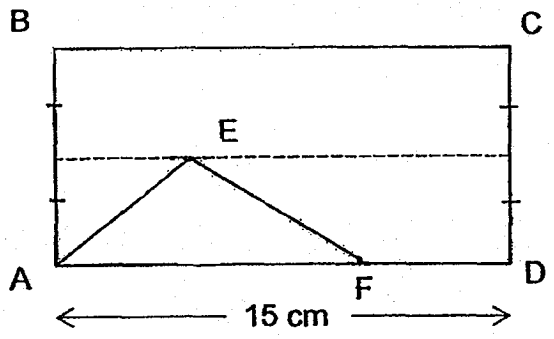
Ans: (a) _____ [1]

(b) _____ [2]

3

10. The figure below, not drawn to scale, is made up of a rectangle ABCD and a triangle AEF. The ratio of the area of rectangle to the area of triangle is 6 : 1 . Find length AF given that the length of the rectangle AD is 15 cm.

Do not write in this column



Ans: _____ [3]

3

11. Andrea baked y mini-cupcakes on Monday and five times as many on Tuesday. She then kept $\frac{1}{3}$ of the mini-cupcakes for her family and friends and packed the remaining mini-cupcakes into packets of 3 and sold them at \$5 per packet at a school carnival.

(a) Express the amount of money Andrea earned in terms of y.

(b) Given that $y = 75$, how much did she earn for the carnival?

Do not write in this column

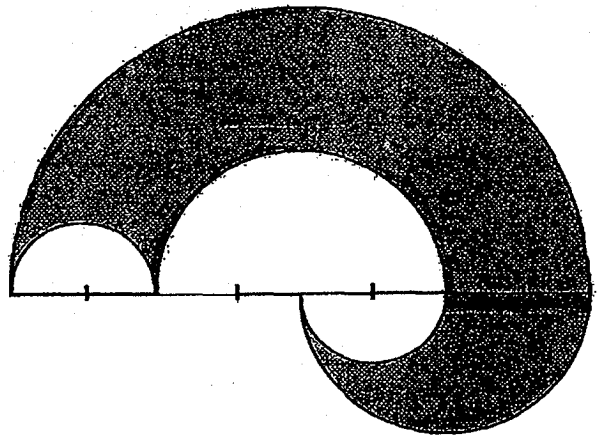
Ans: (a)_____ [2]

(b)_____ [2]

4

12. The figure below is made up of semi-circles of 3 different radii. The radius of the largest semi-circle is 21cm. Find the area of the shaded figure
Round off your answers to 2 decimal places.

Do not write in this column



Ans: _____ [4]

4

13. Hendry and Jacky were at Town A and Town B respectively, 39 km apart. Hendry started driving towards Town B at a speed of 65 km/h. 6 minutes later, Jacky started driving towards Town A and eventually, they drove past each other at the midpoint of Town A and B. Find Jacky's speed.

Do not write I this column

Ans: _____ [4]

4

14. There were red, blue and green and yellow marbles in a bag. The number of red marbles is 30% of the number of blue and green marbles. The ratio of the number of blue, green and yellow marbles to the number of the total number of marbles in the bag is 5 : 6. Given that there are 54 red marbles in the bag, how many yellow marbles are there in the bag?

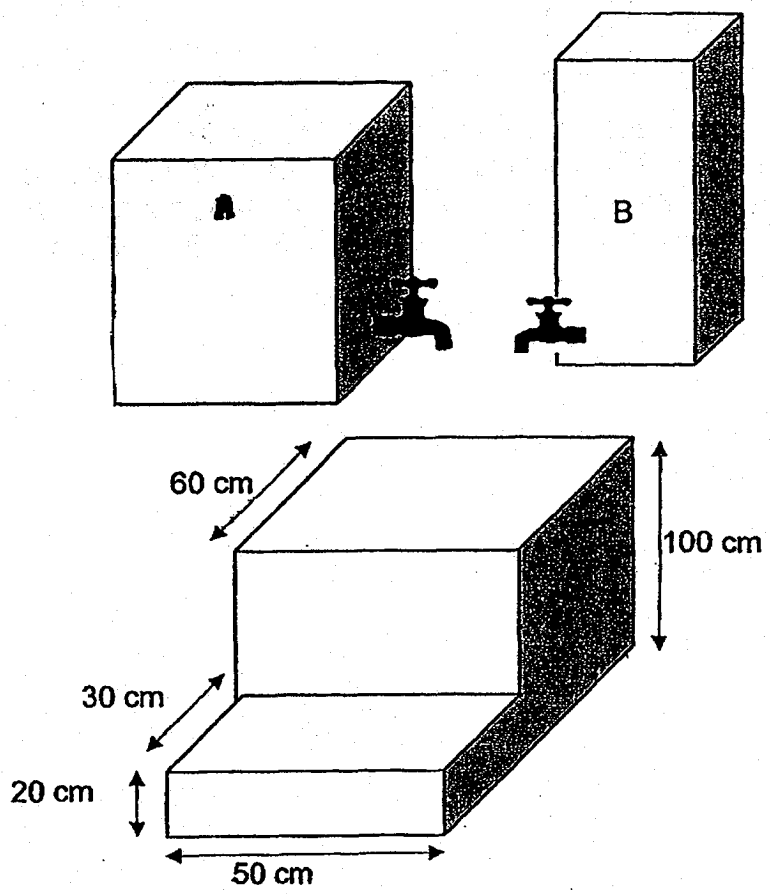
Do not write in this column

Ans: _____ [4]

4

15. Mrs Wee has a cubic container A completely filled with water. Water flowed out from container A into container C as shown below. At the same time, water from container B was also filling container C at a rate of 7200 cm^3 per minute. After 10 minutes, the water level in both containers A and C is half of the height of their containers. Find the length of one side of container A.

Do not write i this column



Ans: _____ [4]

4

Do not write in this column

16. A family of 5 was considering where to go for an affordable dinner.

Restaurant A	**Restaurant B**
10% discount on the 4th diner Buffet price: $40 per person *-No Service Charge-*	*10% Service Charge applicable*

(a) What is the average cost per person if they dined at Restaurant A?

(b) What is the maximum amount they should spend at Restaurant B before the service charge, such that their total bill would be at least $10 less than what they would spend at Restaurant A? (Round off your answer to the nearest dollar.)

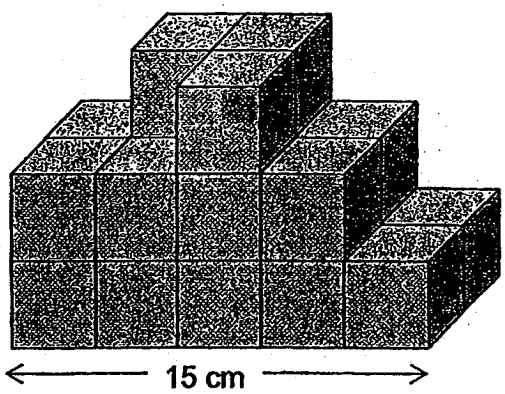
Ans: (a)_____ [2]

(b)_____ [3]

5

17. The figure below is made up of 21 identical cubes. Philip decided to paint the exposed surface area, including the surface area at the bottom of the figure.

Do not write in this column



a) What is the total area that Philip painted?
b) Find the number of surfaces that are **not** painted.

Ans: (a)_____ [3]

(b)_____ [2]

End of Paper 2

~ Please check your work thoroughly. ~

5

SCHOOL : SCGS PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	2	4	2	1	4	2	2	4

Q 11	Q12	Q13	Q14	Q15
3	4	3	2	2

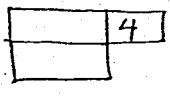
PAPER 1 BOOKLET B

Q16)	2.35
Q17)	1.10
Q18)	2.31
Q19)	85%
Q20)	44/x
Q21)	a)8534 b)4853
Q22)	3/20L
Q23)	72
Q24)	$120
Q25)	27cm3
Q26)	8
Q27)	$4
Q28)	72cm2
Q29)	**113°**
Q30)	

2018 Prelims Maths Paper 2

1) 14 3) 12 5) 93°
2) 1.27m 4a) 56° 6) 45cm²

7) No. of pens
No. of files

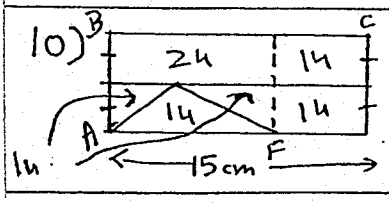


4 pens — 4 × \$2 = \$8
If she had not bought 4 more pens, diff — \$28 + \$8 = \$36
Diff between 1 file and 1 pen — \$5 − \$2 = \$3
No. of files — $\frac{\$36}{\$3}$ = 12
No. of pens — 12 + 4 = 16

8a) 10 units — 60cm
3 units — $\frac{60cm}{10}$ × 3 = 18cm
Height — 10cm + 18cm = 28cm
8b) Lowest — 20cm × 5 = 100cm

9a) 2.1cm 9b) 4.1cm

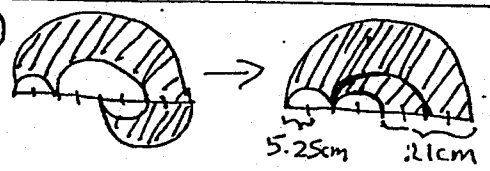
10)



AF — $\frac{2}{3}$ × 15cm = 10cm

11a) Total — y + 5xy = 6y
Packed — $\frac{2}{3}$ × 6y = 4y
No. of packets — $\frac{4y}{3}$
Earned (in terms of y) — $\frac{4y}{3}$ × \$5 = $\frac{\$20y}{3}$
11b) Earned — $\frac{\$20 \times 75}{3}$ = \$500

12)



Radius of small unshaded semi-circle — $\frac{21cm}{4}$ = 5.25cm
Large semi-circle — $\frac{1}{2}$ × π × 21cm × 21cm = 220.5π cm²
Small circle — π × 5.25cm × 5.25cm = 27.5625π cm²
Shaded — 220.5π cm² − 27.5625π cm²

13) Dist travelled by each person — $\frac{39km}{2}$ = 19½ km
Time taken by Henry — 19½ km ÷ 65 km/h = $\frac{3}{10}$ h
Time taken by Jacky — $\frac{3}{10}$ h − $\frac{1}{10}$ h = $\frac{1}{5}$
Jacky's speed — 19½ km ÷ $\frac{1}{5}$ h = 97½ km/h

14) R : B + G
3 : 10

B + G + y : Total : R
5 : 6 : 1) × 3
= 15 : 18 : 3

3 units — 54
1 unit — $\frac{54}{3}$ = 18
Yellow units — 15 units − 10 units = 5 units
5 units — 18 × 5 = 90

15) Total volume of water in — 50cm × 30cm × 20cm + ½ × 50cm × 60cm × = 180 000cm³
Volume of water from A — 180 000cm³ − 7200cm³ × 10 = 108 000cm³
Capacity of A — 108000cm³ × 2 = 216 000cm³
60cm × 60cm × 60cm = 216 000cm³
Length of A — 60cm

16a) Total of 5 — \$40 × 4 + $\frac{90}{100}$ × \$40 = \$196
Average — $\frac{\$196}{5}$ = \$39.20
16b) After 10% service charge — \$196 − \$10 = \$186
Before 10% service charge — $\frac{\$186}{110}$ × 100 ≈ \$169

17a) Length of 1 cube — $\frac{15cm}{5}$ = 3cm
Area of 1 square face — 3cm × 3cm = 9cm²
Total painted faces — 11 × 2 + 10 × 2 + 6 × = 54
Total painted area — 54 × 9cm² = 486cm²
17b) Total faces of 21 cubes — 21 × 6 = 126
Not painted — 126 − 54

Name: _____ ( )

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)

Primary 6 Mathematics

2018 Preliminary Examination

Paper 1

Booklet A

21 August 2018

15 questions
20 marks

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so..
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of calculators is **NOT** allowed.

This booklet consists of 8 printed pages.

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3, or 4) on the Optical Answer Sheet.

(20 marks)

---

1. 3 ones, 9 tenths and 5 thousandths is _____.

(1) 0.395
(2) 3.095
(3) 3.905
(4) 3.95

2. Which of the following numbers has no remainder when it is divided by 4?

(1) 5402
(2) 5204
(3) 4502
(4) 4250

3. Which of the following fractions is closest to $\frac{1}{3}$?

(1) $\frac{1}{2}$
(2) $\frac{2}{3}$
(3) $\frac{4}{9}$
(4) $\frac{7}{12}$

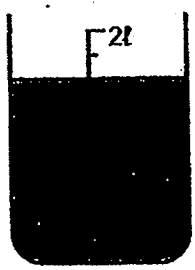
4. At a fruit stall, the ratio of the number of apples to the number of oranges is 3 : 4. The ratio of the number of apples to the number of pears is 5 : 2. What is the ratio of the number of pears to the number of oranges?

(1) 1 : 2
(2) 1 : 3
(3) 2 : 5
(4) 3 : 10

5. Simplify $12 \times m + 3 - (8m \div 2 - 1$.

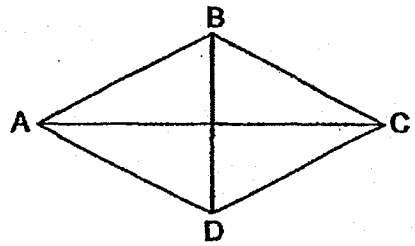
(1) $2m + 2$
(2) $2m - 4$
(3) $8m + 2$
(4) $8m - 4$

6. How much water is in the container shown below?



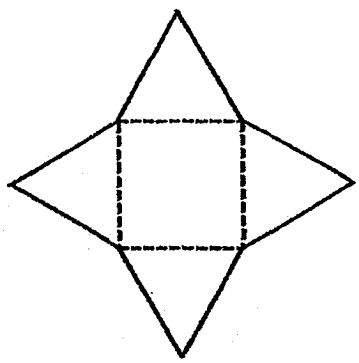
(1) 800 ml
(2) 1000 ml
(3) 1300 ml
(4) 1600 ml

7. ABCD is a rhombus. Which line is parallel to AB?



(1) AC
(2) AD
(3) BC
(4) CD

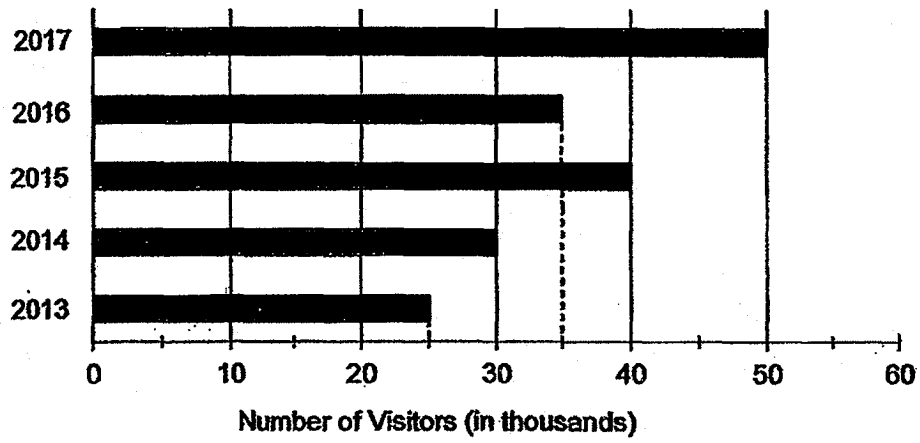
8. Which of the following solids does this net belong to?



(1) Cube
(2) Prism
(3) Pyramid
(4) Cylinder

Use the information below to answer questions 9 and 10.

The bar graph shows the number of visitors to a zoo from 2013 to 2017.



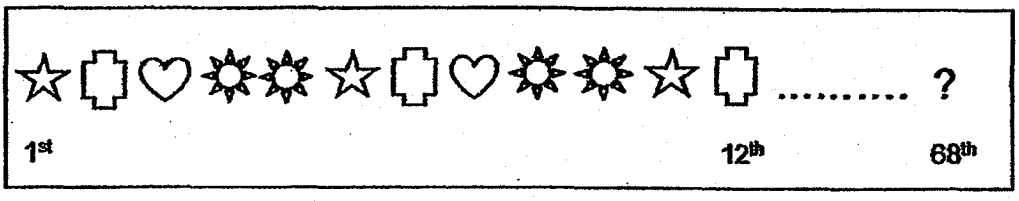
9. During which one-year period was the increase in the number of visitors the greatest?

(1) Between 2013 and 2014
(2) Between 2014 and 2015
(3) Between 2015 and 2016
(4) Between 2016 and 2017

10. From 2013 to 2017, for how many years did the zoo receive more than 30 000 visitors?

(1) 1
(2) 2
(3) 3
(4) 4

11. David uses some shapes to form a pattern. The first 12 shapes are shown below.



Which shape is in the 68th position?

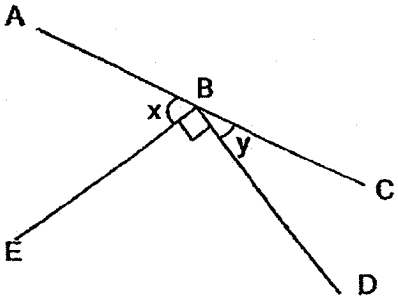
(1) 

(2) 

(3) 

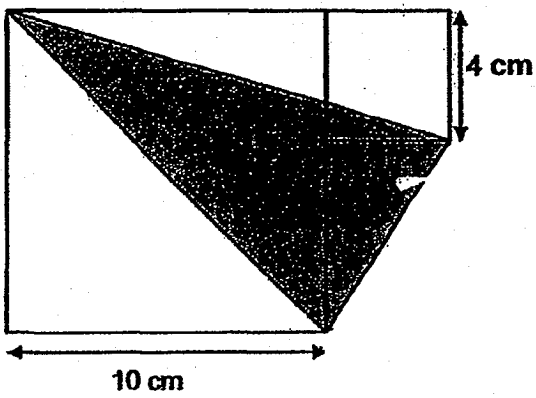
(4) 

12. In the figure below, ABC is a straight line. ∠y is 24° smaller than ∠x.
Find ∠x.



(1) 33°
(2) 52°
(3) 57°
(4) 76°

13. The figure below is made up of two squares and a triangle. Find the area of the shaded part.



(1) 26 cm^2
(2) 50 cm^2
(3) 78 cm^2
(4) 98 cm^2

14. Debbie was given a fixed monthly allowance. In January, she spent $50 of her allowance and saved the rest. In February, she reduced her spending by 20% and her savings increased by 50%. How much was her monthly allowance?

(1) $60
(2) $70
(3) $80
(4) $90

15. A group of friends shared some chocolates among themselves. They tried taking 10 chocolates each, but found that the last person had only 2 chocolates. When each person took 8 chocolates, there were 20 left over. How many friends shared the chocolates?

(1) 14
(2) 11
(3) 8
(4) 6

Name: _____ ( )

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)

Primary 6 Mathematics

2018 Preliminary Examination

Paper 1

Booklet B

21 August 2018

Booklet A	20
Booklet B	25
Total (Paper 1)	45

15 questions
25 marks

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

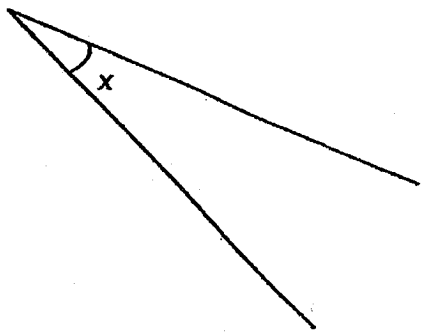
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of calculators is **NOT** allowed.

This booklet consists of 10 printed pages.

Questions 16 to 20 carry 1 mark each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write in this space

16. Measure and write down the size of $\angle x$ in the figure.



Ans : _____ °

17. Find the value of $\frac{5n}{6} + n$ when $n = 9$.

Give your answer as a mixed number in its simplest form.

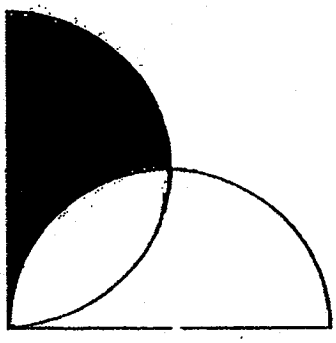
Ans : _____

18. A movie started at 11.45 p.m. and ended at 1.35 a.m.
How long was the movie?

Do not write in this space

Ans: _____ min

19. The figure below shows two identical semicircles with radius 8 cm each.
Find the perimeter of the shaded part.
Leave your answer in terms of π.



Ans : _____ cm

20. Dave participated in 5 quizzes. His scores are shown in the table below.

Quiz	1st	2nd	3rd	4th	5th
Score	12	15	16	18	14

Find his average score.

Ans : _____

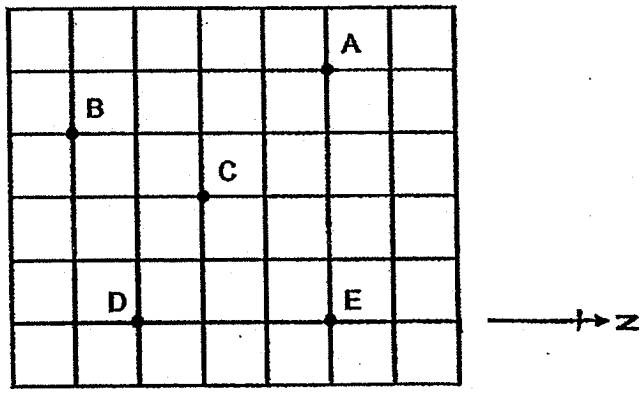
Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

Do not write in this space

21. Cherries are sold at $1.50 per 200 g at the supermarket.
What is the price of 4 kg of cherries?

Ans : $ _____

22.

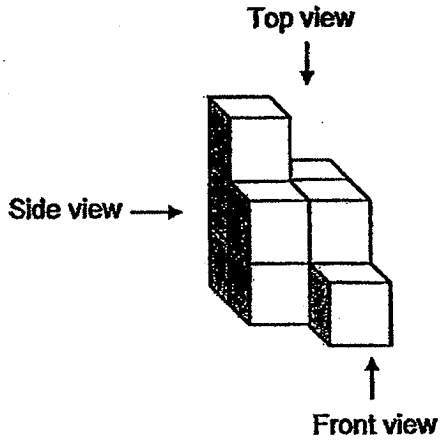


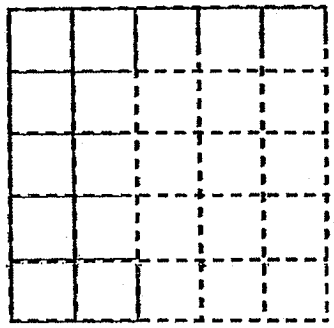
Refer to the square grid above and fill in the blanks with A, B, C, D or E.

(a) Point _____ is west of Point _____ [1]

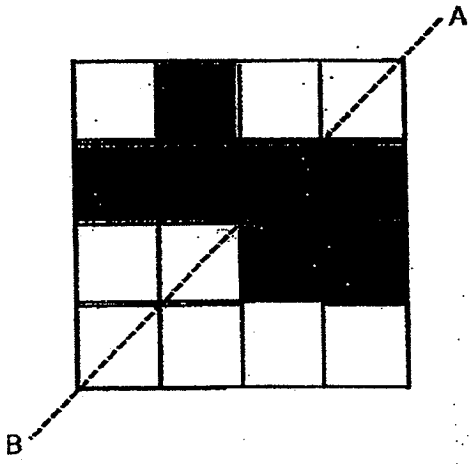
(b) Point _____ is north-east of Point _____. [1]

23. Draw the top view of the following solid in the square grid provided.





24. Shade 2 more squares in the figure below so that the dotted line AB is the line of symmetry.



Do not write in this space

25. Raja bought a string of 130 decorative red and green light bulbs. There were at least 2 red light bulbs in between every 2 green light bulbs. What was the smallest possible number of red light bulbs in the string of decorative light bulbs?

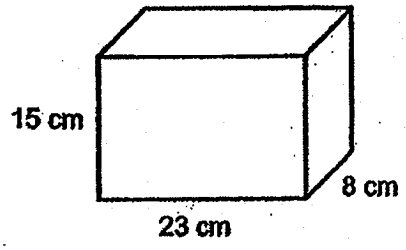
Do not write in this space

Ans : _____

26. Printer X and Printer Y print a total of 688 pages in 4 minutes. Every minute, Printer X prints 20 pages fewer than Printer Y. At this rate, how many pages does Printer X print in 1 minute?

Ans : _____

27. Find the greatest number of 2-cm cubes that can be put into the box below.



Ans : _____

Do not write in this space

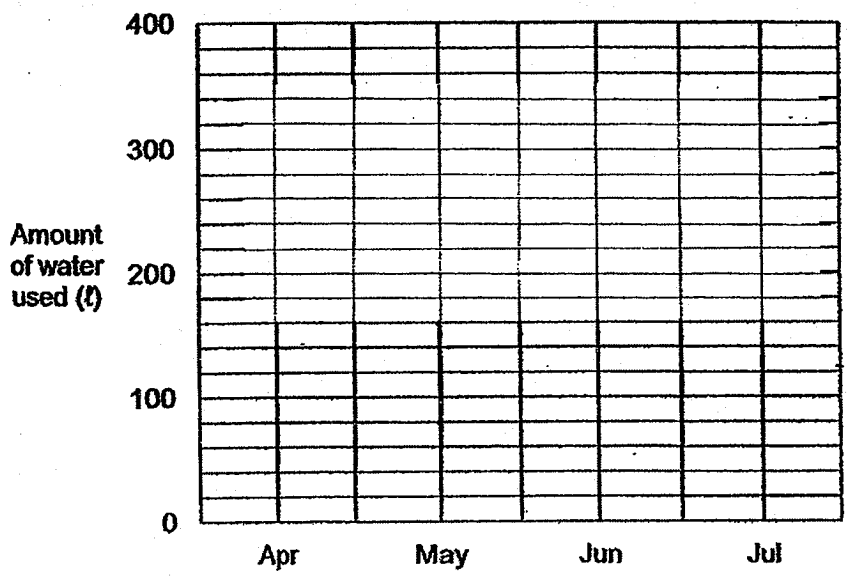
28. Last year, Mr Lee sold an average of 7.5 mobile phones per month from January to October. He did not sell any mobile phone from November to December.

Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

Statement	True	False	Not possible to tell
Mr Lee sold a total of 90 mobile phones last year.			
On the average, the number of mobile phones Mr Lee sold from January to October was higher than the number of mobile phones he sold from January to December.			

29. The line graph below shows the amount of water used by a stall for the months of April to July.

Do not write in this space



In the month of March, the stall used 520 ℓ of water. Which two months from April to July was the total amount of water used the same as the month of March?

Ans : _____ and _____

30. 90 adults took part in a competition. $\frac{1}{2}$ of the men and $\frac{1}{4}$ of the women won the competition. There were 25 winners altogether. How many women took part in the competition?

Do not write in this space

Ans : _____

End of Paper

Name: _____ ( )

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)

Primary 6 Mathematics

2018 Preliminary Examination

Paper 2

21 August 2018

Paper 1	45
Paper 2	55
Total	100

_____

Parent's / Guardian's Signature

17 questions
55 marks

Total Time for Paper 2: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of an approved calculator is expected, where appropriate.

This booklet consists of 15 printed pages.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1. A baker bought 15 kg of flour. He packed the flour into smaller bags of 1.2 kg each and had some flour left. How much flour was left?

Ans : _____ g

2. Alice has 69 more candies than Bonnie. Cathy has 27 more candies than Bonnie. Alice has 40 fewer candies than the total number of candies Bonnie and Cathy have. How many candies does Bonnie have?

Ans : _____

3. A block of wood was dipped into a pail of paint. The block was then cut into 3 identical cubes along the lines as shown below and taken apart. The total painted area of the 3 cubes was 686 cm^2. Find the edge of each cube.

Ans : _____ cm

4. Gracelyn and Hilda saved the same amount of money. $\frac{1}{3}$ of Gracelyn's savings was \$32.50 more than $\frac{1}{4}$ of Hilda's savings. How much did each girl save?

Ans : \$ _____

Do not write in this space

5. The table below shows the number of books a group of pupils borrowed from the school library in a week.

Number of books	Number of pupils
0	?
1	34
2	36
3	63
4 or more	81

60% of the pupils borrowed 3 books or more. How many pupils did not borrow any book?

Do not write in this space

Ans : _____

For questions 6 to 17, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

Do not write in this space

6. Springfresh Laundry charges the washing of blankets and curtains as shown in the table below.

Item	Price per kg
Blankets	$9.00
Curtains	$10.50

Nancy sent 12 kg of blankets and some curtains for washing. Being a member, Nancy got a $10 discount when her bill was above $100. She paid $266 in total. Find the mass of curtains Nancy sent for washing.

Ans : _____ [3]

7. Hafizah took part in a run. She completed 4.2 km in 20 minutes. She then completed the remaining 70% of the run in another hour. Find the average speed, in m/min, at which Hafizah took to complete the run.

Do not write in this space

Ans : _____ [3]

8 . Lydia is k years old now. Mariam is 2 times as old as Lydia. Naya is 3 years younger than Mariam.

(a) What is Naya's age now?

Express your answer in terms of k in the simplest form.

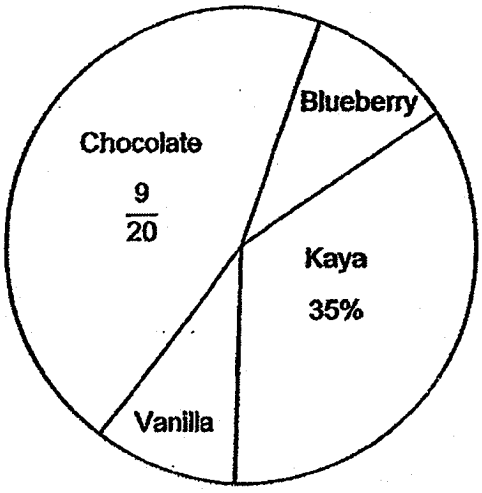
(b) Lydia will be 16 years old five years later. How old is Naya now?

Ans: (a) _____ [1]

(b) _____ [2]

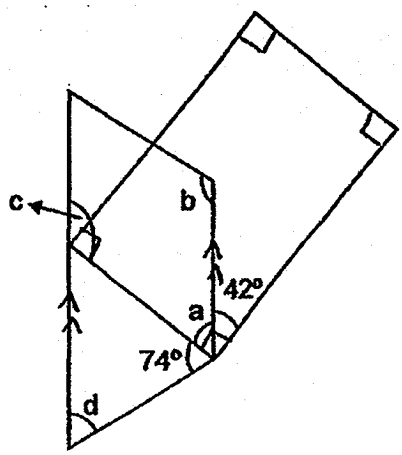
9. The pie chart below shows the number of buns sold. In total, 88 blueberry and vanilla buns were sold. How many buns were sold altogether?

Do not write in this space



Ans : _____ [3]

10. The figure below shows a trapezium and a rectangle.



(a) Which of the following are obtuse angles in the figure?
For each correct answer, put a tick (✓) in the box. [1]

∠a	∠b	∠c	∠d

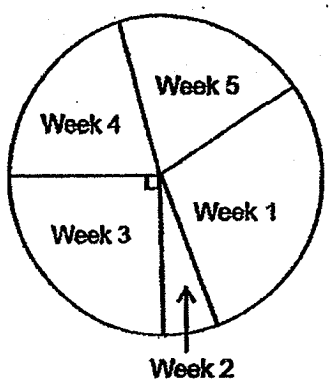
(b) Find ∠d.

Ans : (b) _____ [2]

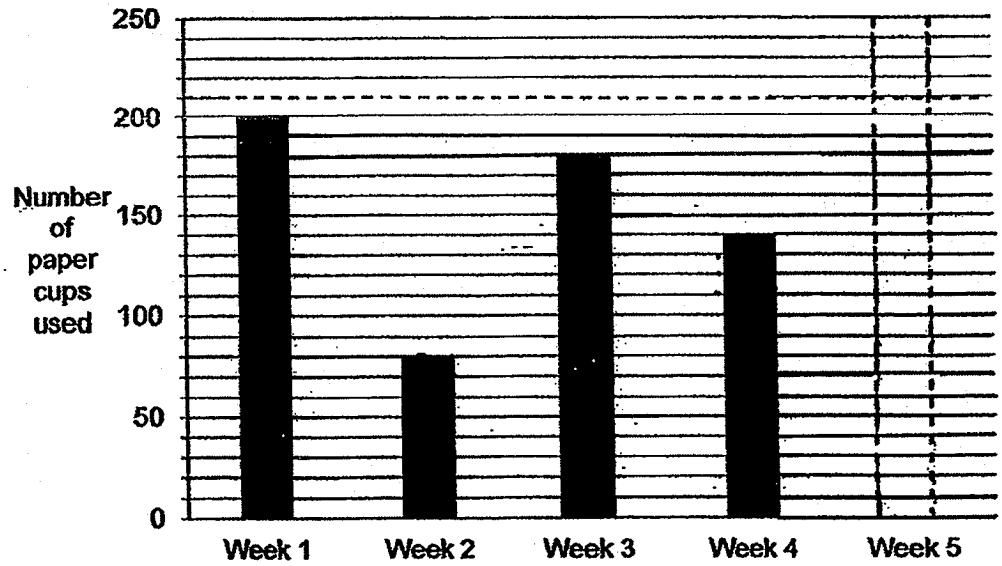
Do not write in this space

11. The pie chart below represents the number of paper cups used by a canteen vendor in 5 weeks.

Do not write in this space



(a) The number of paper cups used in the 5 weeks is also represented by the bar graph below. The bar that shows the number of paper cups used in Week 5 has not been drawn. Draw this bar in the bar graph below. [2]



(b) What percentage of the paper cups was used in Week 1? Give your answer correct to 2 decimal places.

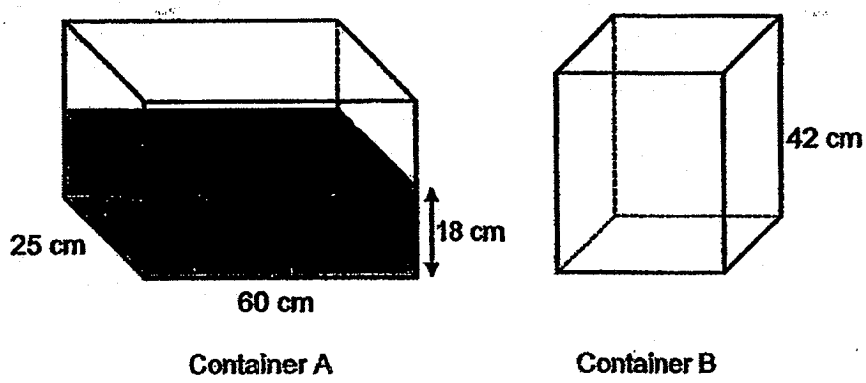
Ans : _____ [1]

12. For a scrapbook-making course, each participant was given some buttons. Each adult received 10 buttons. Each girl received 5 buttons and each boy received 4 buttons. The ratio of the number of girls to the number of boys was 7 : 4. Half of the total number of participants was adults. The participants received a total of 3381 buttons. How many participants were there at the course?

Do not write in this space

Ans : _____ [4]

13. A and B are two rectangular containers. The base area of Container A is twice the base area of Container B. Container A was filled with water to a height of 18 cm and Container B was empty.



(a) What was the volume of the water in Container A?

(b) All the water from Container A was poured into Container B.
How much more water was needed to fill Container B to the brim?

Do not write in this space

Ans : (a) _____ [1]

(b) _____ [3]

14. Lisa, Meng and Nin shared some stickers. Lisa had 20% of the stickers. Meng had 66 stickers and Lisa had 12 more stickers than Nin.

(a) What was the total number of stickers shared among the three children?

(b) Lisa bought some more stickers. The total number of stickers increased by 10%. What was the ratio of the number of Lisa's stickers to the total number of stickers that the three children had in the end?
Leave your answer in the simplest form.

Do not write in this space

Ans : (a) _____ [2]

(b) _____ [2]

15. Kamal, Larry and Muthu were given some concert tickets to sell. Kamal sold $\frac{1}{3}$ of the tickets. Larry sold $\frac{2}{5}$ of the remaining tickets and Muthu sold the rest.

Price of Concert Tickets (per ticket)	
Category 1	$13
Category 2	$8

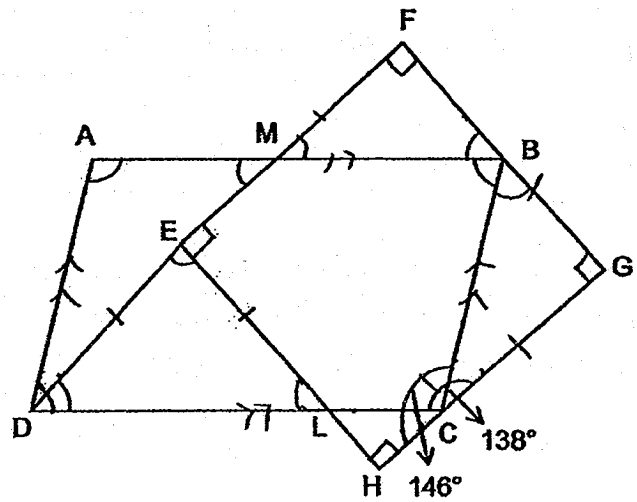
Kamal sold all the Category 1 tickets while Larry and Muthu sold all the Category 2 tickets. Muthu collected $208 more than Larry. How much money was collected from the sale of the tickets altogether?

Do not write in this space

Ans : _____ [5]

16. In the figure below, ABCD is a parallelogram. EFGH is a square. DE = EL, $\angle DCG = 138°$ and $\angle BCH = 146°$.

(a) Find $\angle ABC$.
(b) Find $\angle DEL$.

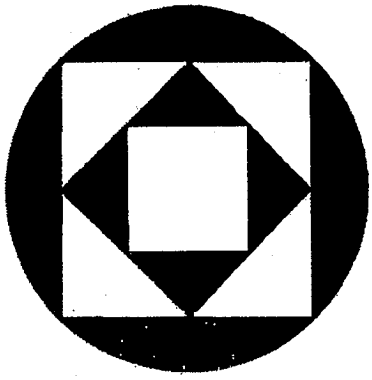


Do not write in this space

Ans: (a) _____ [3]

(b) _____ [2]

17. The figure below is made up of 3 different squares and a circle with diameter 10 cm. What is the total shaded area?
Take $\pi = 3.14$



Do not write in this space

Ans : _____ [5]

End of Paper

ANSWER KEY

YEAR	:	2018
LEVEL	:	PRIMARY 6
SCHOOL :	:	CHIJ ST NICHOLAS GIRLS'
SUBJECT :	:	MATHEMATICS
TERM	:	PRELIMINARY EXAMINATION

Paper 1

Q1	3	Q4	4	Q7	4	Q10	3	Q13	2
Q2	2	Q5	3	Q8	3	Q11	3	Q14	2
Q3	3	Q6	4	Q9	4	Q12	3	Q15	1

Q16 23°

Q17 $16\frac{1}{2}$

Q18 1h 50min

Q19 $(8\pi + 16)$ cm

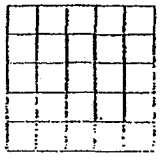
Q20 15

Q21 \$30

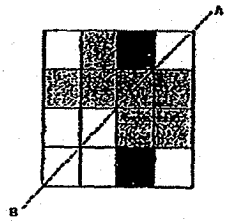
Q22 (a) Point A is west of Point E.

(b) Point E is north-east of Point C.

Q23



Q24



Q25 86

Q26 76

Q27 308

Q28 False
True

Q29 April and June

Q30 80

<u>Paper 2.</u>

Q1 $15 \div 1.2 = 12R$
$12 \times 1.2 = 14.4$
$15 - 14.4 = 0.6$
0.6kg ⇒ <u>600 g</u>

Q2 $A \rightarrow 1u + 69$
$B \rightarrow 1u$
$C \rightarrow 1u + 27$
$(2u + 27) - (1u + 69) = 40$
$2u - (1u + 2)\ 40$
$2u = 1u + 42 + 40$
$= 1u + 82$
$1u \Rightarrow \underline{82}$

Q3 $686 \div 14 = 49$
$\sqrt{49} \Rightarrow$ <u>7 cm</u>

Q4 $G \rightarrow \frac{1}{3} = \frac{4}{12}$

$H \rightarrow \frac{1}{4} = \frac{3}{12}$

1u = 32.50
12u = 12 x 32.50 ⇒ <u>$390</u>

Q5 60% → 81 + 63 = 144
1% → 144 ÷ 60 = 2.4
34 + 36 = 70

$70 \div 2.4 = 29\frac{1}{6}$

$29\frac{1}{6} + 60 = 89\frac{1}{6}$

$100 - 89\frac{1}{6} = 10\frac{5}{6}$

$10\frac{5}{6} \times 2.4$ ⇒ <u>26 pupils</u>

Solutions to Word Problems

St Nicholas Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Cost of washing 12 kg of blankets = 9 x 12 = $108

Undiscounted total cost = 266 + 10 = $276

Cost of washing curtains = 276 – 108 = $168

Mass of curtains = 168 ÷ 10.50 = 16 kg

Ans: 16 kg

---

7. 30% of run → 4200 m

10% of run → 4200 ÷ 3 = 1400 m

100% of run → 1400 x 10 = 14 000 m

Time taken = 20 + 60 = 80 min

Average speed = 14 000 ÷ 80 = 175 m / min

Ans: 175 m / min
.

---

8. a)

Naya's age = 2k - 3

b)

Lydia's age now = 16 – 5 = 11

Naya's age = 2 x 11 – 3 = 19

Ans: (a) 2k – 3
(b) 19

---

9. Percentage of chocolate and kaya buns sold = $\frac{35}{100} + \frac{9}{20} = \frac{35}{100} + \frac{45}{100}$ = 80%

Percentage of blueberry and vanilla buns sold = 100 – 80 = 20%

20% → 88

100% → 88 x 5 = 440

Ans: 440 buns

---

10. a)

∠b and ∠c are obtuse

b)

∠a = 90 – 42 = 48

∠d = 180 – 74 – 48 = 58°

Ans: (a) ∠b and ∠c
(b) 58°

---

11. a)

$\frac{1}{4}$ of total paper cups → Week 3 paper cups → 180

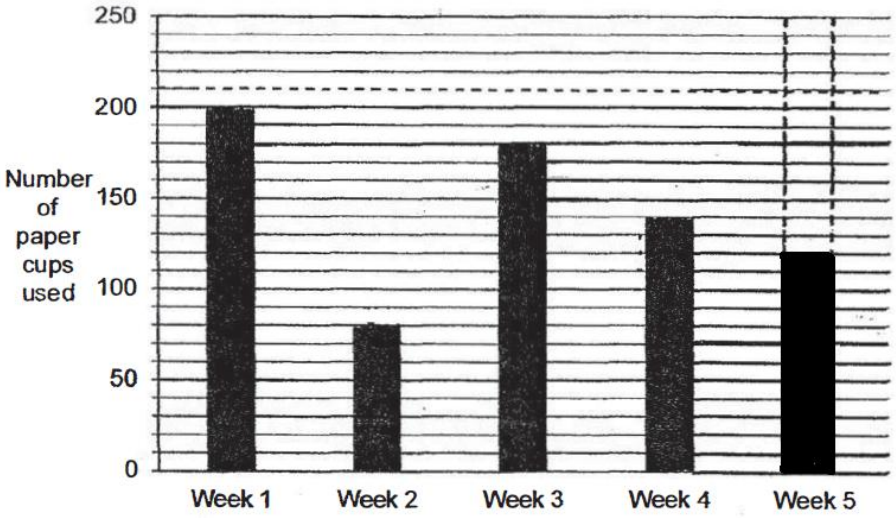
Total paper cups → 180 x 4 = 720

Week 5 paper cups = 720 – 200 – 80 – 180 – 140 = 120

b)

Week 1 paper cups = 200

Percentage of Week 1 paper cups = 200 ÷ 720 x 100 = 27.78%



Ans: a) 120

b) 27.78%

---

12. Ratio of number of adults to number of girls to number of boys → 11 : 7 : 4

Ratio of buttons of adults to girls to boys → 11x 10 : 7 x 5 : 4 x 4

→ 110 : 35 : 16 → 110u : 35u : 16u

110u + 35u + 16u = 161u = 3381

u = 3381 ÷ 161 = 21

Number of buttons for adults = 110 x 21 = 2310

Number of adults = 2310 ÷ 10 = 231

Number of buttons for girls = 35 x 21 = 735

Number of girls = 735 ÷ 5 = 147

Number of buttons for boys = 16 x 21 = 336

Number of boys = 336 ÷ 4 = 84

Total number of participants = 231 + 147 + 84 = 462

Ans: 462 participants

---

13. a)
Volume in container A = 25 x 60 x 18 = 27 000 cm^3

b)
Height of water in container B = 18 x 2 = 36 cm (as base is half)

Additional water to fill container B = (42 – 36) x 25 x 60 x $\frac{1}{2}$ = 4500 cm^3

Ans: (a) 27 000 cm^3

(b) 4500 cm^3

---

14. a)

60% → 66 – 12 = 54

10% → 54 ÷ 6 = 9

100% → 9 x 10 = 90

Total number of stickers = 90

b)

Number of stickers Lisa had at first = 0.2 x 90 = 18

At the end total stickers = 90 x 1.10 = 99

Additional stickers Lisa bought = 99 – 90 = 9

Number of stickers Lisa had at last = 18 + 9 = 27

Ratio of number of Lisa's sticker to total = 27 : 99 → 3 : 11

Ans: (a) 90

(b) 3 : 11

15. Let total number of tickets = 15u (multiple of 3, 5)

Number of tickets Kamal sold = $\frac{1}{3}$ x 15u = 5u

Number of remaining tickets = 15u – 5u = 10u

Number of tickets Larry sold = $\frac{2}{5}$ x 10u = 4u

Number of tickets Muthu sold = 10u – 4u = 6u

Ratio of number of Kamal, Larry and Muthu's tickets → 5u : 4u : 6u

Ratio of sales of Kamal, Larry and Muthu → 5u x 13 : 4u x 8 : 6u x 8

→ 65u : 32u : 48u

Difference between Muthu and Larry's sales = 48u – 32u = 208

u = 208 ÷ 16 = 13

Total sales = 65u + 32u + 48u = 145u = 145 x 13 = $1885

Ans: $1885

---

16. a)

∠LCH = 180 – 138 = 42°

∠BCD = 146 – 42 = 104°

∠ABC = 180 – 104 = 76°

b)

∠DLE = 180 – 42 – 90 = 48°

∠DEL = 180 – 48 – 48 = 84°

Ans: (a) 76°

(b) 84°

---

17. Radius = 10 ÷ 2 = 5 cm

Area of circle = π x 5 x 5 = 25π cm^2

Area of large square = area of 4 triangles = 4 x $\frac{1}{2}$ x 5 x 5 = 50 cm^2

Area of medium square = half of large square = 50 x $\frac{1}{2}$ = 25 cm^2

Area of small square = half of medium square = 25 x $\frac{1}{2}$ = 12.5 cm^2

Shaded area = $(25\pi - 50) + (25 - 12.5) = 78.5 = 41$ cm^2

Ans: 41 cm^2

2018 PRIMARY 6 PRELIMINARY EXAMINATION

Name : _____ ( ) Date: 1 August 2018

Class : Primary 6 ( ) Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature : _____ Marks: _____ / 100

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS

PAPER 1

(BOOKLET A)

20

INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. You are not allowed to use a calculator.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4).
Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

---

1. 7 kg 4 g is the same as _____.

   (1) 74 g
   (2) 704 g
   (3) 7 004 g
   (4) 7 040 g

2. Express 40 ÷ 200 as a decimal.

   (1) 0.5
   (2) 0.2
   (3) 0.05
   (4) 0.02

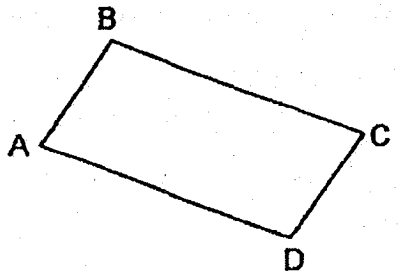
3. What is the value of 50 ÷ 5 + (22 – 9) × 2? =

   (1) 14
   (2) 36
   (3) 46
   (4) 81

4. Janah spent 1 h 45 min watching a movie. It ended at 1.15 p.m.
   What time did the movie start?

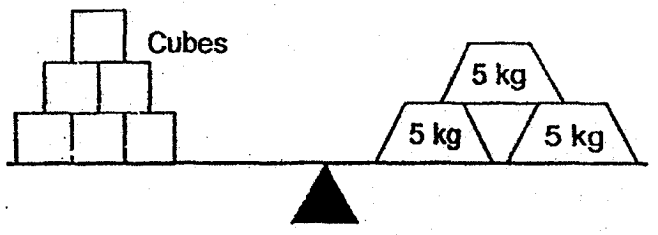
   (1) 11.30 a.m.
   (2) 11.30 p.m.
   (3) 3.00 a.m.
   (4) 3.00 p.m.

5. ABCD is a parallelogram. Which of the following is **false**?



(1) $\angle ABC + \angle BCD = 180°$
(2) $\angle BCD = \angle DAB$
(3) $\angle CDA = \angle DAB$
(4) $\angle DAB + \angle ABC = 180°$

6. What is the average mass of each cube?



(1) 15 kg
(2) 5 kg
(3) 2.5 kg
(4) 0.4 kg

7. A machine is able to fill up 10 bottles of drinks in 1 minute. How much time does the same machine take to fill up 1 bottle of drink?

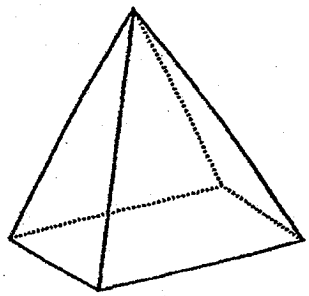
(1) 10 s

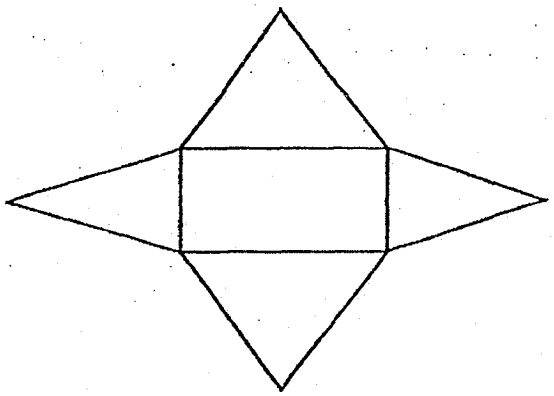
(2) 6 s

(3) $\frac{1}{6}$ s

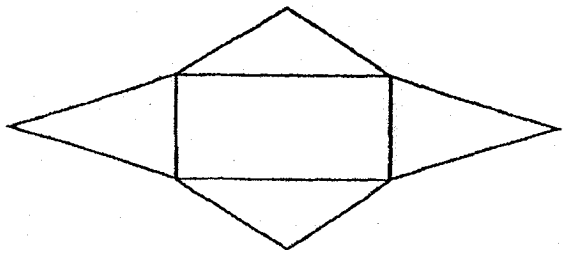
(4) $\frac{1}{10}$ s

8. Which of the following is a net of the solid?

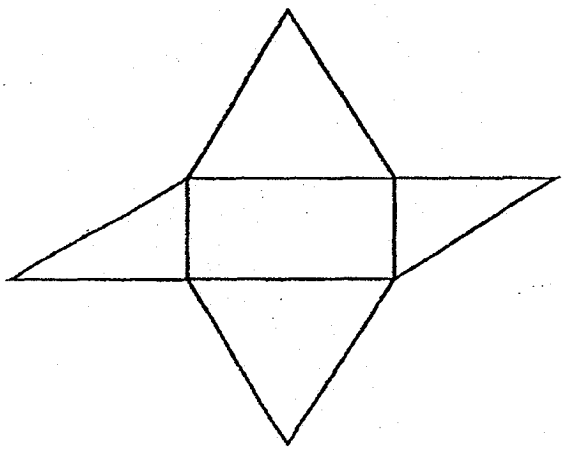




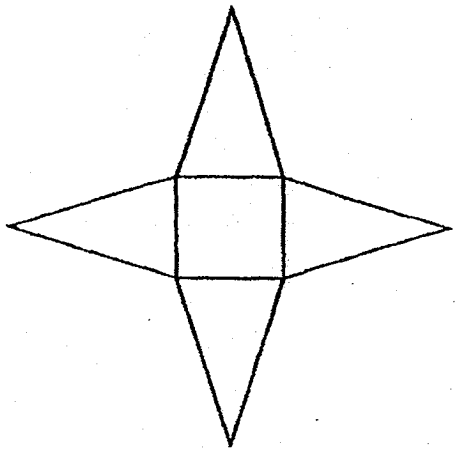
(1)



(2)



(3)



(4)

9. A jar contains 24 red beads, 56 blue beads and 20 green beads. What is the ratio of the number of blue beads to the number of red and green beads?

(1) 4 : 1
(2) 7 : 3
(3) 11 : 14
(4) 14 : 11

10. Arrange the following numbers from the greatest to the smallest.

$$62\% \quad , \quad 0.63 \quad , \quad \frac{3}{5}$$

(1) $\frac{3}{5}$, 0.63 , 62%

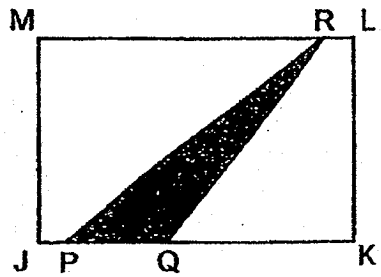
(2) 62% , 0.63 , $\frac{3}{5}$

(3) 0.63 , $\frac{3}{5}$, 62%

(4) 0.63 , 62% , $\frac{3}{5}$

11. JKLM is a rectangle. JK is thrice the length of PQ. The shaded area is 5 cm^2. Find the area of JKLM.

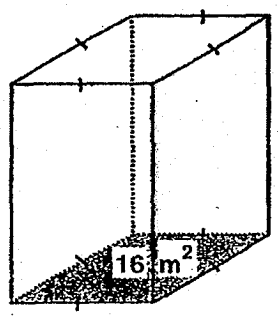
(1) 6 cm^2
(2) 10 cm^2
(3) 15 cm^2
(4) 30 cm^2



12. Saleh has \$7. He lends \$3 to his sister and spends \$y. His father gives him twice the amount of money he spends. How much money does Saleh have now?

(1) \$ (4 + y)
(2) \$ (4 + 2y)
(3) \$ (10 + 2y)
(4) \$ (10 + 3y)

13. The base area of the container is 16 m^2. The length of one side of its base is half the height of the container. Find the volume of the container.



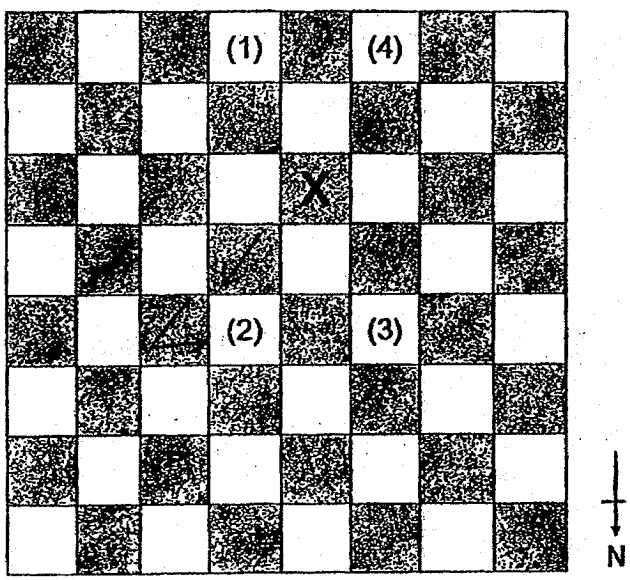
(1) 1024 m^3
(2) 128 m^3
(3) 64 m^3
(4) 32 m^3

14. $1 + 2 + 3 + \ldots + 23 + 24 + 25$

When the first 25 whole numbers are added, what is the digit in the ones place of this total?

(1) 7
(2) 6
(3) 3
(4) 5

15. From the square marked 'X', a chess piece is moved 2 squares northeast and 1 square west. Which of the following is the position of the chess piece now?



- End of Booklet A -

2018 PRIMARY 6 PRELIMINARY EXAMINATION

Name : _____ ( ) Date: 1 August 2018

Class : Primary 6 ( ) Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature : _____

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS

PAPER 1

(BOOKLET B)

/ 25

INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.
6. You are **not** allowed to use a calculator.

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

16. Find the value of $48.3 \div 6$.

Ans: _____

17. Simplify $20n - 3 + 10 - 19n$.

Ans: _____

18. Will is 12 years 4 months old. His sister is 3 years and 7 months younger than him. How old is Will's sister?

Ans: _____ years _____ months

19. An insect crawls at a speed of 14 cm/s. Find the time it takes to crawl 700 cm.

Ans: _____ s

---

20. The average height of Plant A, Plant B and Plant C is 80 cm.
Plant A is 60 cm tall and Plant B is 70 cm tall. What is the height of Plant C?

Ans: _____ m

Questions **21** to **30** carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (20 marks)

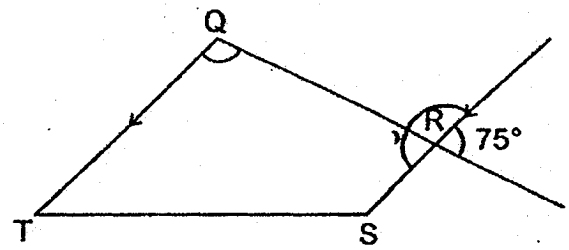
---

21. A mug is $\frac{1}{3}$-filled with water. Samad pours all the water into a bottle which has a volume twice that of the mug. What fraction of the bottle is filled with water?

Ans: _____

---

22. Find ∠TQR.



Ans: _____ °

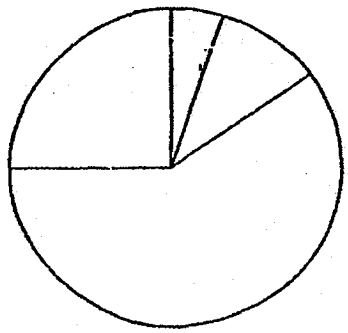
---

23. The table below shows the results of a survey on 500 pupils.

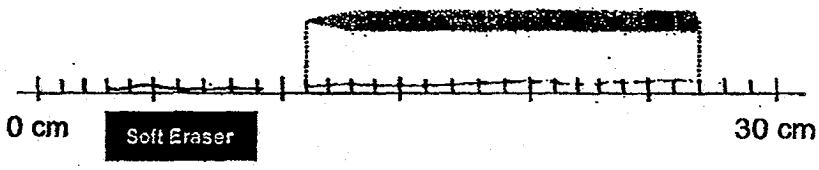
Survey question: How often do you and your family eat out in a week?

Group	Size of group	Response
A	a small number	not at all
B	twice that of Group A	once
C	more than half	twice
D	125 pupils	thrice or more

A pie chart is drawn to represent the results of the survey.
Write letters A, B, C and D in the correct part of the pie chart.

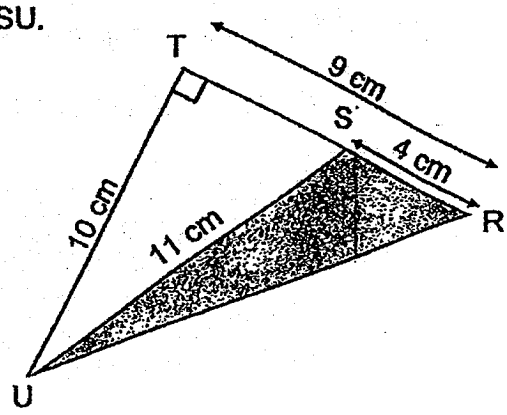


24. What is the difference in length between the pencil and eraser?



Ans: _____ cm

25. Find the shaded area of Triangle RSU.



Ans: _____ cm^2

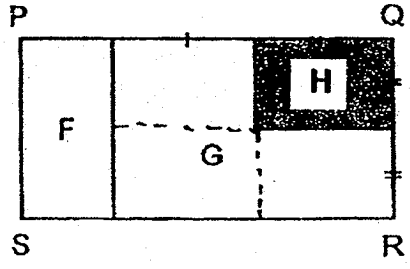
---

26. Lakhi has 80 cards. She buys more cards and has 100 cards now. What is the percentage increase in Lakhi's number of cards?

Ans: _____ %

---

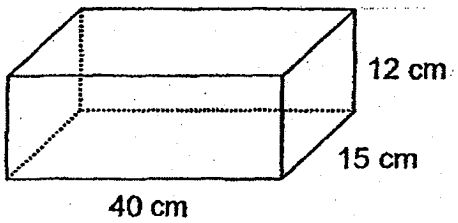
27. Rectangle PQRS is made up of Area F, Area G and Area H.
Area F is $\frac{1}{4}$ of Rectangle PQRS. What fraction of Rectangle PQRS is shaded?



Ans: _____

---

28. A rectangular tank 40 cm long, 15 cm wide and 12 cm high is filled with 6 ℓ of water. Find the increase in height of the water level when it is filled to the brim.



Ans: _____ cm

---

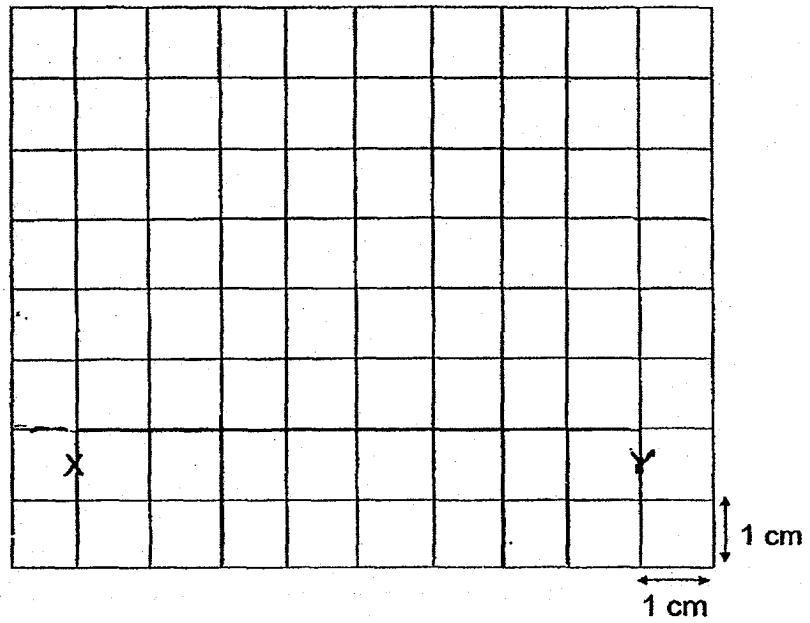
29. A number has three decimal places. When rounded to the nearest tenth, the value of the number is 1.3. What is the greatest and smallest possible value of the number?

Ans: greatest – _____

smallest - _____

---

30. Using the grid below, draw trapezium WXYZ such that $\angle XYZ$ is 45° and WX = ZW = 4 cm.



End of Booklet B
End of Paper 1

2018 PRIMARY 6 PRELIMINARY EXAMINATION

Name : _____ ( ) Date: 1 August 2018

Class : Primary 6 ( ) Time: 10.30 a.m. - 12 noon

Parent's Signature : _____

MATHEMATICS

PAPER 2

55

INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Show your working clearly as marks are awarded for correct working.
6. You are allowed to use a calculator.

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

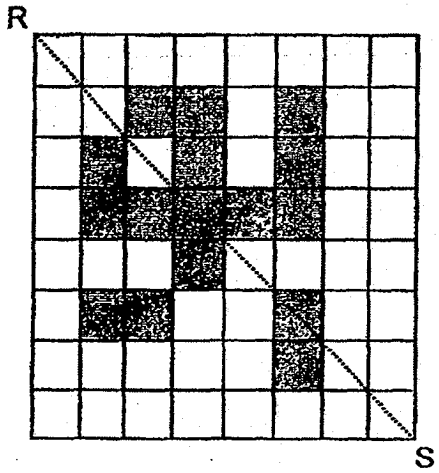
1. There are 105 passengers in a train carriage. The ratio of the number of adults to the number of children is 2 : 1. Then, 15 adults and 10 children alighted from the train. What is the new ratio of the number of adults to the number of children? (Leave your answer in its simplest form)

Ans: _____

2. In a school of 1500 pupils, there are 630 girls. $\frac{1}{5}$ of the boys and $\frac{1}{3}$ of the girls do not wear spectacles. How many pupils wear spectacles?

Ans: _____

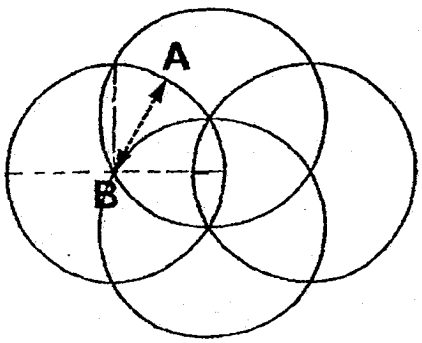
3. The figure is made up of identical squares. Shade two more squares so that RS is the line of symmetry for the figure.



4. Devi bought r packets of flour. Each packet contained 2 kg of flour. She used 1 kg of flour and gave r kg of flour to her mother. How much flour was left?

Ans: _____ kg

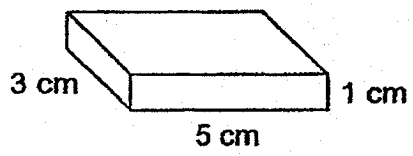
5. The pattern is made up of 4 identical circles. The ink tip of a machine moves a total distance of 44 m to trace out the pattern as shown below. Every part of the pattern is traced only once. Find the distance between A and B.
(Take $\pi = \frac{22}{7}$)



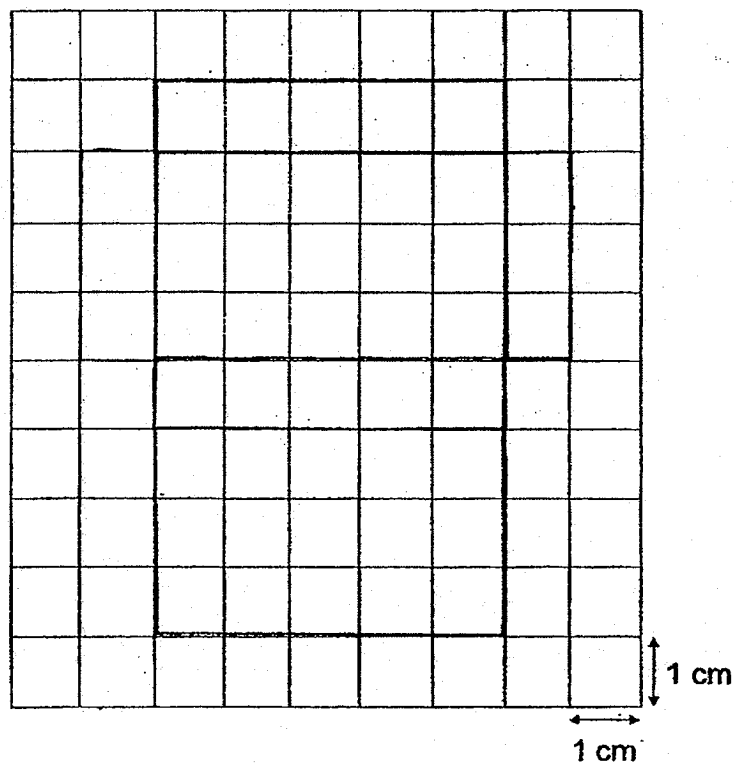
Ans: _____ m

For questions **6** to **17**, show your working clearly in the space provided for each question and write your answers in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

6. (a) Name the solid below.

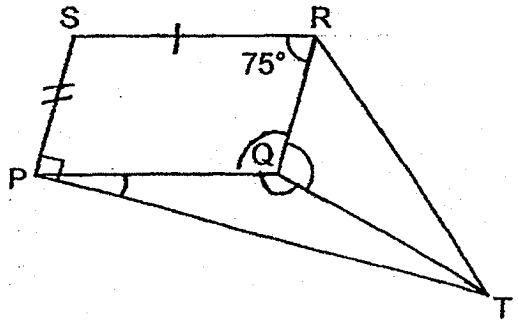


(b) Complete the net of the solid using the grid. [2]



Ans: (a) _____ [1]

7. In the figure, PQRS is a parallelogram. PQ = QT and ∠QRS = 75°. Find ∠TQR.



Ans: _____ [4]

---

8. The total value of the numbers printed on some cards is 504. Each card is printed with a different 3-digit odd number. The average value of all the numbers is 126. The difference between the greatest and smallest number is 6. Find the smallest number printed on the cards.

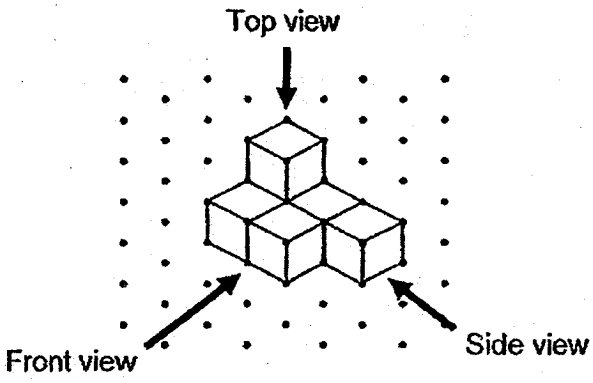
Ans: _____ [3]

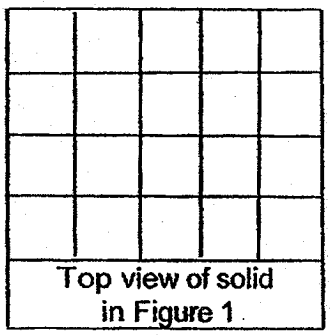
---

9. The solid as shown in Figure 1 is built using 1-cm cubes.

(a) Looking at the solid from the front view, draw its top view in the given square grid. [1]

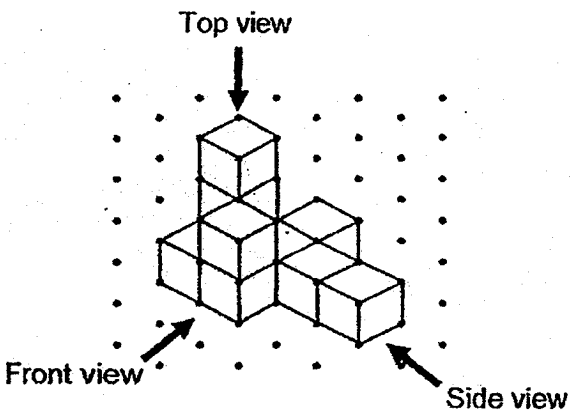
Figure 1





(b) Identical 1-cm cubes are added to form a new solid as shown in Figure 2.

Figure 2



(i) How many 1-cm cubes are added to form the new solid?

(ii) Find the volume of the new solid.

Ans: (b) (i) _____ [1]

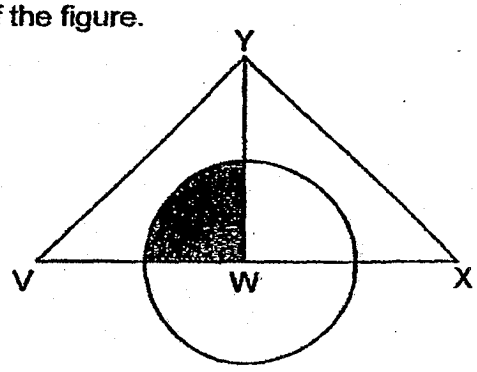
(ii) _____ [1]

10. In a 100-metre race, Kane was 2 m behind when Jaah reached the finish line. Jaah's speed was 7 m/s. Find Kane's speed.

Ans: _____ [3]

---

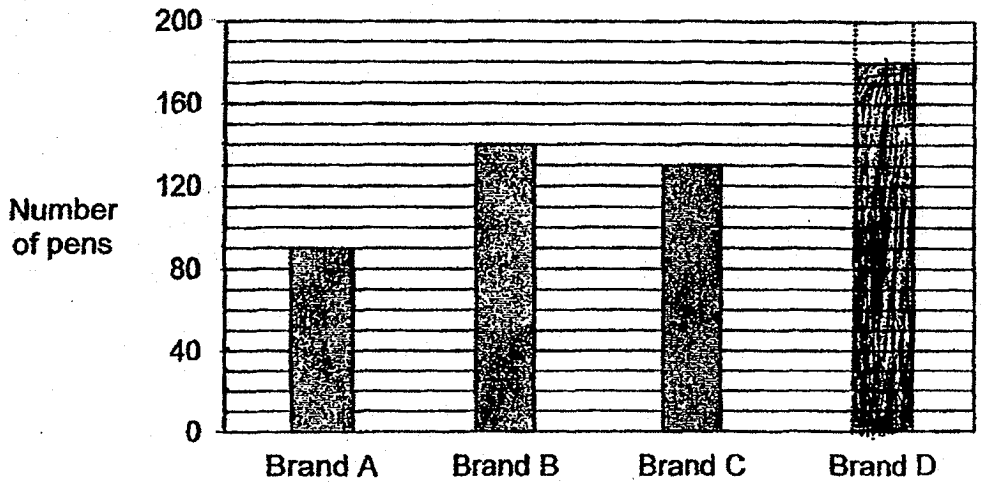
11. The figure is made up of a circle and 2 identical right-angled triangles. W is the centre of the circle. $\frac{11}{28}$ of Triangle VWY is shaded. Find the ratio of the area that is **not** shaded to the total area of the figure.



Ans: _____ [3]

---

12. The bar graph shows the number of each brand of pen sold in a shop.



The prices of the pens are shown in the table below.

Brand	Price per pen
A	$3.50
B	$2.40
C	$2.50
D	$1.80

(a) How many Brand B pens were sold? **Ans:**_____ [1]

(b) There were twice as many Brand D pens as Brand A pens sold.
Draw the bar to show the number of Brand D pens sold. [1]

(c) Each statement below is either true, false or not possible to tell from the graph. For each statement, **put a tick (✓)** in the correct column. [2]

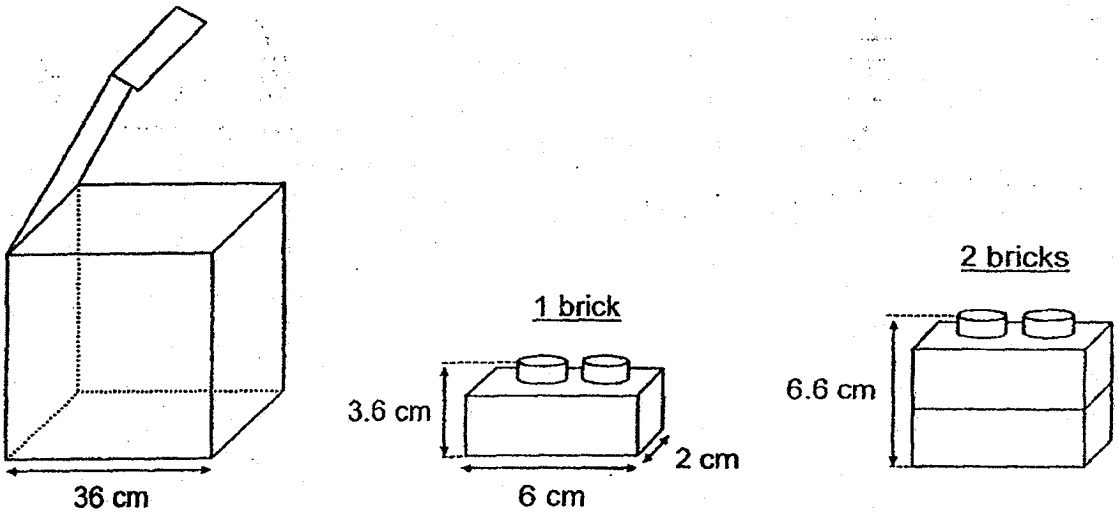
	Statement	True	False	Not possible to tell
(i)	The greatest amount of money is collected from the sale of Brand B pens.			
(ii)	The shop makes the most amount of money from the sale of Brand D pens.			

13. Plastic bricks measuring 6 cm by 2 cm by 3.6 cm each are put into a cubical box with a flap cover.

(a) How many bricks touch only the base of the box?

(b) Find the most number of bricks that can be put inside the box such that the cover can be closed completely.

The diagrams are not drawn to scale.



Ans: (a) _____ [1]

(b) _____ [3]

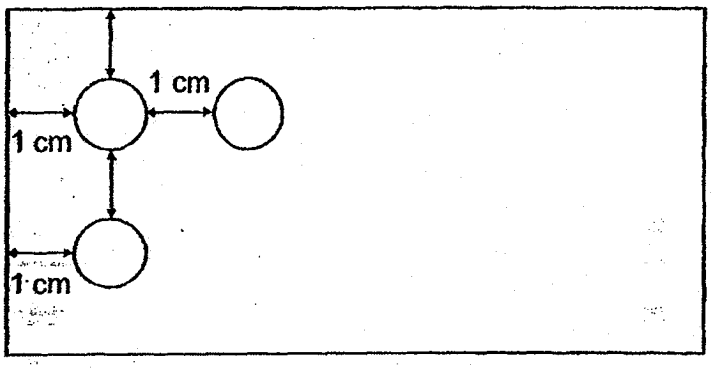
14.

	Small	Medium	Large
			
Capacity	*250 mℓ*	*500 mℓ*	*750 mℓ*

35 ℓ of water is used to fill up bottles of 3 different capacities as shown above. There is an equal number of small-sized bottles and large-sized bottles. The number of medium-sized bottles is three times the number of small-sized bottles. How much water is used to fill up all the medium-sized bottles?

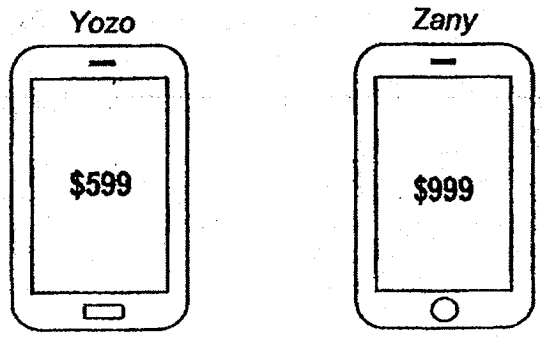
Ans: _____ [4]

15. The cardboard, not drawn to scale, has a perimeter of 64 cm. It has holes punched in such a way that each hole has equal distance from the ones around it and from the sides of the cardboard. There are 10 holes along its length. The diameter of each hole is 1 cm. Find the number of holes along its breadth.



Ans: _____ [5]

16. Shop A and Shop B sold two types of mobile phones at the prices as shown below.



Shop A and Shop B sold the same number of mobile phones last month.
Shop A sold 13 Yozo phones and some Zany phones. Shop B sold 15 Zany phones and some Yozo phones.
The total amount Shop A collected was $2000 less than Shop B.

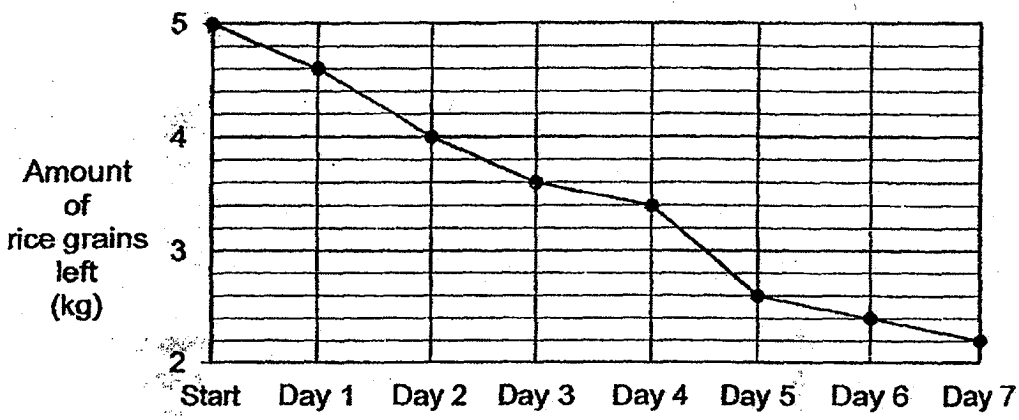
(a) How many Yozo phones did Shop B sell?

(b) How much money did Shop A collect?

Ans: (a) _____ [3]

(b) _____ [2]

17. A housewife buys a 5-kg pack of rice grains. The graph shows the amount of rice grains left at the end of each day for a week.



(a) On which day was the most amount of rice grains consumed?

(b) What percentage of the 5-kg pack of rice grains was consumed by Day 3?

(c) 200 g of rice grains fills 1 measuring cup. How many cups of rice grains were left at the end of Day 7?

Ans: (a) _____ [1]

(b) _____ [2]

(c) _____ [1]

End of Paper 2

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : TAO NAN
SUBJECT : MATHEMATICS

Booklet A -Paper 1

Q1	3	Q2	2	Q3	2	Q4	1	Q5	3
Q6	3	Q7	2	Q8	1	Q9	4	Q10	4
Q11	4	Q12	1	Q13	2	Q14	4	Q15	2

Booklet B -Paper 1

Q16) 8.05

Q17) $1n - 3 + 10 = n + 7$

Ans: $n + 7$

Q18) 12 years 4 months = 11 years 16 months

11 years 16 months – 3 years 7 months = 8 years 9 months

Ans: 8 years 9 months

Q19) $700 \div 14 = 50$

Ams: 50s

Q20) $80 \times 3 = 240$

$240 - 70 - 60 = 110$

110cm = 1.1m

Ans: 1.1m

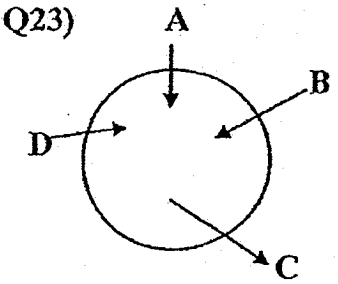
Q21) $3 \times 2 = 6$

Ans: $\frac{1}{6}$

Q22) <TQR = 180° - 75° = 105°

Ans: 105°

Q23)



Q24) Eraser = 6cm

Pencil = 16cm

16 – 6 = 10

Ans: 10cm

Q25) $\frac{1}{2} \times \frac{10}{1} \times \frac{9}{1} = 45$

9 – 4 = 5

$\frac{1}{2} \times 5 \times 10 = 25$

45 – 25 = 20

Ans: $20cm^2$

Q26) 100 – 80 = 20

100% = 80 cards

80 ÷ 100 = 0.8

$20 \div 0.8 = 20 \div \frac{8}{10} = 20 \times \frac{10}{8} = \frac{200}{8} = 25$

Ans: 25%

Q27) $\frac{1}{4} \times \frac{3}{4} = \frac{3}{16}$

Ans: $\frac{3}{16}$

Q28) 6000 ÷ 40 ÷ 15 = 10

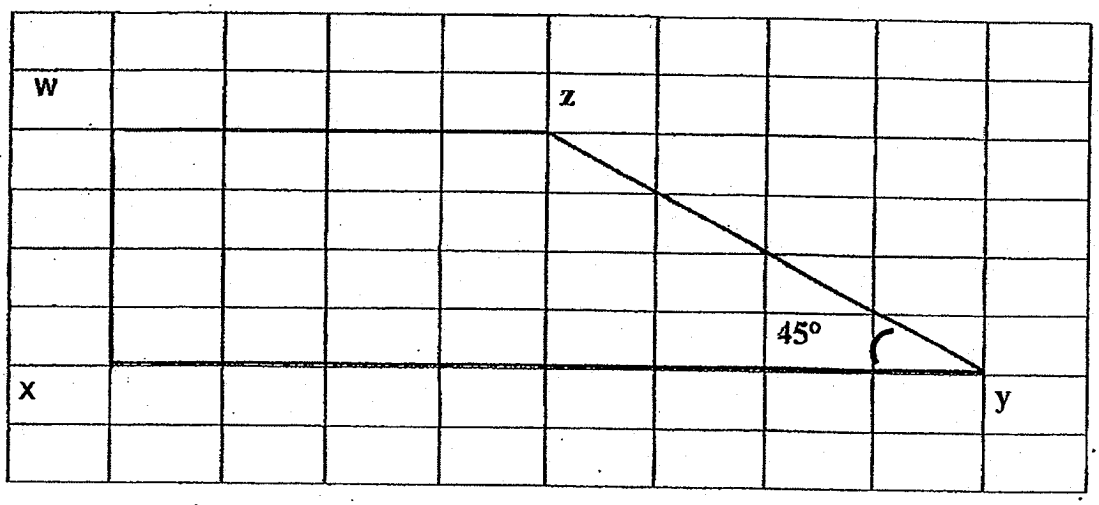
$12 - 10 = 2$

Ans: 2cm

Q29) Greatest = 1.349

Smallest = 1.250

Q30)



<u>Paper 2</u>

Q1) $105 \div 3 = 35$

$35 \times 2 = 70$

A	C
70	35
-15	-10
55	25
11	5

Ans: 11 : 5

Q2) $\frac{1}{3}$ x 630 = 210

1500 – 630 = 870

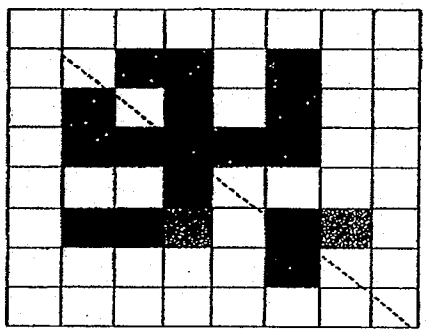
$\frac{1}{5}$ x 870 = 174

1500 – 210 – 174 = 1116

Ans: 1116

Q3)

R



S

Q4) r x 2 = 2r

2r – 1 – r = 1r – 1 = (1r – 1)kg

Ans: (1r – 1 kg

Q5) 2 x $\frac{22}{7}$ x r x 4 = $\frac{176r}{7}$

$\frac{176r}{7}$ = 44

R = $\frac{44}{176}$ x 7 = 1.75

Ans: 1.75m

Solutions to Word Problems

Tao Nan Paper 2

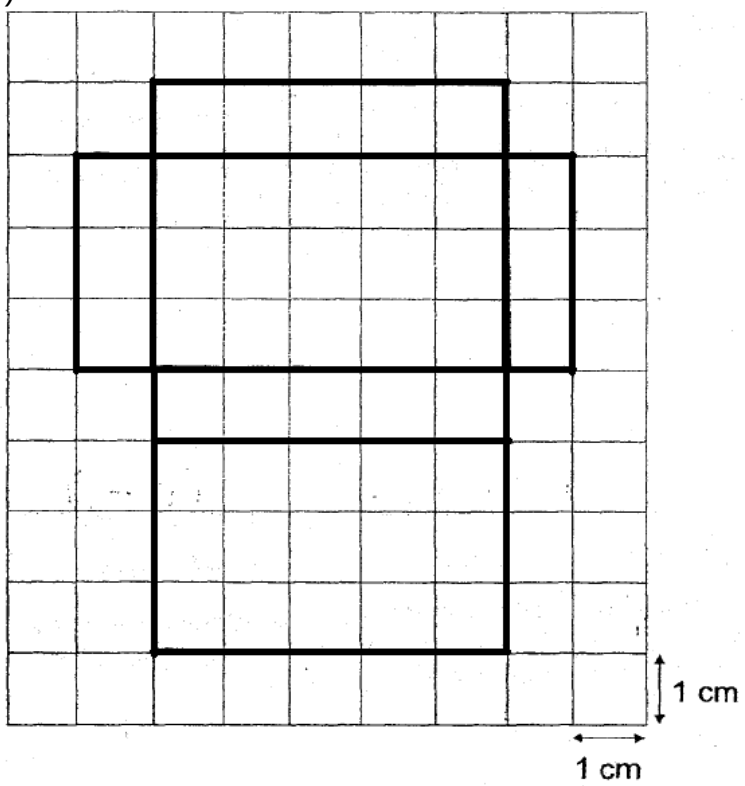
P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. a)

Cuboid

b)



Ans: a) cuboid
b) as shown in diagram

7. ∠PQR = 180 – 75 = 105°

∠QPT = 90 – 75 =15°

∠PQT = 180 – 15 – 15 = 150° As PQT is an isosceles triangle

∠TQR = 360 – 105 – 150 = 105°

Ans: 105°

---

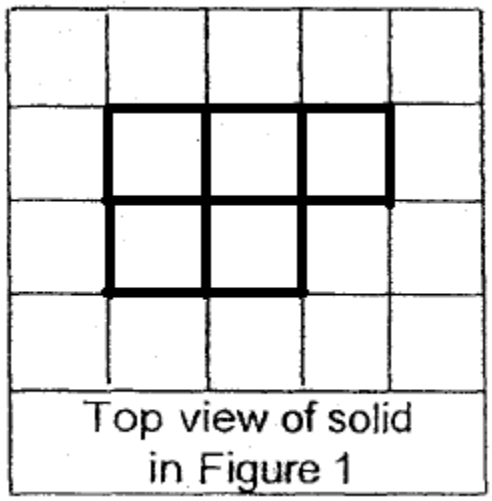
8. Number of cards = 504 ÷ 126 = 4

Difference between average and smallest number = 126 – (6 ÷ 2) = 123

Ans: 123

---

9. a)



b) 4 cubes added
Total cubes = 6 + 4 = 10
Total volume = 10 x 1 = 10 cm^3

Ans: (a) as shown above
(b) 10 cm^3

---

10. Jaah's timing = 100 ÷ 7 = 14.28 sec

Kane's distance = 100 – 2 = 98

Kane's speed = 98 ÷ 14.28 = 6.86 m/s

Ans: 6.86 m/s

---

11. Let shaded area = 11u

Area of unshaded VWY = 28u – 11u = 17u

Area of WXY = 28u

Area of half circle = 11u x 2 = 22u

Total unshaded area = 17u + 28u + 22u = 67u

Total area = 67u + 11u = 78u

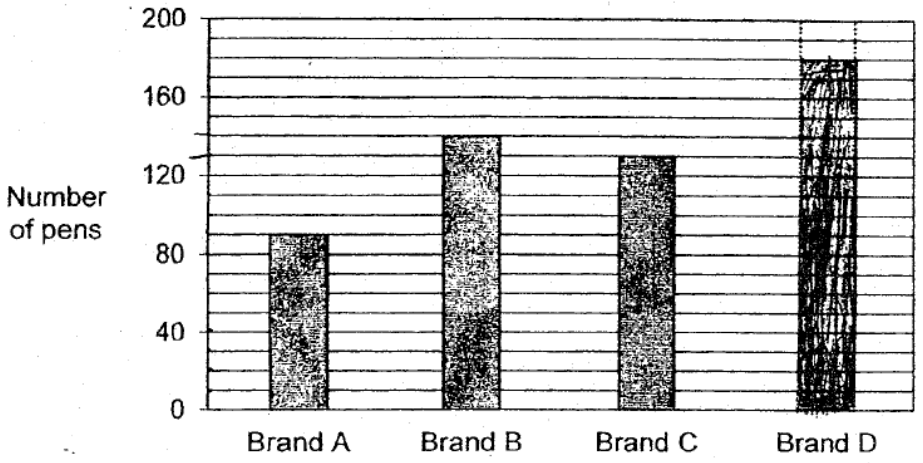
Ratio of unshaded area to total area = 67 : 78

Ans: 67 : 78:

---

12. a) 140 brand B pens sold

b) Brand D pens sold = 90 x 2 = 180 as shown



c) Sales of brand A = 90 x 3.50 = $315
Sales of brand B = 140 x 2.40 = $336
Sales of brand C = 130 x 2.50 = $325
Sales of brand D = 180 x 1.80 = $324

i) true

ii) Not possible to tell

Ans: (a) 140
(b) 180 as shown
(c) i) true
ii) not possible to tell

---

13. Number of bricks on base of box = 6 x 18 = 108

Maximum heights of the bricks = 36 ÷ 3 – 1 = 11

Maximum number of bricks = 11 x 108 = 1188

Ans: (a) 108

(b) 1188

---

14. Let number of small sized bottles = u

Number of large sized bottles = u

Number of medium sized bottles = 3u

Total amount of water = 0.25u + 0.5 x 3u + 0.75u = 35ℓ
2.5u = 35
u = 35 ÷ 2.5 = 14

Capacity of medium sized bottles = 3 x 14 x 0.5 = 21 ℓ

Ans: 21 ℓ

---

15. Length of cardboard = diameter of 10 circles + 11 spaces = 10 + 11 cm = 21cm

Breadth of cardboard = (64 – 42) ÷ 2 = 11cm

Number of holes along the breadth = (11 – 1) ÷ 2 = 5

Ans: 5

---

16. Let number of Zany phones sold in Shop A = u
Number of Zoro phones sold in Shop B = p

13 + u = p + 15

Difference in pricing = 999 – 599 = 400
Difference in number of Zany phones = 2000 ÷ 400 = 5

u = 15 – 5 = 10
p = 13 + 10 – 15 = 8
Number of Zoro phones sold by Shop B = 8

Shop A's collection = 13 x 599 + 10 x 999 = 7787 + 9990 = $17,777

Ans: (a) 8

(b) $17,777

---

17. a) Most amount of rice was consumed on Day 5

b) Percentage of consumption by Day 3 = 1.4 ÷ 5 x 100 = 28%

c) Number of cups on Day 7 = 2.2 ÷ 0.2 = 11 cups

Ans: (a) Day 5

(b) 28%

(c) 11 cups

Temasek Primary School

Preliminary Examination

Primary Six Standard

2018

MATHEMATICS

(PAPER 1 BOOKLET A)

Name: _____ ( ) Class: 6 ( )

Date : 21 August 2018

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers on the Optical Answer Sheet (OAS) provided.
5. You are not allowed to use a calculator.
6. This booklet consists of 10 printed pages.

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet.
(20 marks)

---

1. The value of the digit 5 in 865 973 is _____.

   (1) 50
   (2) 500
   (3) 5 000
   (4) 50 000

2. Express 8 050 cm in m.

   (1) 8.05 m
   (2) 8.5 m
   (3) 80.5 m
   (4) 805 m

3. How many quarters are there in $8\frac{1}{2}$?

(1) 17
(2) 20
(3) 32
(4) 34

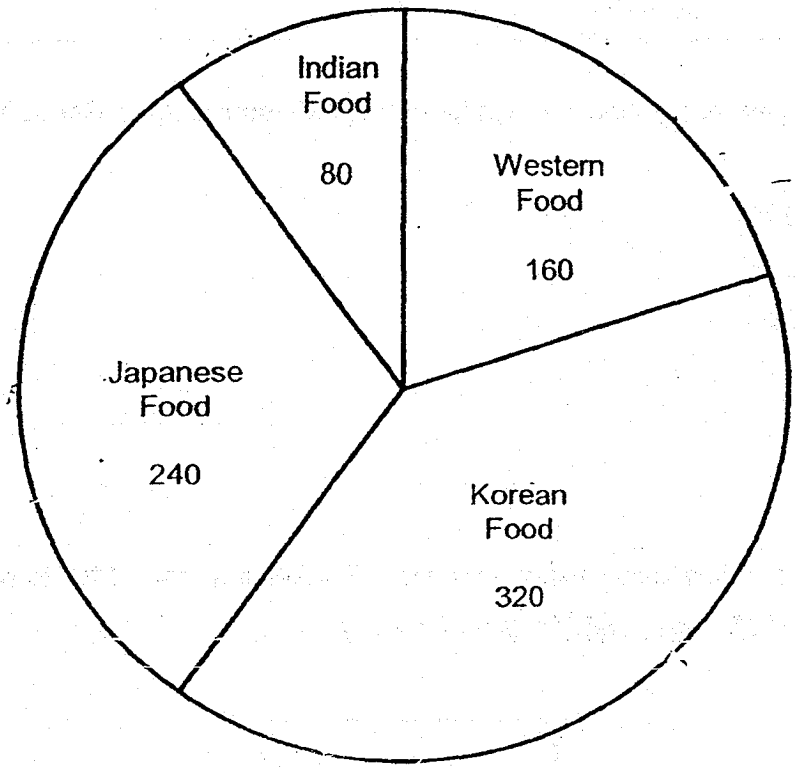
4. Find the value of $11y - 5 + \frac{7y}{4}$ when $y = 8$.

(1) 220
(2) 180
(3) 97
(4) 64

5. A rectangular block of wood measuring 50 cm by 5 cm by 5 cm was cut into five equal pieces. What was the volume of each piece of wood?

(1) 210 cm^3
(2) 250 cm^3
(3) 1 050 cm^3
(4) 1 250 cm^3

6. A group of 800 students was asked to choose their favourite food. The pie chart below shows their choices and the number of students who chose each type of food. Which type of food was chosen by 40% of the students?



(1) Indian Food
(2) Korean Food
(3) Western Food
(4) Japanese Food

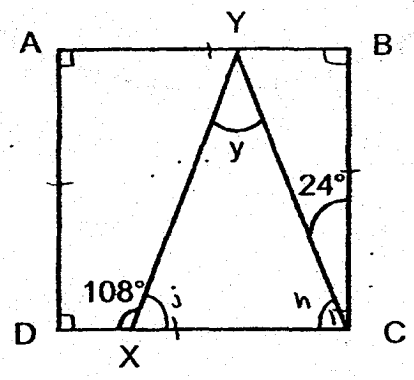
7. The table below shows the scores obtained by Choon Tuck in an online game.

Online Game	Score
Game 1	10
Game 2	25

Find the percentage increase in Choon Tuck's scores from Game 1 to Game 2.

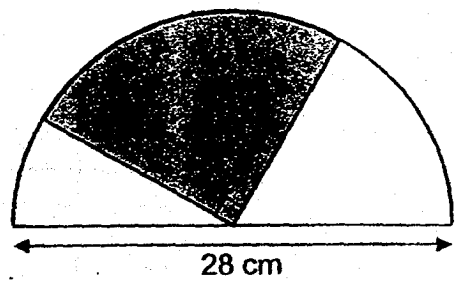
(1) 150%
(2) 100%
(3) 60%
(4) 40%

8. The figure below is not drawn to scale. ABCD is a square. CXY is a triangle. $\angle DXY = 108°$ and $\angle BCY = 24°$. Find $\angle y$.



(1) 42°
(2) 48°
(3) 66°
(4) 72°

9. The figure below is not drawn to scale. It shows a shaded quadrant in a semicircle. The diameter of the semicircle is 28 cm. Find the total area of the unshaded parts. (Take $\pi = \frac{22}{7}$)



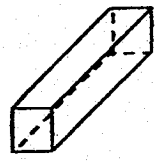
(1) 144 cm^2

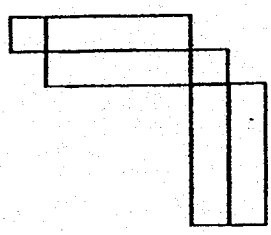
(2) 154 cm^2

(3) 308 cm^2

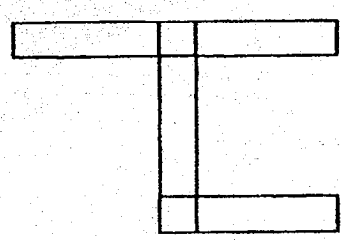
(4) 616 cm^2

10. Which of the following figure is <u>not</u> a net of the solid below?

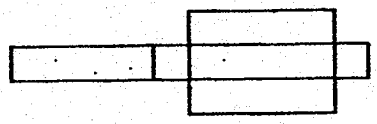




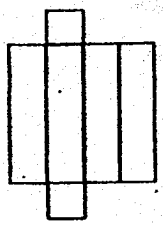
(1)



(2)



(3)

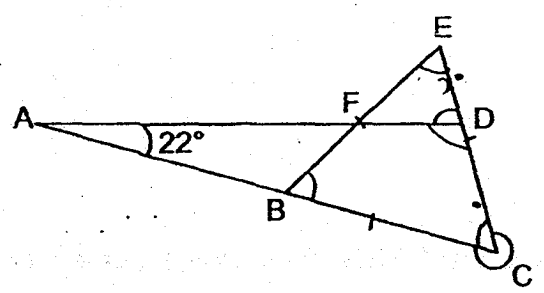


(4)

11. A group of Brownies calculated their average collection from a fundraising. They discovered that if one of them collected $200 more, their average collection would be $240. If one of them collected $340 less, their average collection would be $180. How many Brownies were there in the group?

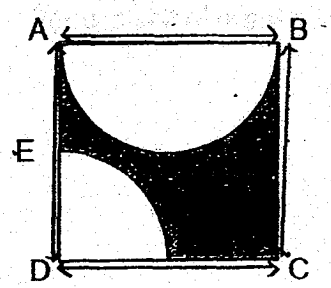
(1) 9
(2) 8
(3) 5
(4) 4

12. The figure below is not drawn to scale. BCE is an equilateral triangle. ABC and AFD are straight lines. If $\angle BAF = 22°$, what is the difference between the **marked angles**, $\angle EDF$ and $\angle BCD$?



(1) 338°
(2) 300°
(3) 278°
(4) 218°

13. The figure below is not drawn to scale. ABCD is a square of area 100 m^2. A semicircle and a quadrant lie within Square ABCD. AE = ED. Find the area of the shaded part. (Leave your answer in terms of π.)



(1) $(100 - 6\frac{1}{4}\pi)\ m^2$

(2) $(100 - 7\frac{1}{2}\pi)\ m^2$

(3) $(100 - 12\frac{1}{2}\pi)\ m^2$

(4) $(100 - 18\frac{3}{4}\pi)\ m^2$

14. There were 800 adults at a carnival. 80% of them were women. Halfway through, some women left the carnival. The ratio of the number of women to the number of men became 7 : 4. How many women left the carnival?

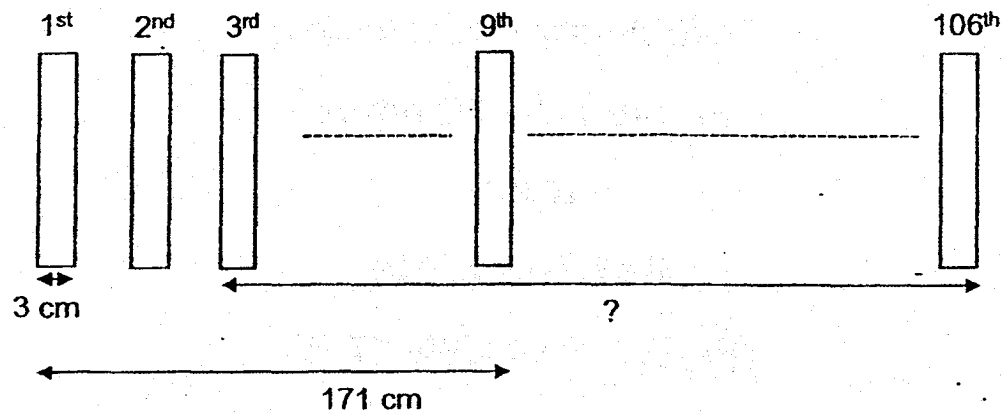
(1) 280

(2) 360

(3) 480

(4) 640

15. Nine identical rectangular cards are placed in a straight line at an equal distance from one another as shown below. The total distance taken from the 1st card to the 9th card is 171 cm. The width of each rectangular card is 3 cm.



What is the total distance taken from the 3rd card to the 106th card?

(1) 2166 cm
(2) 2160 cm
(3) 1989 cm
(4) 1957 cm

End of Booklet A

(Go on to Booklet B)

Temasek Primary School

Preliminary Examination

Primary Six Standard

2018

MATHEMATICS

(PAPER 1 BOOKLET B)

Name: _____ ( ) Class: 6 ( )

Date : 21 August 2018

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. You are not allowed to use a calculator.
6. This booklet consists of 9 printed pages.

25

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (5 marks)

16. Find the value of $66 - (36 + 3) \div 3$.

Ans: _____

17. Find the value of $22.62 \div 30$.

Ans: _____

18. The mass of flour in a bag was 5 kg. It was repacked into packets of $\frac{2}{5}$ kg each.

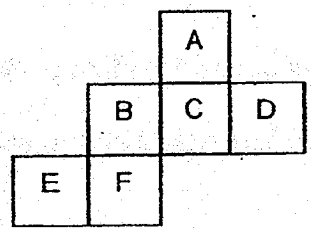
What was the most number of packets of flour that were repacked?

Ans: _____

19. Alice, Bernice and Clarissa sold 320 donation cards in the ratio of 4 : 3 : 1. How many donation cards did Alice sell?

Ans: _____

20. The figure below shows the net of a cube. The net is folded to make a cube. Which letter is opposite letter "F"?



Ans: _____

Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

---

21. A group of children donated $200 altogether. The table below shows the amount of money donated by each child in the group.

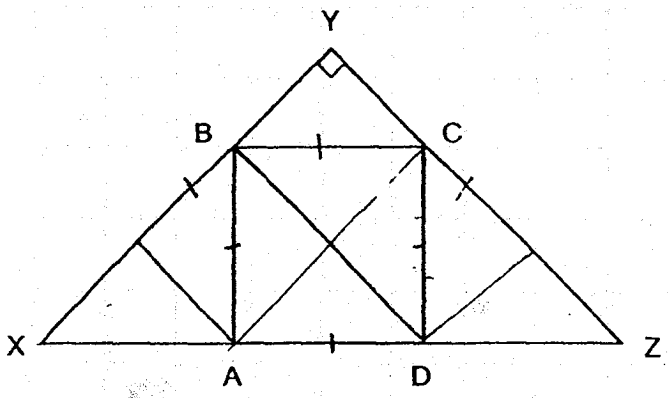
Amount of money donated per child	$1	$2	$3	$4
Number of children	35	24	15	?

How many children donated $4?

Ans: _____

---

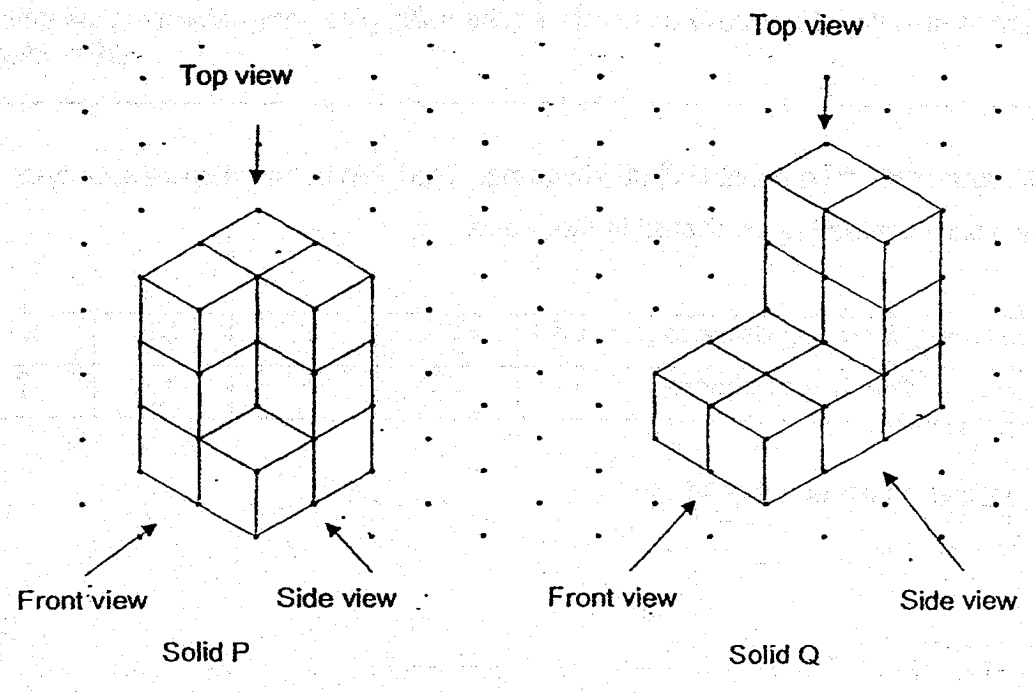
22. The figure below is not drawn to scale. ABCD is a square. XYZ is a right-angled isosceles triangle of area 108 cm^2. Find the area of Square ABCD.



Ans: _____ cm^2

---

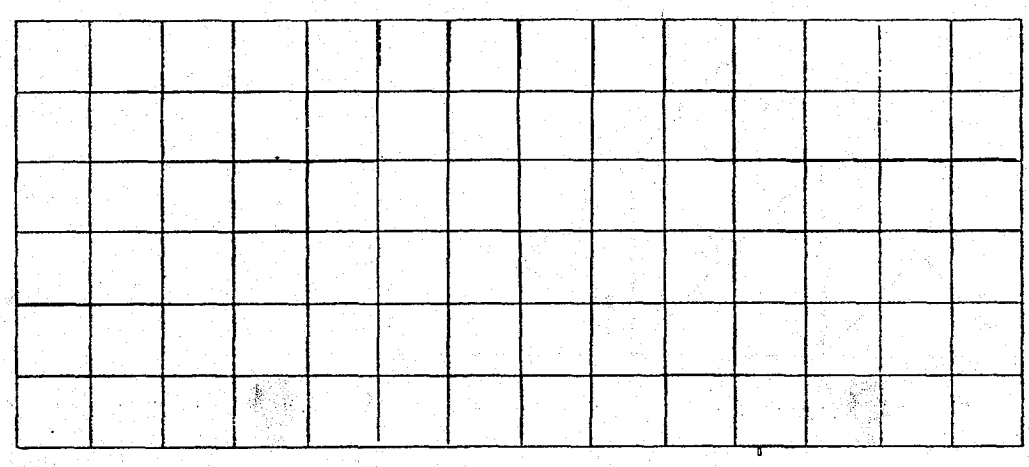
23. Study the solids below carefully.



(a) Name the view of Solid P and Solid Q that is the same. (1 mark)

Ans: (a) _____

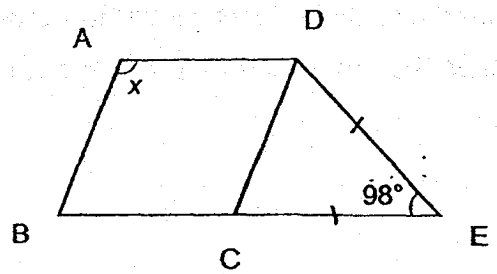
(b) Draw the view of Solid P and Solid Q that is the same below. (1 mark)



24. At a bookshop, 3 identical pens cost as much as 2 identical notebooks. Each pen costs \$0.80 less than each notebook. What is the cost of a notebook?

Ans: \$_____

25. The figure below is not drawn to scale. ABCD is a rhombus. CDE is an isosceles triangle. BCE is a straight line. CE = DE and $\angle CED = 98°$. Find $\angle x$.



Ans: _____°

26. Joyce was given a fixed amount of pocket money each month. In January, she spent $100 and saved the rest. In February, she spent 10% less and her savings increased by 25%. How much was Joyce's pocket money for each month?

Ans: _____

---

27. Bedok and Kuala Lumpur are about 360 km apart. At 9.00 a.m., Mr Chong travelled from Bedok to Kuala Lumpur while Mr Ma travelled from Kuala Lumpur to Bedok. Mr Chong's speed was 80 km/h while Mr Ma's speed was 70 km/h. Both of them did not change their speeds throughout their journeys. At what time did they pass each other?

Ans: _____ a.m.

---

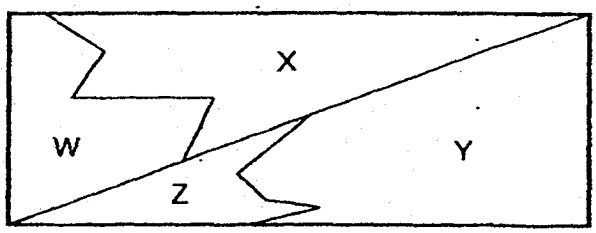
28. Ming Ming gave \$60 to his sister and $\frac{1}{5}$ of the remainder to his brother.

In the end, Ming Ming was left with $\frac{2}{3}$ of his money. How much money did Ming Ming have at first?

Ans: _____

---

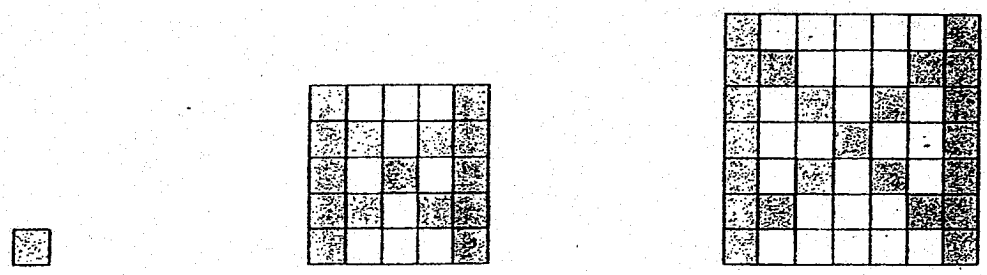
29. The rectangle below is divided into four parts W, X, Y and Z. The ratio of Area W to Area X is 3 : 5. The ratio of Area Y to Area Z is 1 : 2. What fraction of the total area is Area W? Give your answer in its simplest form.



Ans: _____

---

30. Azlinda formed the pattern below using white and grey tiles. Study the pattern carefully.



Pattern 1 Pattern

How many white tiles would Azlinda use to build Pattern 7?

Ans: _____

End of Paper

Temasek Primary School

Preliminary Examination

Primary Six Standard

2018

MATHEMATICS

(PAPER 2)

Name: _____ ( ) Class: 6 ( )

Date : 21 August 2018

Total Time : 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. You are allowed to use a calculator.
6. This booklet consists of 15 printed pages

Paper	Max Mark	Score
Paper 1 Booklet A	20	
Paper 1 Booklet B	25	
Paper 2	55	
Total Mark	100	

Parent's Signature/Date: _____

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

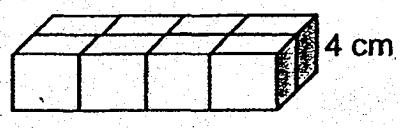
---

1. Lyndi had 15 m of cloth. She cut 2y cm from it to give to Bob. She gave Lucas 30 cm of the cloth. She used all the remaining cloth to sew 7 similar dresses. If Lyndi used equal length of cloth for each dress, what is the length of cloth used for each dress? Give your answer in terms of y.

Answer: _____ cm

---

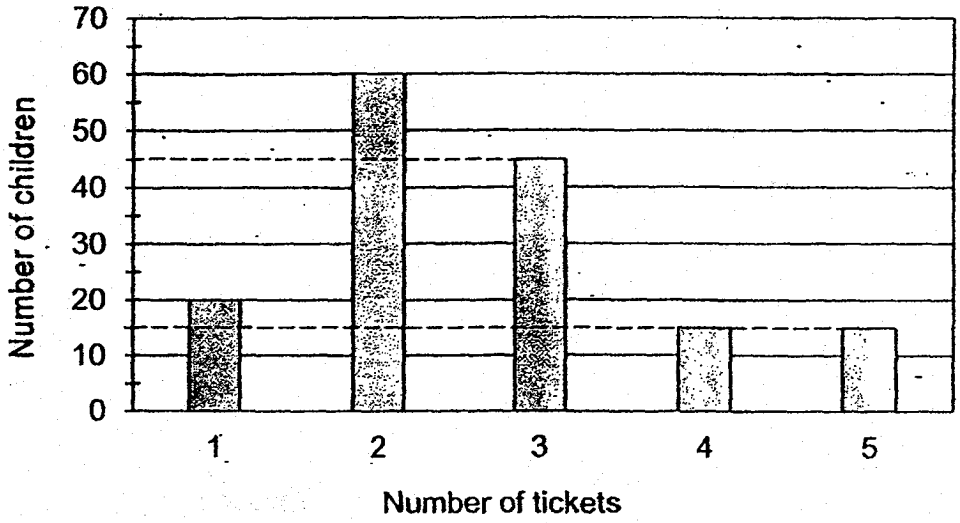
2. Dae made the cuboid shown below using cubes of sides 4 cm. What is the volume of the cuboid?



Answer: _____ cm^3

---

3. The bar graph below shows the number of tickets sold for a concert to a group of children.



How many children purchased more than 2 tickets?

Answer: _____

4. A group of girls shared some sweets among themselves. When each girl took 11 sweets, the last girl had 16 sweets. When each girl took 8 sweets, there were 32 sweets left over. How many sweets were there altogether?

Answer: _____

5. Jamie takes 6 days to paint a house. Her sister takes 10 days to paint the same house. If they work together, what fraction of the house will they be able to paint in 3 days? Give your answer in its simplest form.

Answer: _____

For questions 6 to 17, show your working clearly and write your answers in spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

---

6. Joash bought a total of 30 notebooks and pencil cases. Each notebook cost \$9 and each pencil case cost \$3 more. The total cost of the pencil cases is \$87 more than the total cost of the notebooks.

   (a) How many notebooks did Joash buy?

   (b) How much did he spend on all the pencil cases?

Answer: (a) _____ [2]

(b) _____ [1]

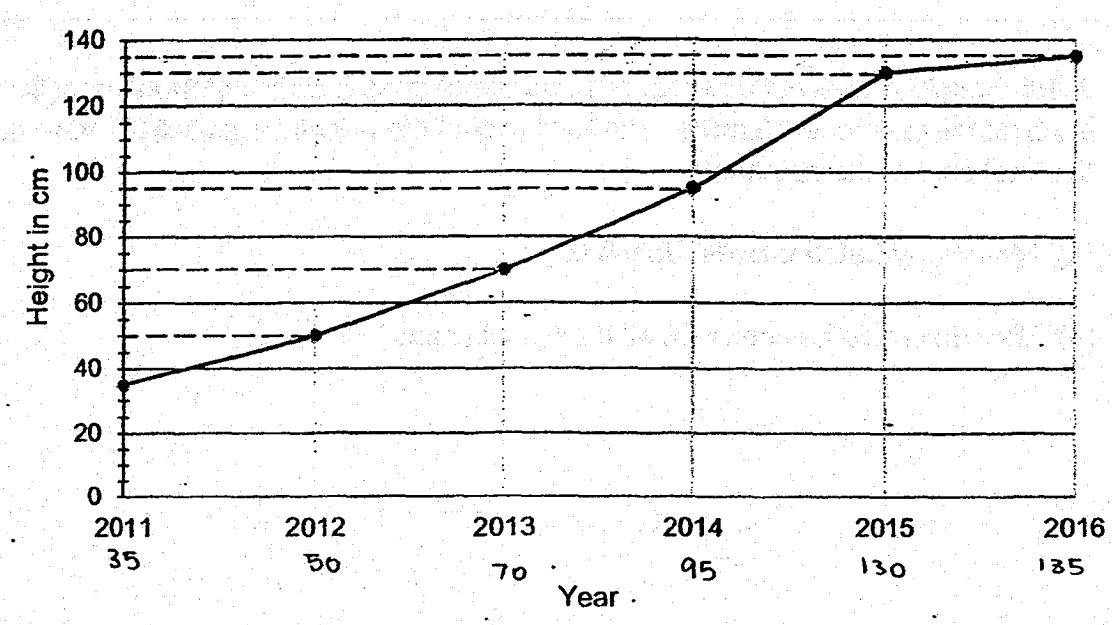
---

7. Ken travelled from his house to the park. He ran $\frac{1}{3}$ of the journey in 3 minutes and jogged $\frac{3}{5}$ of the remaining journey. He walked the rest of the journey in 2.5 minutes at an average speed of 80m/min. What was Ken's running speed?

Answer: _____ [3]

---

8. The line graph below shows the height of a mango tree measured in January of each year from 2011 to 2016.



(a) In which year was the height the mango tree twice its height in 2011?

(b) What was the average height of the mango tree from 2012 to 2015?

Answer: (a) _____ [1]

(b) _____ [2]

9. The table below shows the number of buns sold at a bakery last week.

Day	Number of buns sold
Monday to Friday	$2y$ per day
Saturday	$y + 50$
Sunday	$3y - 15$

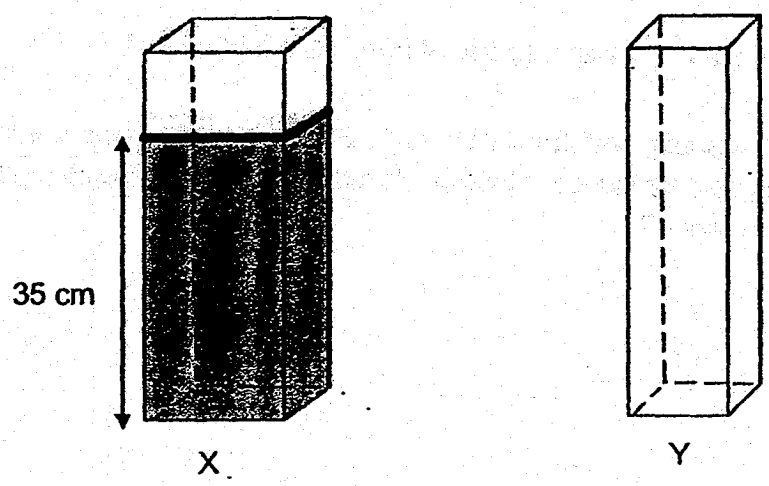
(a) If $y = 28$, what was the total number of buns sold last week?

(b) The buns were usually sold for \$1.50 each. However, there was a 40% discount on all the buns sold last week. How much did the bakery collect from the sales of all the buns last week?

Answer: (a) _____ [2]

(b) _____ [1]

10. X and Y are two rectangular containers. The base area of X is 90 cm^2 while that of Y is 60 cm^2. At first, X contained water to a height of 35 cm and Y was empty, as shown below. Richard then poured some water from X to Y. After that, the height of the water level in X was 4 times that in Y. What was the new height of the water level in X?



Answer: _____ [3]

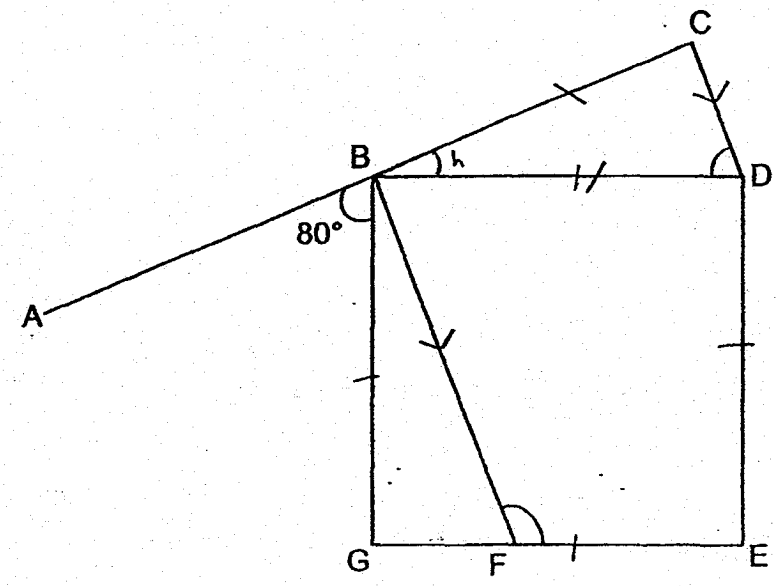
11. Roy had to paint a piece of paper. He painted $\frac{1}{5}$ of the paper yellow and 85 cm^2 of the paper red. He then painted $\frac{1}{3}$ of the remainder green and the rest blue. If the area of the blue region is $\frac{1}{4}$ of the area of the whole piece of paper, find the area of the paper.

Answer: _____ [3]

12. In the figure below, not drawn to scale, BDEG is a square and BCD is an isosceles triangle. ABC is a straight line. BF // CD and ∠ABG = 80°

(a) Find ∠BDC.

(b) Find ∠BFE.



Answer: (a) _____ [1]

(b) _____ [3]

13. The table below shows the charges of a taxi company.

Flag Down	$2.50
Every 200m up to 10km	$0.10
Every 150m after 10km	$0.10
Morning Surcharge (7.00 a.m. to 9.30 a.m.)	$2.00

(a) Rachel took a taxi to work at 11.00 a.m. and travelled a total distance of 16km. How much was her taxi fare?

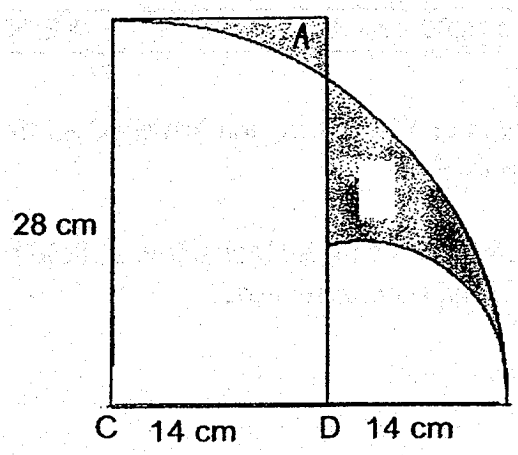
(b) Ryan paid $18 for his taxi fare when he took a taxi at 8.30 a.m. What was the maximum distance he could have travelled?

Answer: (a) _____ [2]

(b) _____ [2]

14. The figure shows two quadrants of circles, centred at C and D respectively. Find the difference between the area of the two shaded regions.

(Take $\pi = \frac{22}{7}$)



Answer: _____ [4]

15. Marcus wants to make 35 large identical stars and 20 small identical stars using wire. He has made 20 large stars and 14 small ones using 12.48 m of wire. The length of wire he used for 5 small stars is the same as that for 4 large stars.

(a) How many small stars can be made with the same length of wire used to make 20 large stars?

(b) What is the length of wire he needs to make the remaining stars?

Answer: (a) _____ [1]

(b) _____ [4]

16. There are a total of 300 people at a party. The ratio of the number of men to the number of adults is 3 : 5. The ratio of the number of boys to the number of children is 1 : 2. The total number of males is 166.

(a) How many adults are there at the party?

(b) How many girls are there at the party?

Answer: (a) _____ [3]

(b) _____ [2]

17. There were 27 pieces of \$5 notes and \$10 notes altogether in the piggy bank. Lukas used 75% of the \$5 notes and put in 12 more pieces of \$10 notes. As a result, the number of \$5 notes was 40% the number of \$10 notes.

(a) What was the total value of the \$5 notes at first?

(b) What was the total amount of money Lukas had in the piggy bank in the end?

Answer: (a) _____ [3]

(b) _____ [2]

End of Paper

ANSWER KEY

YEAR	:	2018
LEVEL	:	PRIMARY 6
SCHOOL :	:	TEMASEK PRIMARY
SUBJECT :	:	MATHEMATICS
TERM	:	PRELIMINARY EXAMINATION

Paper 1

Q1	3	Q4	3	Q7	1	Q10	2	Q13	4
Q2	3	Q5	2	Q8	1	Q11	1	Q14	2
Q3	4	Q6	2	Q9	2	Q12	4	Q15	1

Q16 53

Q17 0.754

Q18 12

Q19 160

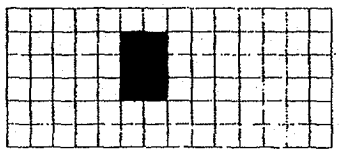
Q20 A

Q21 18

Q22 48 cm^2

Q23 (a) Front view

(b)



Q24 $2.40

Q25 139°

Q26 $140

Q27 11:24 am

Q28 \$360

Q29 $\frac{3}{16}$

Q30 170

<u>Paper 2</u>

Q1 7 dress $\rightarrow 15m - 2y$ cm $= 30$ cm
$\rightarrow (1500 - 2y - 30)$ cm
$\rightarrow (1470 - 2y)$ cm
Length of cloth per dress $\Rightarrow \left(\frac{1470 - 2y}{7}\right)$ cm

Q2 Vol. of 1 cube $\rightarrow (4 \times 4 \times 4)$ cm^3 = 64 cm^3
Vol. of 1 cuboid $\rightarrow$ 64 cm^3 x 8 $\Rightarrow$ <u>512 cm^3</u>

Q3 No. of children $\rightarrow 45 + 15 + 15 \Rightarrow$ <u>75</u>

Q4 Let x be the number of girls
$11x + 5 = 8x + 32$
$3x = 27$
$X = 27 \div 3 = 9$ girls
No. of sweets $\rightarrow 9 \times 8 + 32 \Rightarrow$ <u>104 sweets</u>

Q5 Jamie $\rightarrow$ 1 day $\rightarrow \frac{1}{6}$ house

Sister $\rightarrow$ 1 day $\rightarrow \frac{1}{10}$ house

Together $\rightarrow$ 1 day $\rightarrow \frac{1}{6} + \frac{1}{10} = \frac{4}{15}$ house

Fraction of house painted in 3 days $\rightarrow \frac{4}{15} \times 3 \Rightarrow \frac{4}{15}$

Solutions to Word Problems

Temasek Paper 2

P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. a)

Number of notebooks = n

Number of pencil cases = p

p + n = 30 (1)

9p + 9n = 270 (2) = (1) x 9

12p – 9n = 87 (3)

21p = 357

p = 17

Number of notebooks = n = 30 – 17 = 13

b)

Cost of all pencil cases = 12 x 17 = $204

Ans: (a) 13
(b) $204

---

7. Let total distance from house to park = 15u (multiple of 3, 5)

Remaining distance = $\frac{2}{3}$ x 15u = 10u

Walking distance = $\frac{2}{5}$ x 10u = 4u

Walking distance = 2.5 min x 80 m/min = 200 m

4u = 200m

u = 50 m

Running distance = $\frac{1}{3}$ x 15u = 5u = 5 x 50 = 250 m

Running speed = 250 ÷ 3 = 83.3 m / min

Ans: 83.3 m / min
.

---

8. a)

In Year 2013 the height of mango tree was double that in 2011

b)

Average height from 2012 to 2015 = (50+70+95+130) ÷ 4 = 86.25cm

Ans: (a) 2013

(b) 86.25cm

---

9. a)

Total buns sold last week = 2y x 5 + y + 50 + 3y – 15 = 14y + 35

= 14 x 28 + 35 =427

b) Discounted price for each bun = 1.50 x 0.6 = $0.90

Total sales = 427 x 0.90 = $384.30

Ans: (a) 427

(b) $384.30

---

10. Let final level at X = 4u

Final level at Y = u

Total volume at first = 90 x 35 = 3150 cm^3

Total volume at last = 4u x 90 + u x 60 = 420 u

420u = 3150

u = 3150 ÷ 420 = 7.5 cm

Final level at X = 7.5 x 4 = 30 m

Ans: 30 m

---

11. Let area of paper at first = 40u

$\frac{2}{3}$ of remainder painted blue → $\frac{1}{4}$ of total → 10u

$\frac{3}{3}$ of remainder → $\frac{3}{2}$ x 10u = 15u

Area painted yellow = $\frac{1}{5}$ x 40u = 8u

Area painted red = 40u – 15u – 8u = 17u

17u = 85

u = 5

Area of paper = 40 x 5 = 200 cm^2

Ans: 200 cm^2

---

12. a)

$\angle CBD = 180 - 80 - 90 = 10°$

$\angle BDC = (180 - 10) \div 2 = 85°$ (isosceles triangle)

b)

$\angle DBF = \angle BDC = 85°$ (alternate angle)

$\angle BFG = DBF = 85°$ (alternate angle)

$\angle BFE = 180 - 85 = 95°$

Ans: (a) 85°
(b) 95°

---

13. a)

First 10km charges = 10 ÷ 0.2 x 0.1 = $5.00

Fare of last 6 km = 6000 ÷ 150 x 0.1 = $4.00

Taxi fare = 2.50 + 5.00 + 4.00 = $11.50

b)

Morning fare minus surcharge = 18 – 2 = $16

Fare after 10km = 16 – 2.50 – 5.00 = $8.50

Distance after 10km = 8.50 ÷ 0.1 x 150 = 12.75km

Total distance = 10 + 12.75 = 22.75 km

Ans: (a) $11.50
(b) 22.75 km

---

14. Area of large quadrant = $\frac{1}{4}$ x $\frac{22}{7}$ x 28 x 28 = 616 cm^2

Area of small quadrant = $\frac{1}{4}$ x $\frac{22}{7}$ x 14 x 14 = 154 cm^2

Area of right side shaded areas

= large quadrant – small quadrant – (rectangle –A)

Difference in area of 2 shaded areas = large quadrant – small quadrant – rectangle + A – A

= 616 -154 – 28 x 14 = 70 cm^2

Ans: 70 cm^2

---

15. a)

Number of small stars = 20 x $\frac{5}{4}$ = 25

b)

25 small stars + 14 small stars = 12.48 m

Length of each small star = 12.48 ÷ 39 = 0.32 m

Length of each large star = (12.48 – 14 x 0.32) ÷ 20 = 0.4 m

Remainder number of large stars = 35 – 20 = 15

Length of 15 large stars = 15 x 0.4 = 6 m

Remainder number of small stars = 20 -14 = 6

Length of 6 small stars = 6 x 0.32 = 1.92 m

Length of remaining stars = 6 + 1.92 = 7.92 m

Ans: (a) 25
(b) 7.92 m

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16. a)

Ratio of number of men to adults → 3 : 5 → 3u : 5u

Ratio of number of boys to children → 1 : 2 → 1p : 2p

5u + 2p = 300	(1)	Total number of people
3u + 1p = 166	(2)	
6u + 2p = 332	(3) = (2) x 2	
u = 32	(4) = (3) – (1)	

Number of adults = 5u = 5 x 32 = 160

b)

3 x 32 + 1p = 166	substitute u into (2)

p = 166 – 96 = 70

Number of girls = 2p – 1p = 1p = 70

Ans: (a) 160

(b) 70

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17. a)

Let number of \$5 notes at first = u

Number of \$10 notes at first = p

u + p = 27	(1)
5u + 5p = 135	(2) = (1) x 5
In the end,	
$\frac{1}{4}$ u = 0.4 (p + 12)	(3)
5u = 8p + 96	(4) = (3) x 20
5u – 8p = 96	(5)
13p = 39	(1) – (5)
p = 3	
u = 27 – 3 = 24	

Total value of \$5 notes = 24 x 5 = \$120

b)

Total value at the end = $\frac{1}{4}$ x 24 x 5 + (3 + 12) x 10 = \$180

Ans: (a) \$120

(b) \$180
