



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

**2017 PRELIMINARY EXAMINATION  
MATHEMATICS  
PAPER 1 (BOOKLET A)  
PRIMARY SIX**

Name: \_\_\_\_\_ (     )     Class: Primary 6 \_\_\_\_\_

Date: 23 August 2017

Duration of Booklets A & B: 50 minutes

**INSTRUCTIONS TO CANDIDATES**

1. This question paper consists of **10** 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 on the Optical Answer Sheet (OAS) provided.
5. 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 (OAS). (20 marks)

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1. Mrs Lim bought a car for \$119 815.

What is this amount when rounded off to the nearest \$1000?

- 1) \$119 000
- 2) \$119 800
- 3) \$119 900
- 4) \$120 000

2. What is the missing number in the box?

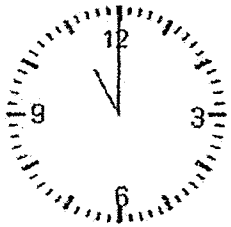
$$\frac{3}{11} \div \frac{2}{11} + \frac{2}{11} = \boxed{\phantom{00}} \times \frac{1}{11} + \frac{1}{11}$$

- 1) 5
- 2) 6
- 3) 7
- 4) 8

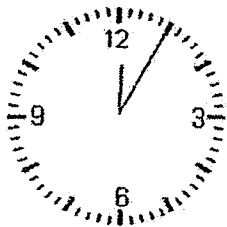
3. Find the value of  $\frac{3w}{2} - w + 4$  when  $w = 18$ .

- 1) 5
- 2) 9
- 3) 13
- 4) 45

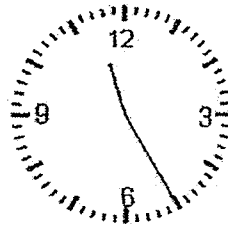
4. In the 4 clocks below, labelled A, B, C and D, which two clocks have a time difference of 20 minutes?



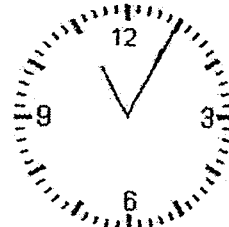
A



B



C

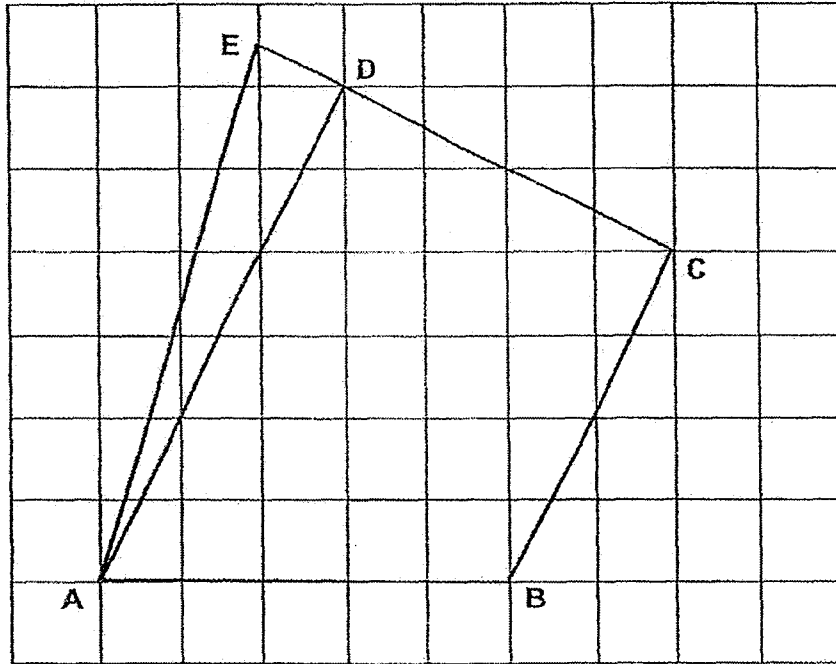


D

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



5. Which two lines in the square grid below are perpendicular to each other?

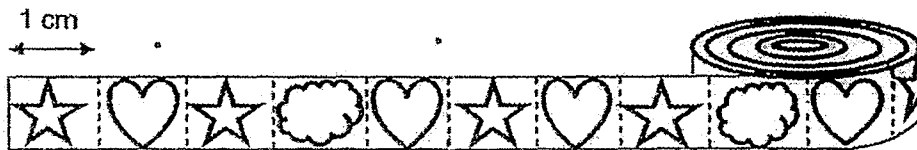


- 1) AE and EC
  - 2) AE and BC
  - 3) AD and BC
  - 4) AD and EC
6. A cube has 4 of its faces painted in blue. The total area painted in blue is  $64 \text{ cm}^2$ . What is the volume of the cube?
- 1)  $4 \text{ cm}^3$
  - 2)  $64 \text{ cm}^3$
  - 3)  $256 \text{ cm}^3$
  - 4)  $512 \text{ cm}^3$

7. Mrs Yeo has 110 gummies to be packed in gift bags. Each gift bag can hold a maximum of 6 gummies. What is the smallest number of gift bags she needs?

- 1) 16
- 2) 17
- 3) 18
- 4) 19

8. A roll of stickers is made up of stickers of star, heart and cloud shapes. The shapes are repeated in the pattern as shown below. Each shape sticker takes up about 1 cm of the roll of stickers.

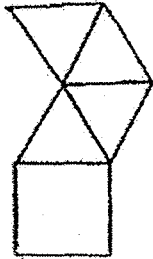


- Geoff gave away 1 m of the roll of stickers. How many heart shaped stickers would he have given away?

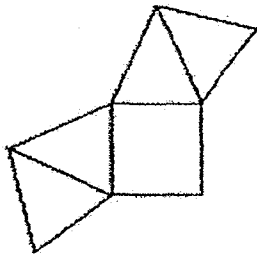
- 1) 20
- 2) 25
- 3) 40
- 4) 50

9. Which of the following is not a net of a pyramid?

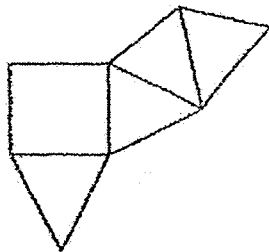
1)



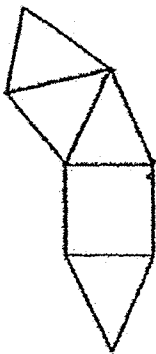
2)



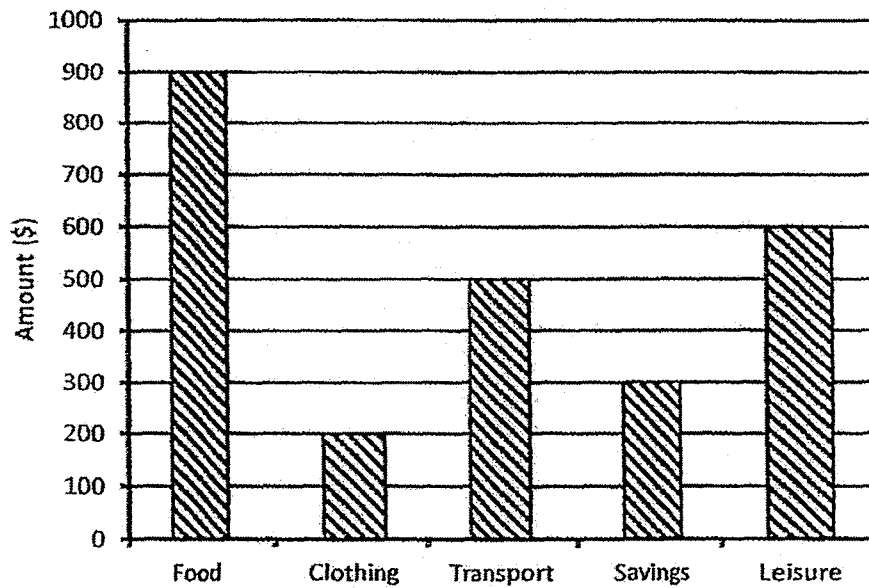
3)



4)



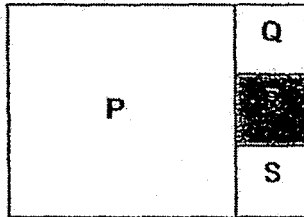
10. The bar graph below shows the expenditure of Mr Lee.



On which item does he spend  $\frac{2}{3}$  as much as the amount he spends on food?

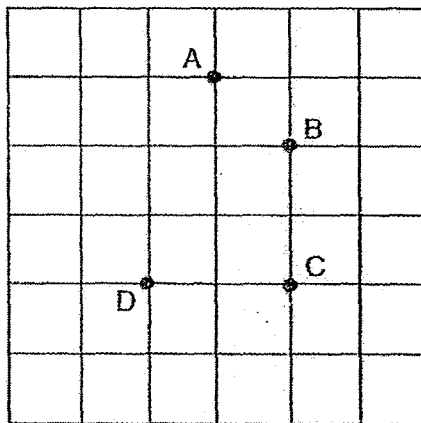
- 1) Clothing
- 2) Transport
- 3) Savings
- 4) Leisure

11. The figure is made up of 4 squares, P, Q, R and S. What fraction of the figure is square R?



- 1)  $\frac{1}{3}$   
2)  $\frac{1}{4}$   
3)  $\frac{1}{9}$   
4)  $\frac{1}{12}$

12.



Refer to the square grid above, which of the following statements is true?

- 1) Point B is south of Point A.  
2) Point C is north of Point B.  
3) Point A is north-east of Point D.  
4) Point D is south-west of Point B.

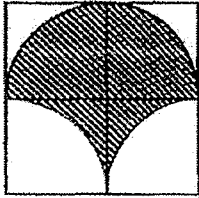
13. The average height of 3 children, Aaron, Benjamin and Coen, was 150 cm. Aaron was 9 cm taller than Benjamin and Benjamin was 12 cm shorter than Coen. Find the height of Benjamin.

- 1) 143 cm
- 2) 152 cm
- 3) 155 cm
- 4) 164 cm

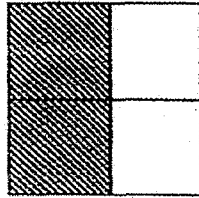
14. A sum of money was shared among Jonathan, Benny and Samuel in the ratio 4 : 8 : 5. If Jonathan and Benny received \$252 more than Samuel, how much money did Samuel receive?

- 1) \$105
- 2) \$180
- 3) \$240
- 4) \$315

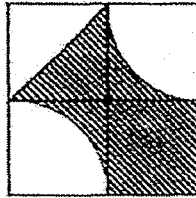
15. In the 4 diagrams below, labelled A, B, C and D, which 3 of them have the same shaded area?



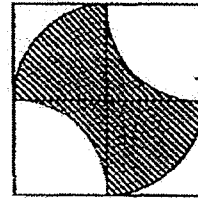
A



B

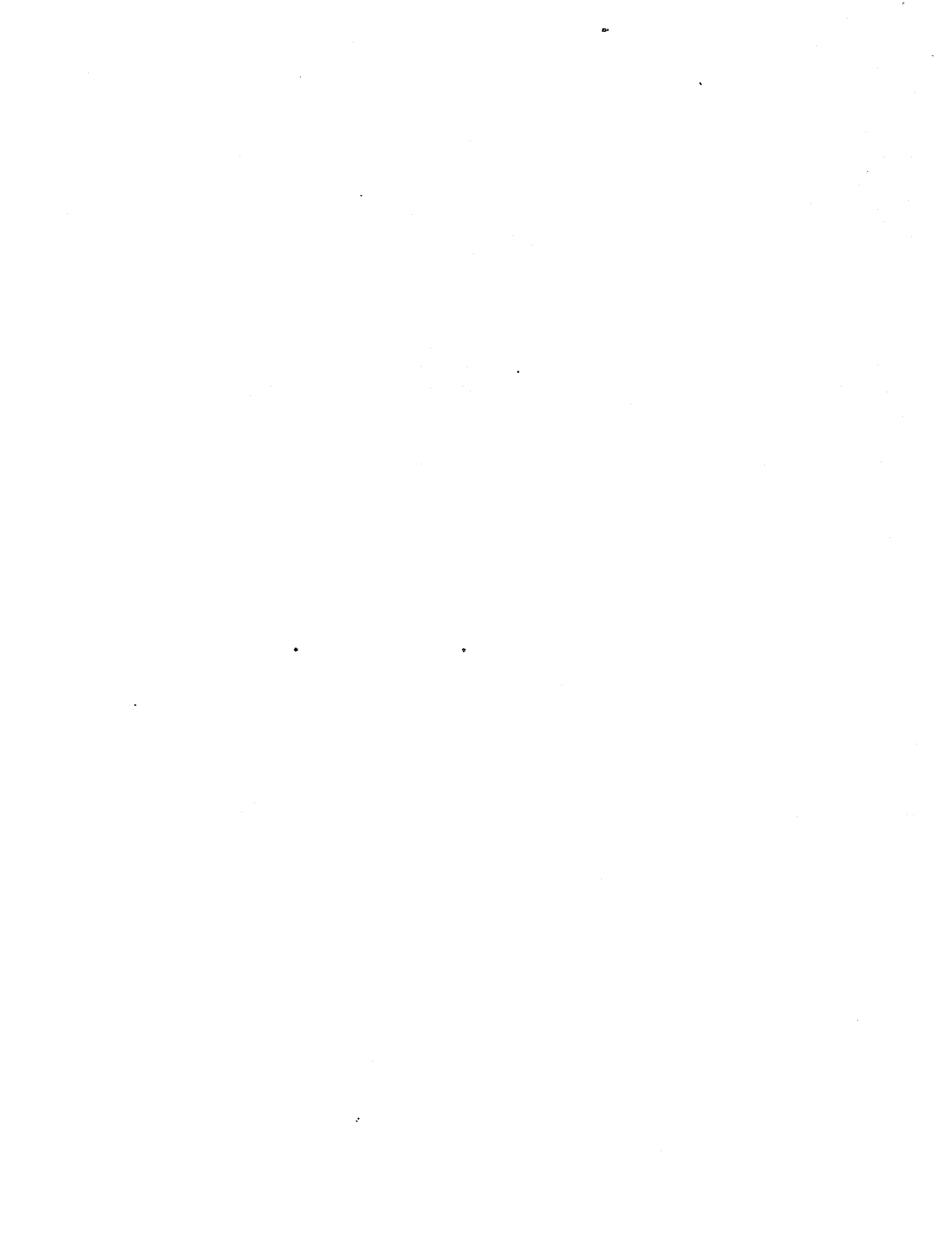


C



D

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





**PRELIMINARY EXAMINATION 2017  
MATHEMATICS  
PAPER 1 (BOOKLET B)  
PRIMARY SIX**

Name: \_\_\_\_\_ (     )                      Class: Primary 6 \_\_\_\_\_

Date: 23 August 2017

Duration of Paper Booklets A & B: 50 minutes

\_\_\_\_\_  
Parent's/Guardian's signature

**INSTRUCTIONS TO CANDIDATES**

1. This question paper consists of 8 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 not allowed to use a calculator.

Section	Maximum marks	Marks Obtained
Paper 1 Booklet A. Multiple-Choice Questions	20	
Paper 1 Booklet B. Short Answers: Part 1	10	
Paper 1 Booklet B. Short Answers: Part 2	10	
<b>Total Marks</b>	<b>40</b>	

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided.  
Give your answers in the units stated and to its simplest form whenever necessary.  
(10 marks)

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16. Find the value of  $80 - 56 \div 8 \times 6$ .

Ans : \_\_\_\_\_

17. Express  $6\frac{3}{8}$  as a decimal.

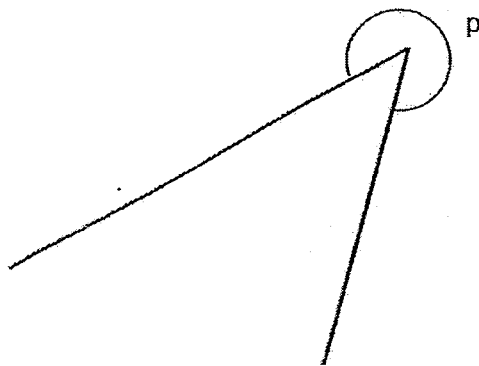
Ans : \_\_\_\_\_

18. 3 girls share 2 identical butter cakes equally.  
5 boys share 4 identical butter cakes equally.  
What is the difference between each boy's and each girl's share?

Ans : \_\_\_\_\_

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19. Measure and write down the size of  $\angle p$  in the figure.



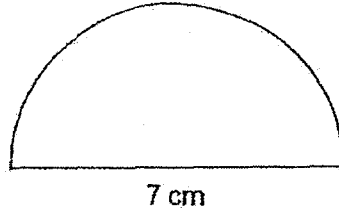
Ans : \_\_\_\_\_°

20. At a class gathering,  $\frac{1}{5}$  of the girls is equal to  $\frac{2}{7}$  of the boys. Express the total number of boys as a fraction of the total number of girls.

Ans :

21. What is the perimeter of a semicircle of diameter 7 cm?

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

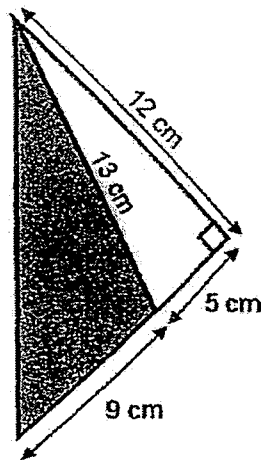


Ans : \_\_\_\_\_ cm

22. 7 machines can produce  $k$  cupcakes. How many cupcakes will 3 such machines produce?

Ans : \_\_\_\_\_

23. Find the area of the shaded part.



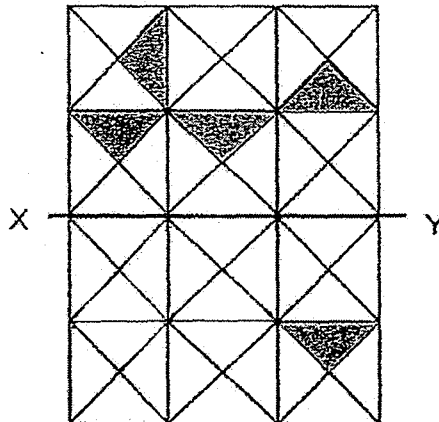
Ans : \_\_\_\_\_  $\text{cm}^2$

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24. Find the area of a circle of diameter 20 cm. (Take  $\pi = 3.14$ )

Ans : \_\_\_\_\_  $\text{cm}^2$

25. The figure below is made up of identical triangles. Five of them are shaded. Shade three more triangles so that XY is the line of symmetry for the figure.



Questions 26 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. (10 marks)

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26. Mr Wong has some bookmarks. If he gives each of his pupils 4 bookmarks, he will have 8 bookmarks left. If he gives each of his pupils 6 bookmarks instead, he will be short of 10 bookmarks. How many bookmarks did Mr Wong have?

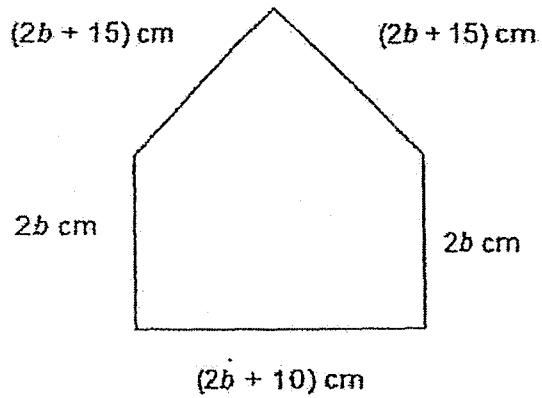
Ans : \_\_\_\_\_

27. A school has 1 500 pupils. 40% of them are girls. 60% of the boys go to school by school bus. How many boys go to school by school bus?

Ans : \_\_\_\_\_

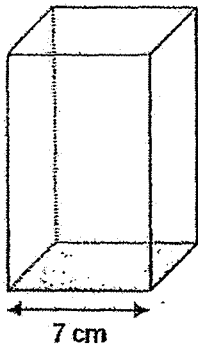
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28. John had 1.5 m of wire. He used some of it to form a shape as shown below. If  $b = 5$ , how much of the wire was not used to make the shape?



Ans : \_\_\_\_\_ cm

29. A rectangular vase has a square base. The height of the vase is twice the length of the square. Find the volume of the vase.

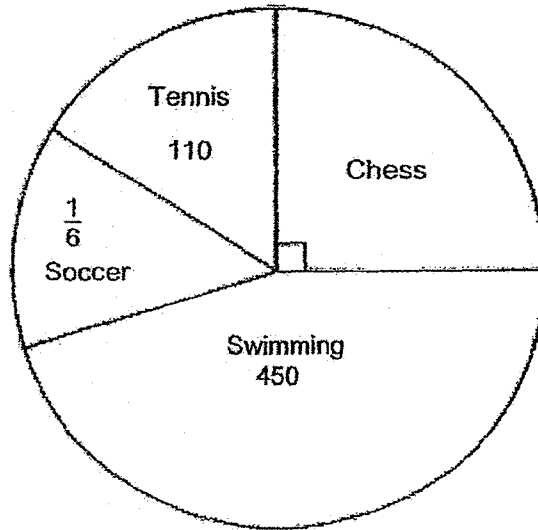


Ans : \_\_\_\_\_  $\text{cm}^3$

7

Sub-Total :

30. The pie chart below shows the results of a survey carried out among Primary 5 and Primary 6 pupils in a school to find out the favourite sport among the pupils.



How many pupils chose Chess as their favourite sport?

Ans : \_\_\_\_\_



**2017 PRELIMINARY EXAMINATION  
MATHEMATICS  
PAPER 2  
PRIMARY SIX**

Name: \_\_\_\_\_ (     )                      Class: Primary 6 \_\_\_\_\_

Date: 23 August 2017

Duration of Paper 2: 1 hour 40 minutes

\_\_\_\_\_  
Parent's/Guardian's signature

<b>INSTRUCTIONS TO CANDIDATES</b>	
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.

<b>Section</b>	<b>Maximum Marks</b>	<b>Marks Obtained</b>
Paper 2 Section A. Short Answers	10	
Paper 2 Section B. Problem Sums	50	
<b>Total Marks</b>	<b>60</b>	

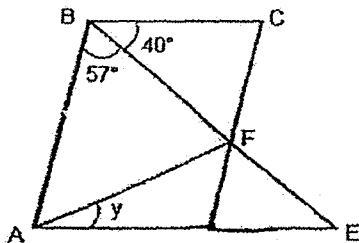
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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1. A restaurant is having a promotion on buffet. The price of the buffet is \$38 per customer. For every 3 paying customers, the 4<sup>th</sup> customer will dine for free. What is the greatest number of customers who dined at the buffet if \$608 was spent?

Ans : \_\_\_\_\_

2. In the diagram, ABCD is a parallelogram. ADE and BFE are straight lines.  $AF = BF$ ,  $\angle ABF = 57^\circ$  and  $\angle CBF = 40^\circ$ . Find  $\angle y$ .



Ans : \_\_\_\_\_°

3. A rectangular container with a base of 30 cm by 20 cm and height 10 cm was partially filled with water. After another  $1500 \text{ cm}^3$  of water was poured in, the container was completely filled. What was the height of the water level at first?

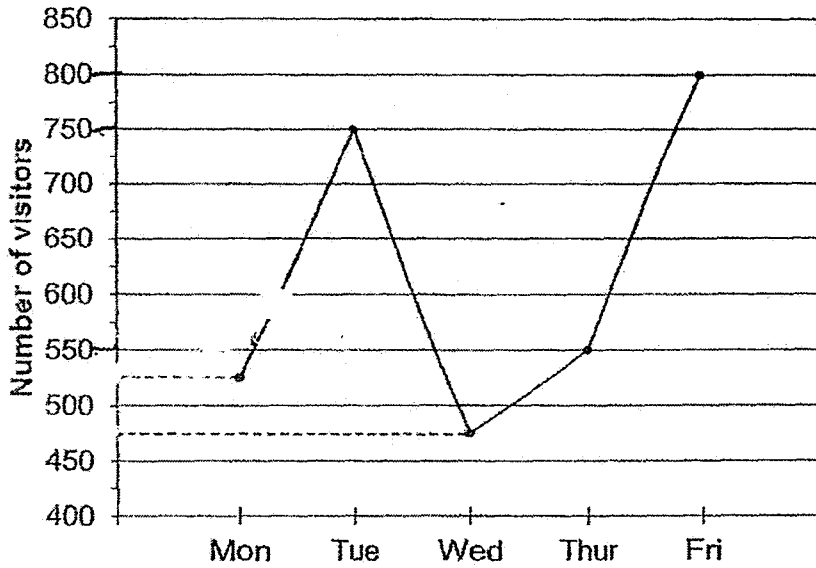
Ans : \_\_\_\_\_ cm

4. Jim was at the Airport in country A. At 2.15 p.m., he flew off to country B and arrived there 2 hours later and saw that the clock in country B showed 3.15 p.m. If the time in country A is 10 p.m., what time is it in country B?

Ans : \_\_\_\_\_ p.m.

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5. The line graph shows the number of visitors to the museum over five days.



What is the percentage of the total number of visitors who visited the museum on Monday? Round off your answer to the nearest 1 decimal place.

Ans : \_\_\_\_\_ %

For questions 6 to 18, 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. (50 marks)

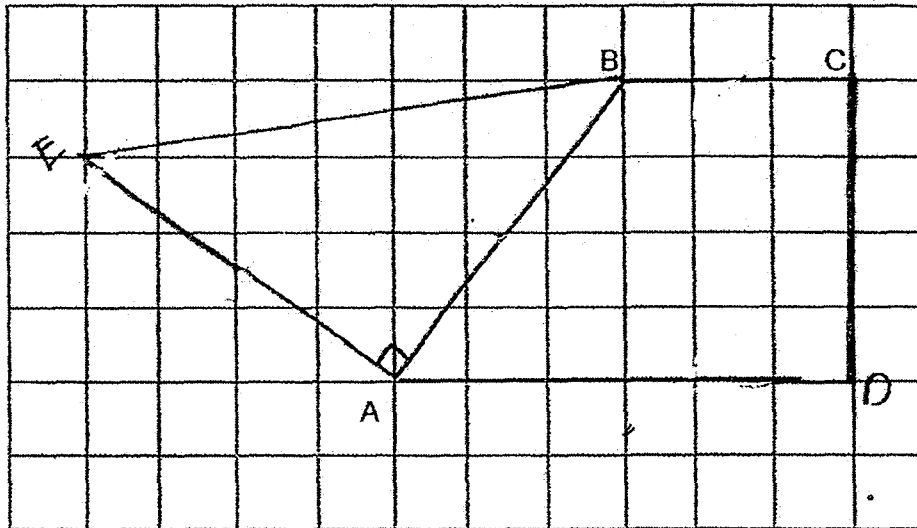
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6. Mrs Amin spent an equal amount of money on 4 apple pies and 7 curry puffs at a bakery. Each apple pie costs 90 cents more than each curry puff. How much did Mrs Amin spend altogether?

Ans : \_\_\_\_\_ [3]

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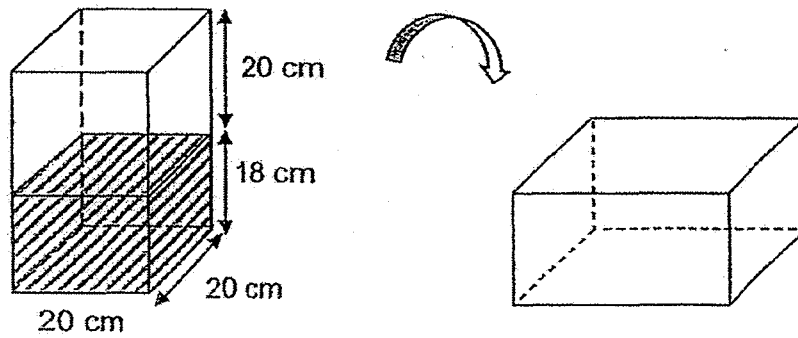
7. In the square grid below, two sides of a trapezium ABCD have been drawn.
- a) Complete the drawing of the trapezium within the grid such that BC is parallel to AD and AD is twice the length of BC. [1]
- b) AB also forms one side of a triangle ABE in which AB = AE and  $\angle BAE$  is a right angle. [2]



8. Caleb bought a camera with 40% of his money and a radio which costs \$83 less than the camera. If he spent \$265 altogether, how much money did he have at first?


Ans : \_\_\_\_\_ [3]

9. A rectangular container measuring 20 cm by 20 cm by 38 cm is completely sealed so that the water cannot be removed. The height of the water level is 18 cm. When it is turned to the side as shown below, what would the height of the water level be? Give your answer correct to 2 decimal places.



Ans : \_\_\_\_\_ [3]

10. The table below shows the number books read by each pupil in a class of 40 pupils. One of the numbers in the table is covered by an ink blot.

Number of books read by each pupil	0	14	
Number of pupils	4	20	16

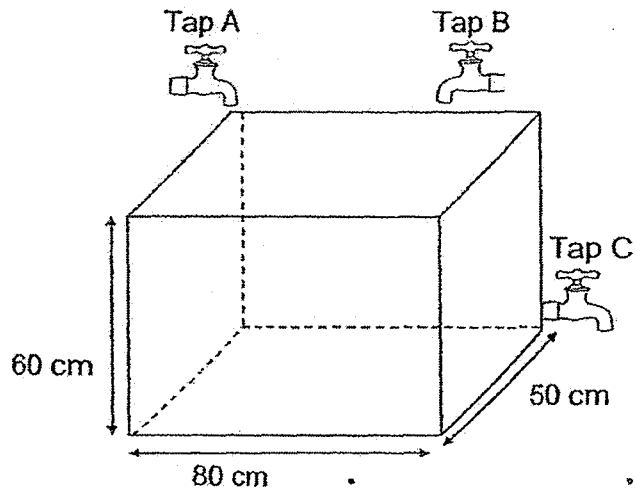
The average number of books read by the pupils in the class is 9.

What is the number covered by the ink blot?

Ans : \_\_\_\_\_ [3]



11. The figure below shows an empty rectangular tank measuring 80 cm by 50 cm by 60 cm. Water flows from Tap A into the tank at a rate of 8 litres per minute and from Tap B at a rate of 6 litres per minute. Tap C drains water from the tank at a rate of 4 litres per minute. At 1 p.m., Tap A was turned on. At 1.15 p.m., Taps B and C were also turned on. At what time will the tank be completely filled with water?



Ans: \_\_\_\_\_ [4]

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12. Jasmine spent  $\frac{4}{9}$  of her money on 6 mugs. She bought another 3 identical mugs and 10 files with the rest of her money.

- a) What fraction of her money did she spend on the 10 files?
- b) How many files could she buy if she had spent all her money on files only?

Ans : a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [2]

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13. Mr Gopal spent  $\frac{1}{5}$  of his money on 5 mechanical pencils and 12 highlighters. The cost of each mechanical pencil is 3 times the cost of each highlighter. He bought some more of the same mechanical pencils with  $\frac{1}{3}$  of his remaining money.

- a) What fraction of his money was spent on the additional mechanical pencils?
- b) How many mechanical pencils did he buy altogether?

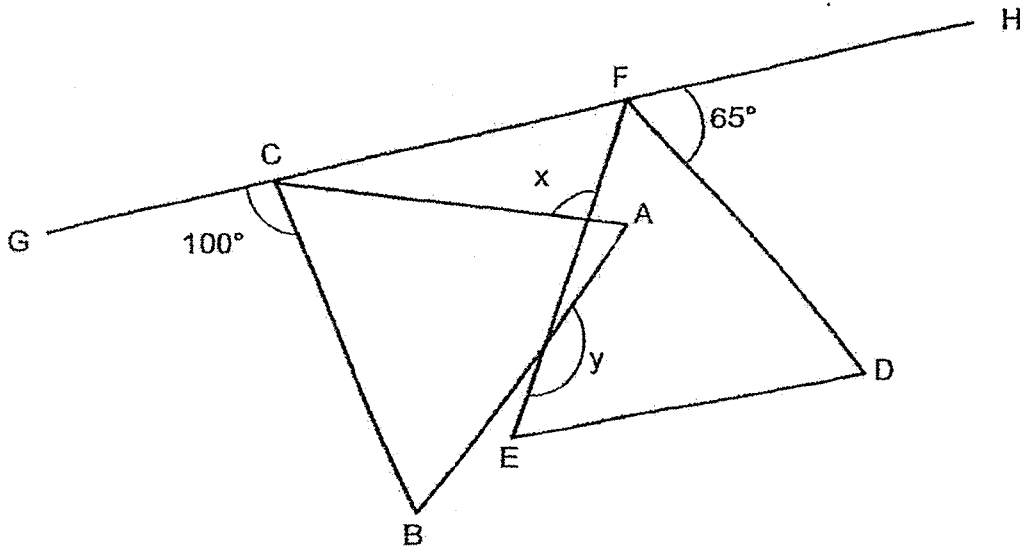
Ans : a) \_\_\_\_\_ [1]

b) \_\_\_\_\_ [3]

14. In the diagram below, ABC and DEF are equilateral triangles. GCFH is a straight line.  $\angle DFH = 65^\circ$  and  $\angle GCB = 100^\circ$ .

a) Find  $\angle x$ .

b) Find  $\angle y$ .



Ans : a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [2]

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15. At 9 a.m., Katie left Sunville and drove towards the city at an average speed of 60 km/h. Two hours later, Perry also left Sunville and drove along the same route as Katie. After travelling 270 km, Perry caught up with Katie.

(a) What was Perry's average speed?

(b) How far apart would they be at 3 p.m.?

Ans : a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [2]

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16. At a florist, roses are sold at 4 stalks for \$9 while carnations are sold at 7 stalks for \$6. Mrs Ting bought an equal number of stalks of roses and carnations. She spent \$117 more on the roses.

- a) How many stalks of flowers did she buy altogether?
- b) Her sister visited the same florist and spent an equal amount of money on the stalks of roses and carnations. What fraction of the stalks of flowers she bought were roses?

Ans : a) \_\_\_\_\_ [3]

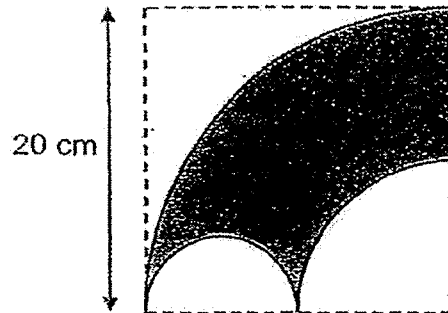
b) \_\_\_\_\_ [2]

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17. A figure is drawn on a square piece of paper of side 20 cm. Its outline consists of a large quadrant, 1 smaller quadrant, a semi-circle and a straight line. The radius of the smaller quadrant is twice the radius of the semi-circle.

For each of the following, use the calculator value of  $\pi$  to find

- a) the perimeter of the figure correct to 2 decimal places,  
b) the area of the figure correct to 2 decimal places.



Ans : a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [3]

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18. The total number of sweets in Container A, Container B, Container C and Container D was 450. After I doubled the number of sweets in Container A, took out half of the sweets in Container B; added 50 sweets to Container C and took out 40 sweets from Container D, the number of sweets in Container A to Container B to Container C to Container D is then in the ratio 1 : 2 : 3 : 4.
- a) What is the ratio of the number of sweets in Container A to the number of sweets in Container B at first?
  - b) What is the total number of sweets in the four containers in the end?

Ans : a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [3]

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End of Paper 2

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# ANSWER KEY

YEAR : 2017  
LEVEL : PRIMARY 6  
SCHOOL : : ANGLO-CHINESE (JUNIOR/PRIMARY)  
SUBJECT : : MATHEMATICS  
TERM : PRELIMINARY EXAMINATION

## Paper 1

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

Q16 38

Q17 6.375

Q18  $\frac{2}{15}$

Q19  $315^\circ$

Q20  $\frac{7}{12}$

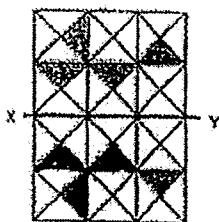
Q21 18 cm

Q22  $\frac{3k}{7}$

Q23  $54 \text{ cm}^2$

Q24  $314 \text{ cm}^2$

Q25



Q26 44 bookmarks

Q27 540 boys

Q28 60 cm

Q29  $686 \text{ cm}^3$

Q30 240 pupils

Paper 2

Q1 21 customers

Q2  $26^\circ$

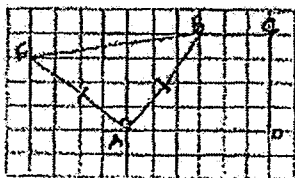
Q3  $30 \times 20 \times 10 = 6000$   
 $6000 - 1500 = 4500$   
 $4500 \div 30 \div 20 \Rightarrow 7.5 \text{ cm}$

Q4 9pm

Q5  $525 + 750 + 475 + 550 + 800 = 3100$   
 $3100 \div 100 = 31$   
 $525 \div 31 = 16.9354 \approx \underline{16.9^\circ}$

Q6  $4a = 7c$   
 $4 \times 0.9 = 3.6$   
 $3.6 \div 3 = 1.2$   
 $1.2 \times 7 \times 2 \Rightarrow \$16.80$

Q7 (a & b)



Q8  $40\% \text{ on camera } \}$   
 $40\% - 83 \text{ on radio } \} 265$   
 $265 + 83 = 348$   
 $348 \div 80 = 4.35$   
 $4.35 \times 100 \Rightarrow \underline{\$435}$

Q9  $20 \times 20 \times 18 = 7200$   
 $7200 \div 38 \div 20 = 9.4736 \approx \underline{9.47 \text{ cm}}$

Q10  $9 \times 40 = 360$   
 $20 \times 14 = 280$   
 $360 - 280 = 80$   
 $80 \div 16 \Rightarrow \underline{5}$

Q11  $8000 \times 15 = 120000$   
 $60 \times 80 \times 50 = 240000$   
 $240000 - 120000 = 120000$   
 $8 + 6 - 4 = 10$   
 $120000 \div 10000 = 12$   
 $1:15 \text{ pm} + 12 \text{ min} \Rightarrow 1:27 \text{ pm}$

Q12 (a)  $\frac{4}{9} = 6 \text{ mugs}$

$$\frac{2}{9} = 3 \text{ mugs}$$

$$\frac{6}{9} = 9 \text{ mugs}$$

$$\frac{9}{9} - \frac{6}{9} \Rightarrow \frac{3}{9}$$

(b)  $\frac{3}{9} \times 3 = \frac{9}{9}$

$$10 \times 3 \Rightarrow \underline{30 \text{ files}}$$

Q13 (a)  $\frac{4}{15}$

(b) 17 pencils

Q14 (a)  $\angle CFE = 180^\circ - 60^\circ - 65^\circ \rightarrow 55^\circ$   
 $\angle FCA = 180^\circ - 100^\circ - 60^\circ \rightarrow 20^\circ$   
 $\angle x = 180^\circ - 20^\circ - 55^\circ \Rightarrow \underline{105^\circ}$

(b)  $\angle CJB = 180^\circ - 105^\circ \rightarrow 75^\circ$   
 $\angle EJA = 180^\circ - 75^\circ \rightarrow 105^\circ$   
 $\angle y = 180^\circ - (180^\circ - 105^\circ - 60^\circ) \Rightarrow \underline{165^\circ}$

Q15 (a)  $270 - 120 = 150$   
 $150 \div 60 = 2.5 \text{ hr}$   
 $270 \div 2.5 \Rightarrow \underline{108 \text{ km/h}}$

(b)  $108 \times 1\frac{1}{2} = 162$

$60 \times 1\frac{1}{2} = 90$

$162 - 90 \Rightarrow \underline{70 \text{ km}}$

Q16 (a) 168 stalks

(b)  $\frac{8}{29}$

Q17 (a)  $40 \times \frac{1}{4} \times \pi = 10$

$10 \times \frac{1}{2} \times \pi = 5$

$20 \times \frac{1}{4} \times \pi = 5$

$10\pi + 5\pi + 5\pi + 10 = 72.8318 \approx \underline{72.83 \text{ cm}}$

(b)  $196.35 \text{ cm}^2$

Q18 (a) 1 : 8

(b)  $450 - 40 = 410$

$410 + 50 = 460$

$460 \div 23 = 20$

$20 \times 20 \Rightarrow \underline{400 \text{ sweets}}$



**CATHOLIC HIGH SCHOOL**  
**PRELIMINARY EXAMINATION TWO (2017)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET A)**

Name : \_\_\_\_\_ ( )

Class : Primary 6 - \_\_\_\_\_

Date : 23 August 2017

Total Time for Booklets A and B: 50 min

15 questions

20 marks

**INSTRUCTIONS TO CANDIDATES**

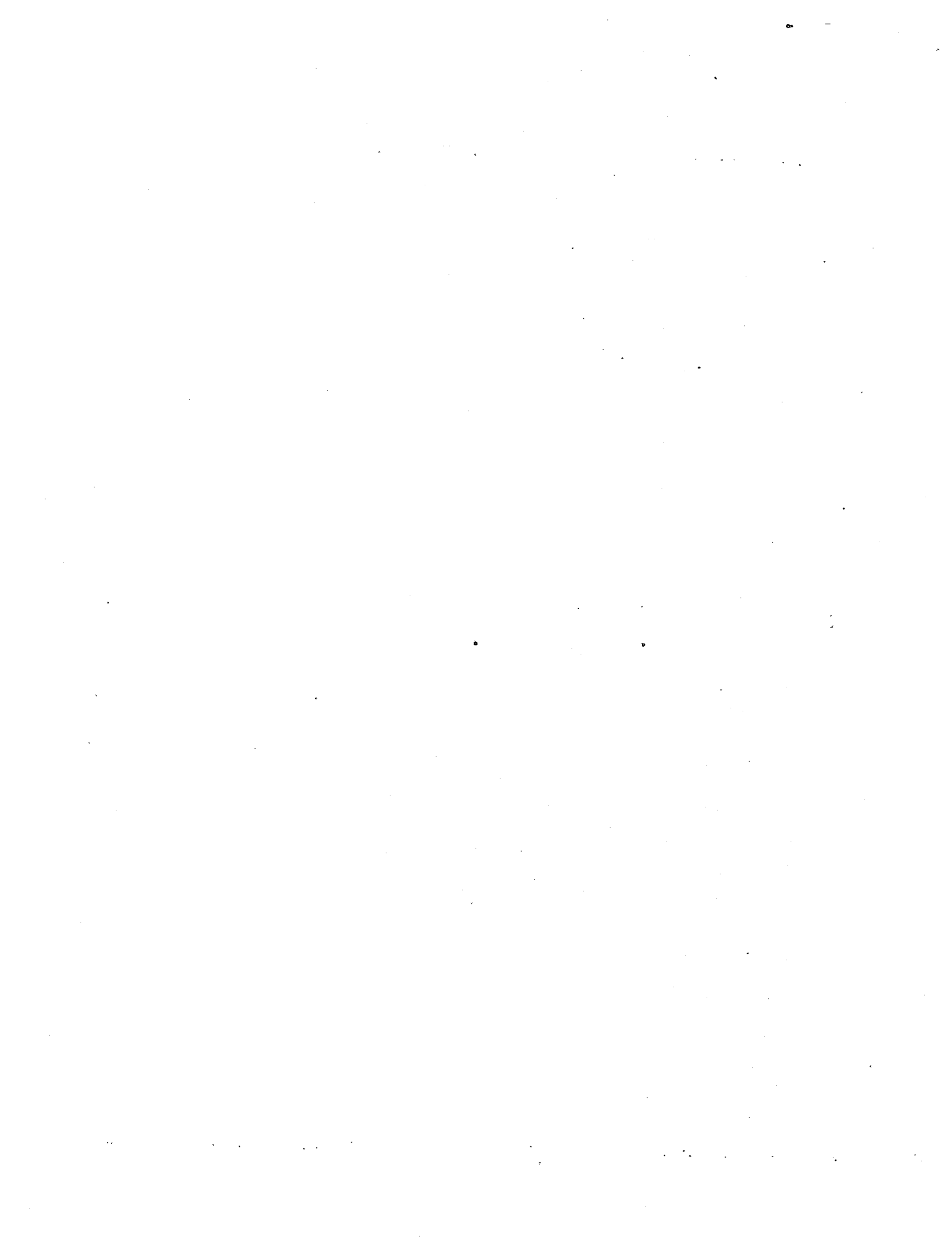
Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

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

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



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)

---

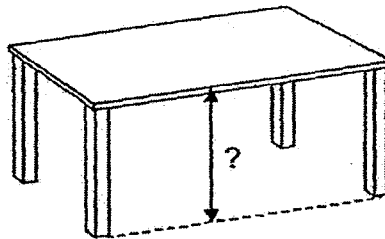
1. Round 16 641 to the nearest hundred.

- (1) 16 000
  - (2) 16 600
  - (3) 16 700
  - (4) 17 000
- 

2. Which one of the following is the same as 3090 g?

- (1) 3 kg 9 g
  - (2) 3 kg 90 g
  - (3) 30 kg 9 g
  - (4) 30 kg 90 g
- 

3. Which one of the following is likely to be the height of a dining table top from the ground?



- (1) 8.5 cm
  - (2) 8.5 m
  - (3) 85 cm
  - (4) 85 m
- 

(Go on to the next page)

4. What is the value of 2 ones, 8 tenths and 14 hundredths?

- (1) 2.804
  - (2) 2.814
  - (3) 2.84
  - (4) 2.94
- 

5. Which one of the following has the same value as  $7 \div \frac{3}{5}$ ?

- (1)  $\frac{7}{1} \times \frac{5}{3}$
  - (2)  $\frac{7}{1} \times \frac{3}{5}$
  - (3)  $\frac{1}{7} \times \frac{3}{5}$
  - (4)  $\frac{1}{7} \times \frac{5}{3}$
- 

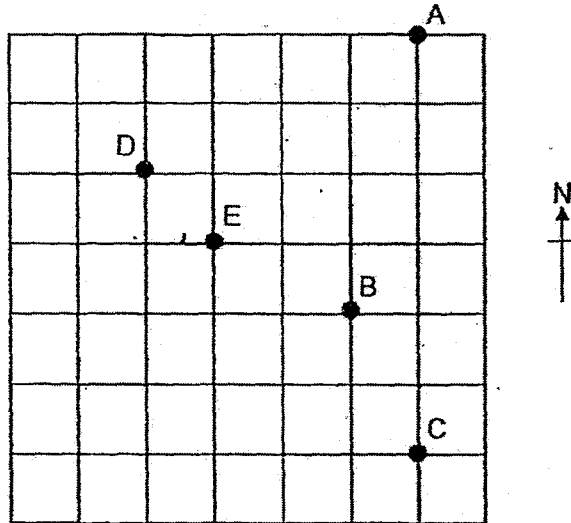
6. Express 0.7% as a fraction.

- (1)  $\frac{1}{7}$
  - (2)  $\frac{7}{10}$
  - (3)  $\frac{7}{100}$
  - (4)  $\frac{7}{1000}$
- 

(Go on to the next page)



7. Five landmarks A, B, C, D and E on a map are shown in the square grid below.



Dennis is at landmark E.  
He faces west and turns  $135^\circ$  anti-clockwise.  
Which one of the following landmark is he now facing?

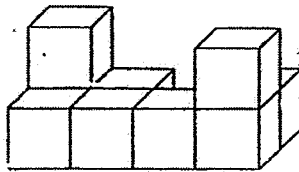
- (1) A
  - (2) B
  - (3) C
  - (4) D
- 
8. Wendy paid \$280 for 3 similar shirts and 2 similar belts. The price of each belt is half the price of each shirt. What is the price of each belt?
- (1) \$35
  - (2) \$40
  - (3) \$56
  - (4) \$70
- 

(Go on to the next page)

9. Jane used a packet of flour to bake some muffins and cupcakes. After using  $\frac{2}{5}$  of the packet of flour for muffins and 210 g of flour for cupcakes, she had 150 g of flour left. What was the mass of flour used for the muffins?

- (1) 70 g
  - (2) 120 g
  - (3) 240 g
  - (4) 600 g
- 

10. The solid shown is formed using some unit cubes. How many unit cubes are used to form the solid?



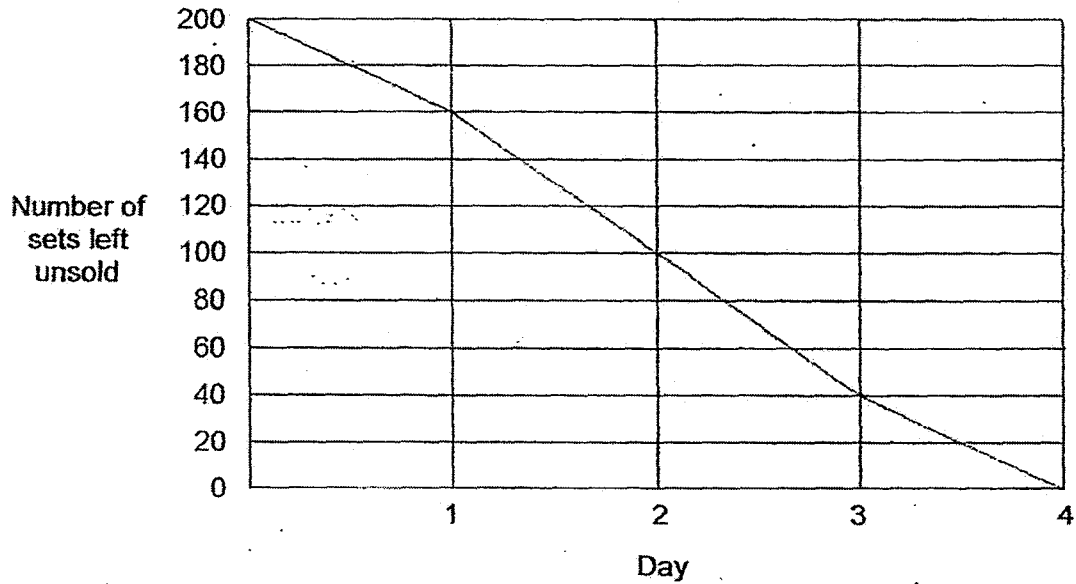
- (1) 8
  - (2) 9
  - (3) 10
  - (4) 11
- 

11. The price of a Pego figure set was \$20. Sally bought one such figure set and had to pay 7% GST on the price. How much did she pay for the Pego figure set?

- (1) \$1.40
  - (2) \$9.80
  - (3) \$21.40
  - (4) \$27
- 

(Go on to the next page)

12. A toy store sold 200 sets of brick games during a 4-day sale. The line graph shows the number of sets left unsold at the end of each day.

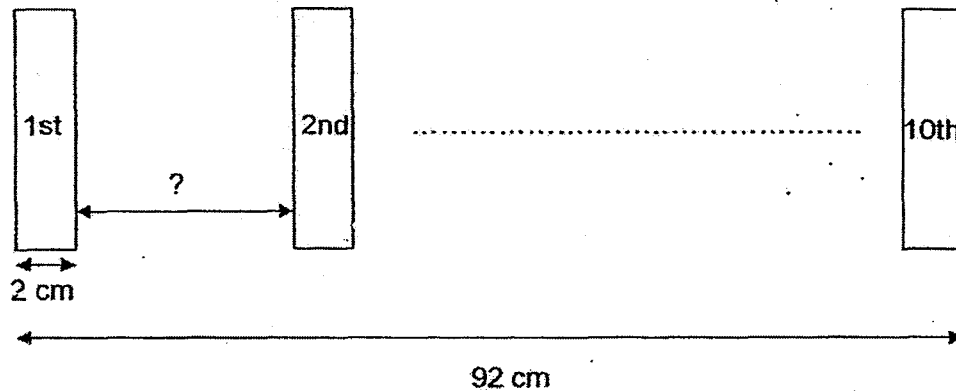


What percentage of the brick games were sold at the end of Day 3?

- (1) 20%
  - (2) 40%
  - (3) 60%
  - (4) 80%
- 
13. John had thrice as many local stamps as foreign stamps. After giving away 59 local stamps and 11 foreign stamps, John had equal number of local and foreign stamps left. How many foreign stamps were there at first?
- (1) 24
  - (2) 35
  - (3) 72
  - (4) 105

(Go on to the next page)

14. 10 identical rectangular cards are placed in a straight line at equal distance from one card to the next card.



How far apart is one rectangular card from the next one?

- (1) 7.2 cm
  - (2) 8 cm
  - (3) 9 cm
  - (4) 9.2 cm
- 
15. A box contained equal number of red and blue marbles. The blue marbles are repacked into 2 smaller bags in the ratio 5 : 7. The difference in the number of marbles between the two bags is 30 marbles. How many marbles were there in the box at first?

- (1) 90
- (2) 105
- (3) 180
- (4) 360

END OF BOOKLET A

**PRELIMINARY EXAMINATION (2017)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET B)**

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

Total Time for Booklets A and B: 50 min

15 questions

20 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.

Questions 16 to 25 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

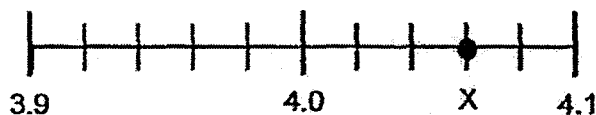
16. Write one million, ten thousand and ninety in numerals.

Ans: \_\_\_\_\_

17. Find the value of  $56 - (20 \div 5) \times 3 + 1$

Ans: \_\_\_\_\_

18. The number line below is marked at equal intervals. What is the value of X?



Ans: \_\_\_\_\_

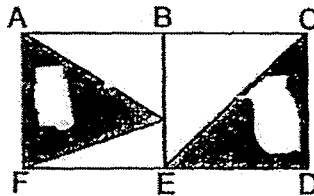
(Go on to the next page)

19. Write down all the common factors of 30 and 36.

Do not write  
in this space

Ans: \_\_\_\_\_

20. Figure ABCDEF is made up of 2 identical squares ABEF and BCDE.  
What fraction of the figure is shaded?  
Give your answer in the simplest form.



Ans: \_\_\_\_\_

21. Find the value of  $\frac{8m}{3} - m$  when  $m = 6$ .

Ans: \_\_\_\_\_

(Go on to the next page)

22. The table shows the car park charges at a car park.

First hour	\$2.50
Every subsequent $\frac{1}{2}$ hour or part thereof	\$1.50

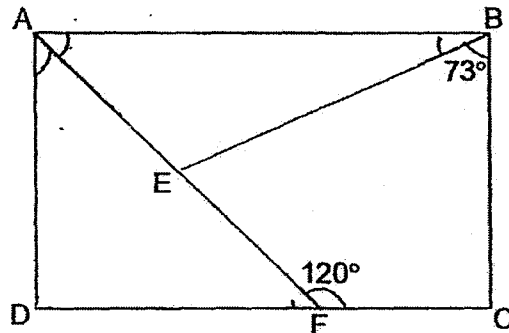
Mrs Lee parked in the car park from 8.45 a.m. to 11.00 a.m. on the same day. How much did she pay for the car park charges?

Do not write  
in this space

Ans: \$ \_\_\_\_\_



23. In the figure, ABCD is a rectangle. AEF is a straight line. Find  $\angle BEF$ .



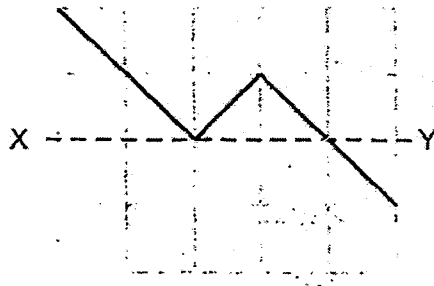
Ans: \_\_\_\_\_



(Go on to the next page)



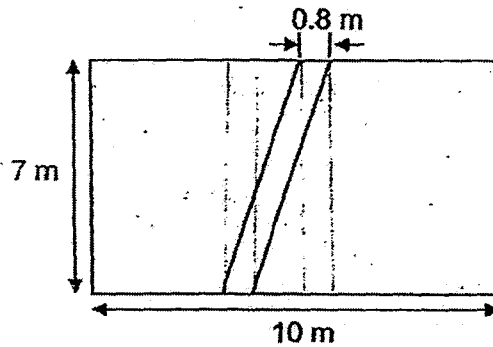
24. In the square grid below, three straight lines are drawn. Draw three more straight lines to form a symmetric figure with XY as the line of symmetry.



Do not write in this space



25. The figure below shows a rectangular garden of length 10 m and breadth 7 m with a footpath of 0.8 m wide. What is the area of the garden excluding the footpath?



Ans: \_\_\_\_\_ m<sup>2</sup>



marks for questions 16 to 25



(Go on to the next page)

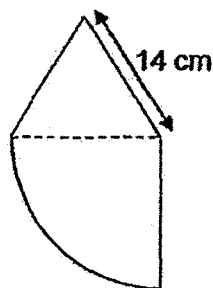
Questions 26 to 30 carry 2 marks each. Show your working and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

26. At a fruit stall, 3 mangoes cost as much as 2 papayas. Each papaya costs \$0.70 more than a mango. What is the cost of a papaya?

Ans: \$ \_\_\_\_\_

27. The figure below is made up of a quarter circle and an equilateral triangle. Find the perimeter of the figure. Give your answer in terms of  $\pi$ .

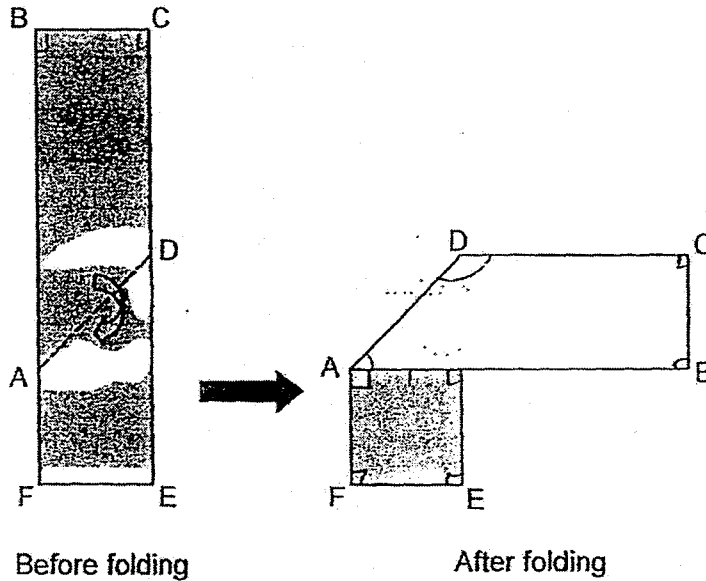


Ans: \_\_\_\_\_ cm

(Go on to the next page)

28. A rectangular piece of paper BCEF is folded along the dotted line AD as shown below. Find  $\angle ADC$ .

Do not write in this space



Ans: \_\_\_\_\_ °

29. Some chicken nuggets were shared among a group of children. When each child tried taking 5 chicken nuggets, there were 12 chicken nuggets left over. When each child tried to take 8 chicken nuggets, they found that they needed 6 more nuggets. How many children were there in the group?

Ans: \_\_\_\_\_

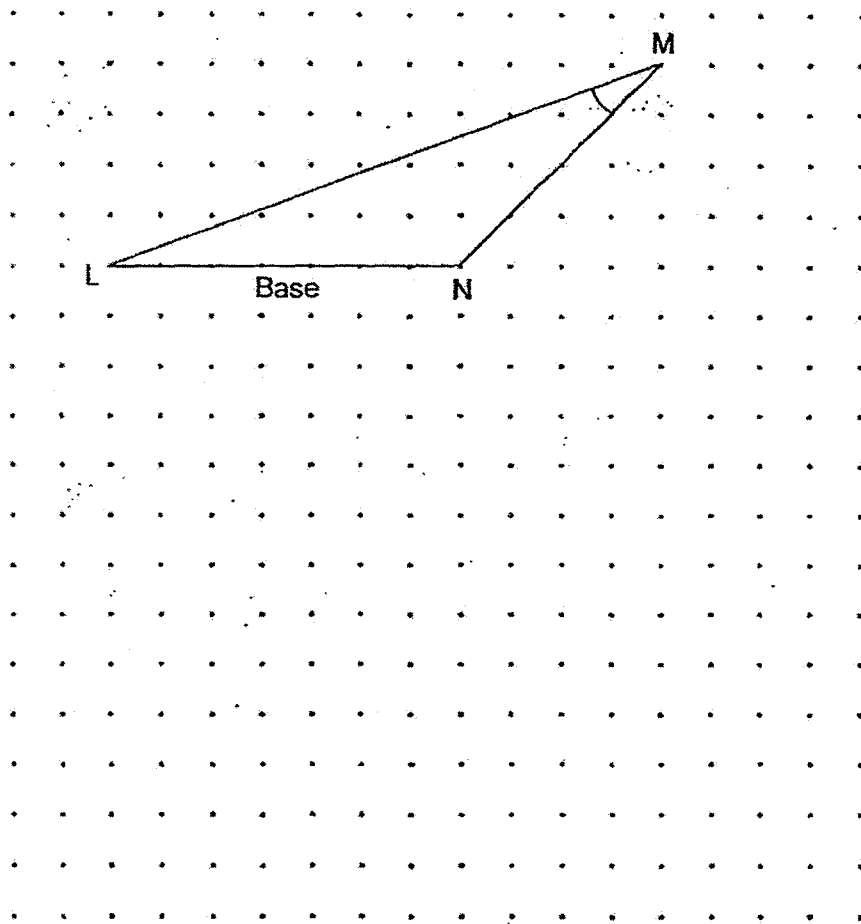
(Go on to the next page)

30. A triangle LMN is drawn by joining dots on the square grid below with three straight lines.

Do not write  
in this space

(a) Measure and write the size of  $\angle LMN$ .

(b) In the same way, draw a right-angled triangle with the same area as triangle LMN and the same base LN.



Ans: (a) \_\_\_\_\_ °

Total marks for questions 26 to 30

END OF BOOKLET B  
END OF PAPER 1



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. All diagrams are not drawn to scale. (10 marks)

Do not write  
in this space

1. A fish burger costs \$1 less than a chicken burger. The total cost of 4 fish burgers is \$x.

(a) Express the cost of 20 fish burgers in terms of x.

(b) Express the cost of a chicken burger in terms of x.

Ans: (a) \$ \_\_\_\_\_

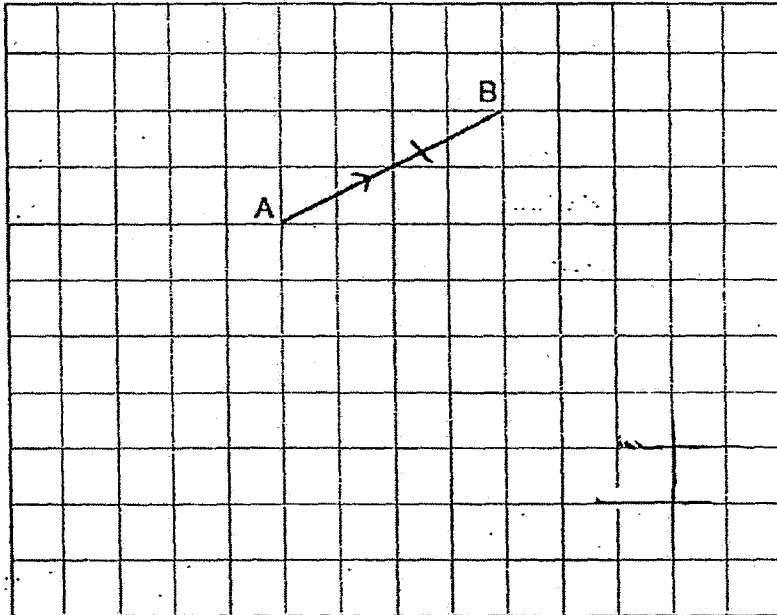
(b) \$ \_\_\_\_\_

2. The average of 4 numbers is 27. When one of the numbers is removed, the sum of the remaining numbers is 72. What is the number that has been removed?

Ans: \_\_\_\_\_

3. In the square grid below, AB is one side of a trapezium ABCD.  
 (a) Draw and label BC that is equal in length as AB and perpendicular to AB.  
 (b) Draw and label CD that is parallel to AB and twice the length of AB.

Do not write  
in this space



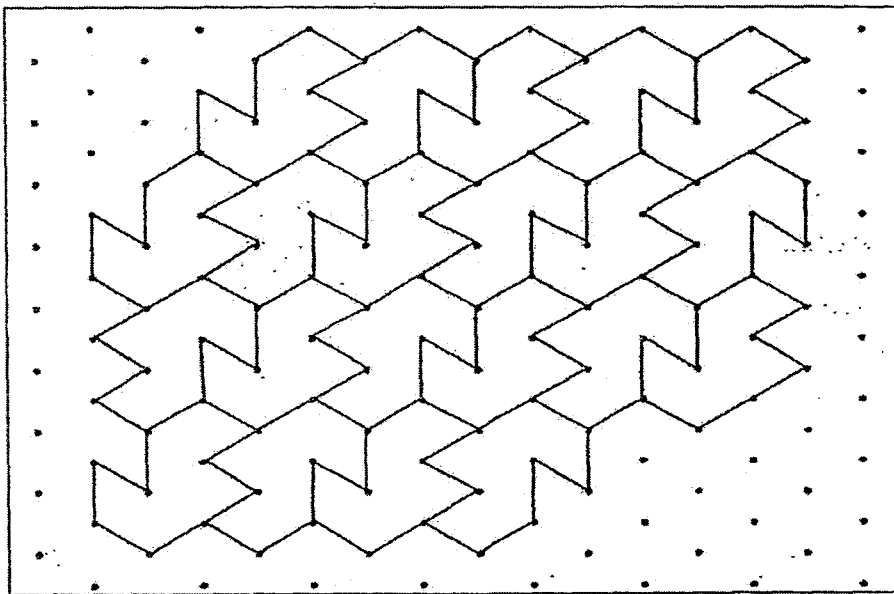
4. Maverick and Nathan completed a run with a total time of 23 minutes. Maverick was 5 minutes faster than Nathan. How long did Maverick take to complete the run?

Ans: \_\_\_\_\_ min



5. The pattern in the box shows part of a tessellation. Extend the tessellation by drawing two more unit shapes in the space provided in the box.

Do not write  
in this space



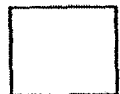


For questions 6 to 18, show your working and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. All diagrams are not drawn to scale. (50 marks)

Do not write  
in this space

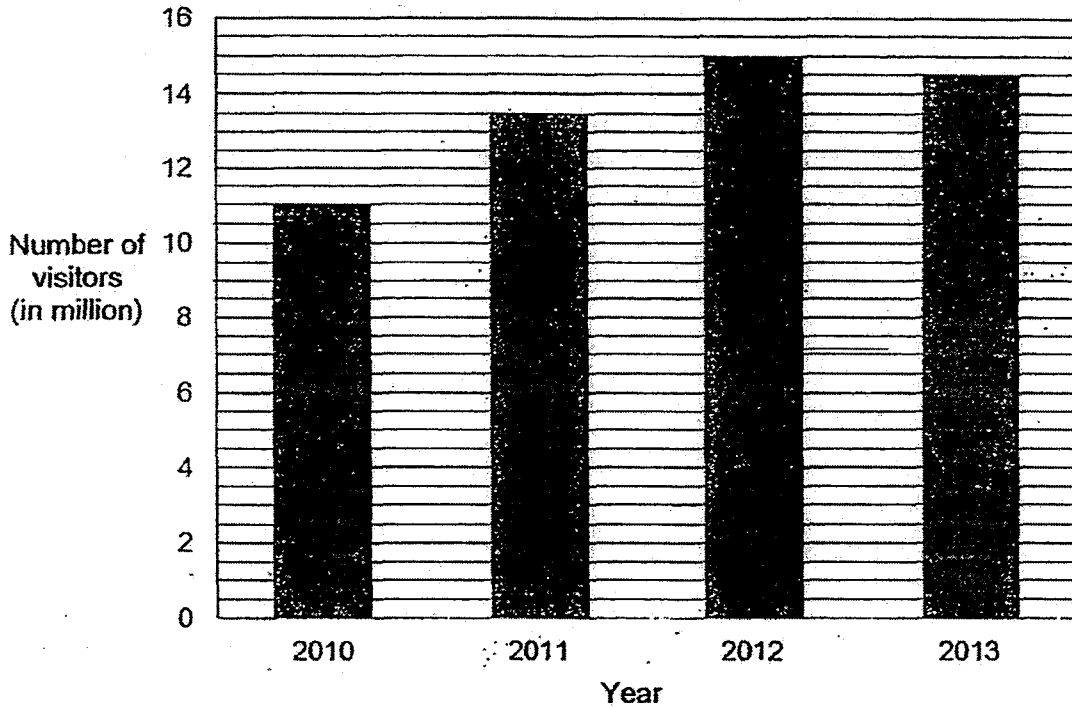
6. The mass of a container with 50 identical cups is 1500 g. When 30 of the cups are removed, the mass of the container with the remaining cups is 660 g. What is the mass of each cup?

Ans: \_\_\_\_\_ [3]



7. The graph below shows the number of visitors who arrived in Singapore from 2010 to 2013.

Do not write  
in this space



- (a) What was the ratio of the number of visitors in 2011 to the number of visitors in 2012 to the number of visitors in 2013?
- (b) What was the percentage increase in the number of visitors who visited Singapore in 2013 compared to 2010? Give your answer correct to 2 decimal places.

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

8. Jack and Alison have a total of \$352 at first. After Jack spent  $\frac{2}{3}$  of his money and Alison spent  $\frac{3}{5}$  of her money, they had equal amount of money left. How much money did Jack spend?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]

9. The ratio of the volume of liquid in container A to the volume of liquid in container B was 5 : 2. When 112 ml of liquid from container A was poured into container B, the ratio of the volume of liquid in container A to the volume of liquid in container B became 1 : 2. What was the volume of liquid in container B in the end?

Do not write  
in this space

Ans \_\_\_\_\_ [3]



10. 398 candies were given to some children at a festival. Each boy was given 5 candies and each girl was given 3 candies. There were 18 more girls than boys at the festival. How many children were there at the festival?

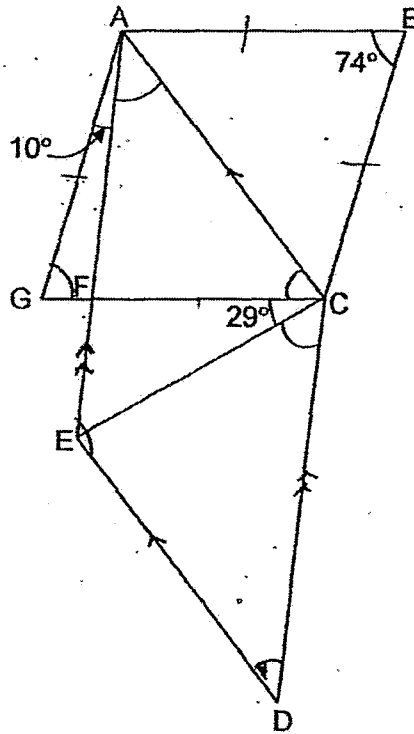
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in this space

Ans: \_\_\_\_\_ [3]



11. In the figure,  $ABCG$  is a rhombus and  $ACDE$  is a parallelogram.  
 $\angle ABC = 74^\circ$ ,  $\angle FCE = 29^\circ$  and  $\angle GAF = 10^\circ$ .

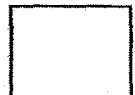
- (a) Find  $\angle FAC$ .  
 (b) Find  $\angle ECD$ .



Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



12. Anne  
~~Anna~~ has 150 more stamps than Betty. After Anne sold  $\frac{1}{3}$  of her stamps  
and Betty sold  $\frac{5}{8}$  of her stamps, Anne has 191 more stamps than Betty.  
How many stamps do both girls have in total at first?

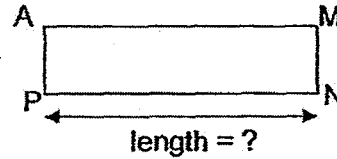
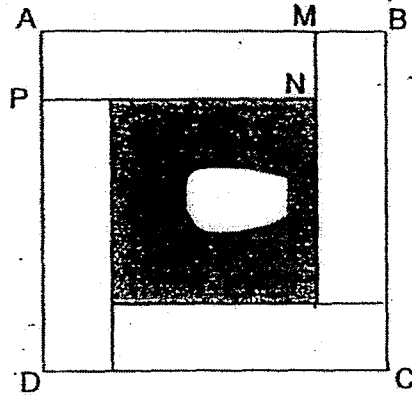
Do not write  
in this space

Ans: \_\_\_\_\_ [4]



13. Derek uses four identical rectangles to form the figure ABCD with a shaded square in the middle as shown below. Rectangle AMNP is one such rectangle. The perimeter of rectangle AMNP is 30 cm. The area of the shaded square is  $81 \text{ cm}^2$ .

Do not write  
in this space



- (a) Find the length of PN.
- (b) What is the area of figure ABCD?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]





14. After a discount of 25%, the price of a theme park ticket is \$65.25. Senior citizens are given a further discount of \$7.

Do not write  
in this space

- (a) What is the total amount of discount given to senior citizens for the ticket?
- (b) What is the percentage discount given to senior citizens for the ticket? Give your answer to the nearest whole number.

Ans (a): \_\_\_\_\_ [2]

(b): \_\_\_\_\_ [2]

15. At the start of a birthday party,  $\frac{5}{7}$  of the children were boys and the rest were girls. During the party, some boys left and the remaining number of boys were  $\frac{2}{5}$  of the children. 32 boys then joined the party. The number of children was 10 more than the number of children at the start of the party. How many children were there at the start of the party?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]



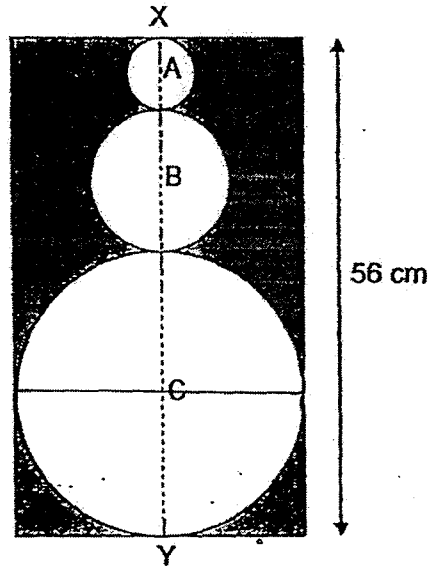
16. The figure below is formed by a rectangle and three circles A, B and C. The diameter of circle A is half that of circle B and the diameter of circle B is half that of circle C. Line XY is the line of symmetry of the figure.

Do not write in this space

(a) What is the diameter of circle A?

(b) Find the shaded area.

Take  $\pi = 3.14$



Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]



17. Candies were only sold in packets of 12. Each packet was sold at \$5. Mrs Lim had \$128 and bought as many packets of candies as possible. She re-packed them into 42 boxes. Some boxes contained 6 candies while the rest contained 8 candies.

Do not write  
in this space

- (a) How many candies did she buy?
- (b) How many boxes contained 6 candies?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

18. Three boys Alan, Ben and Carl had the same number of coins. Alan and Ben each had a mix of twenty-cent and fifty-cent coins. Alan had 7 twenty-cent coins while Ben had 17 twenty-cent coins. Carl had only fifty-cent coins.

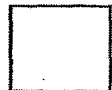
- (a) Of the three boys, who had the most money and who had the least?
- (b) What was the difference in the total value of Alan and Ben's coins?
- (c) Ben used all his fifty-cent coins to buy stationery. He then had \$9.10 less than Carl. How many fifty-cent coins did Carl have?

Ans: (a) Most \_\_\_\_\_

Least \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

(c) \_\_\_\_\_ [2]



**END OF PAPER.  
PLEASE CHECK YOUR WORK CAREFULLY.**



**EXAM PAPER 2017**

**LEVEL : PRIMARY 6**  
**SCHOOL : CATHOLIC HIGH SCHOOL**  
**SUBJECT : MATHEMATICS**

**Paper 1**

**Section A**

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

**Section B**

**Q16** 1010090

**Q17** 45

**Q18** 4.06

**Q19** 1,2,3,6

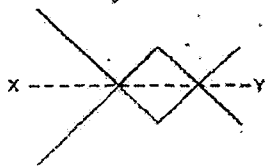
**Q20**  $\frac{1}{2}$

**Q21** 10

**Q22** \$7

**Q23**  $77^\circ$

**Q24**



**Q25**  $64.4\text{m}^2$

**Q26** \$2.10

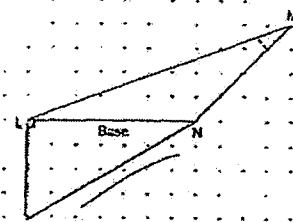
**Q27**  $(7\pi + 42)\text{cm}$

**Q28**  $135^\circ$

**Q29** 6

**Q30** (a)  $25^\circ$

(b)

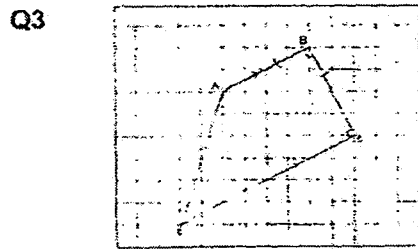


Paper 2

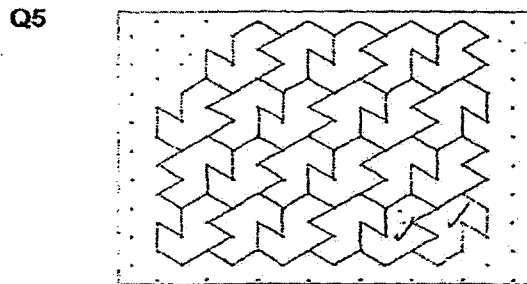
Q1 (a) 4 fish burgers = \$x  
1 fish burger =  $\frac{5x}{4}$   
20 fish burgers =  $\frac{5x}{4} \times 20$   
= \$5x

(b) 1 chicken burger = 1 fish burger + \$1  
=  $\frac{5x}{4} + \$1$   
= \$ ( $\frac{x}{4} + 1$ )

Q2 27 x 4 = 108  
108 - 72 = 36



Q4 23 - 5 = 18  
18 ÷ 2 = 9



Q6 Mass of 50 cups + container = 1500g  
Mass of 20 cups + container = 660g  
Mass of 30 cups = 840g  
Mass of 1 cup = 840g ÷ 30  
= 28g

Q7 (a) 2011 : 2012 : 2013  
13.5 : 15 : 14.5  
27 : 30 : 29 ← x2

(b) 14.5 - 11 = 3.5  
3.5 ÷ 11 = 0.3182  
0.3182 x 100% = 31.82%



Q8

	spent	Left
Jack	$\frac{2}{3}m$	$\frac{1}{3}m$
Alison	$\frac{3}{5}m$	$\frac{2}{5}m$

$$\frac{1}{3} \text{ of Jack} = \frac{2}{5} \text{ of Alison}$$

Equal Fraction

$$\frac{2}{6} \text{ of Jack} = \frac{2}{5} \text{ of Alison}$$

$$6 + 5 = 11$$

$$\$352 \div 11 = \$32$$

$$6 - 2 = 4$$

$$4 \times \$32 = \$128$$

Q9

	A	:	B	Total
At first	$5u_{x3}$	:	$2u_{x3}$	$7u_{x3}$
At the end	$1u_{x7}$	:	$2u_{x7}$	$3u_{x7}$

Total remained unchanged

	A	:	B	Total
At first	$15u$	:	$6u$	$21u$
At the end	$7u$	:	$14u$	$21u$

$$15u - 7u = 8u$$

$$112ml \div 8 = 14ml$$

$$14 \times 14ml = 196ml$$

Q10  $3 \times 8 = 54$

$$398 - 54 = 344$$

$$5 + 3 = 8$$

$$344 \div 8 = 43$$

$$43 \times 2 = 86$$

$$86 + 18 = 104$$

Q11 (a)  $180^\circ - 74^\circ = 106^\circ$

$$106^\circ \div 2 = 58^\circ$$

$$53^\circ - 10^\circ = 43^\circ$$

(b)  $180^\circ - 43^\circ = 137^\circ$

$$53^\circ + 29^\circ = 82^\circ$$

$$137^\circ - 82^\circ = 55^\circ$$

**Q12**  $191 - 150 = 41$   
 $\frac{1}{3}A = \frac{5}{8}B - 41$   
 $A = 1\frac{7}{8}B - 123$   
 $A = B + 150$   
 $150 + 123 = 273$   
 $\frac{7}{8}B = 273$   
 $\frac{1}{8}B = 273 \div 7$   
 $= 39$   
 $B = 39 \times 8$   
 $= 312$   
 $A = 312 + 150$   
 $= 462$   
 $A + B = 462 + 312$   
 $= 774$

**Q13** (a)  $9 \times 9 = 81$   
 $9 + 9 = 18$   
 $30 - 18 = 12$   
 $12 \div 4 = 3$   
 $9 + 3 = 12$

(b)  $12 \times 3 = 36$   
 $36 \times 4 = 144$   
 $144 + 81 = 225$

**Q14** (a)  $100 - 25 = 75$   
 $\$62.25 \div 3 = \$21.75$   
 $\$21.25 + \$7 = \$28.75$

(b)  $\$21.75 \times 4 = \$87$   
 $\$28.75 \div \$87 = 0.33$   
 $0.33 \times 100\% = 33\%$

**Q15** Before

Boys	:	Girls	Total
$5u_{x3}$	:	$2u_{x3}$	
$15u$	:	$6u$	$21u$

After

Boys	:	Girls	Total
$2u_{x2}$	:	$3u_{x2}$	
$4u$	:	$6u$	$10u$

Girls remained  
unchanged

$10u + 32 = 21u + 10$  (32 boys joined, 10 more children)  
 $11u = 22$   
 $1u = 2$   
 $21u = 42$

Q16 (a)  $1u + 2u + 4u = 7u$   
 $7u = 56$   
 $1u = 56 \div 7$   
 $= 8$

(b) Area of circle A =  $3.14 \times 4 \times 4$   
 $= 50.24\text{cm}^2$   
 Area of circle B =  $3.14 \times 8 \times 8$   
 $= 200.96 \text{ cm}^2$   
 Area of circle C =  $3.14 \times 16 \times 16$   
 $= 803.84 \text{ cm}^2$   
 Area of rectangle =  $56 \times 32$   
 $= 1792\text{cm}^2$

Total area of circles =  $1055.04\text{cm}^2$   
 Area of shaded =  $1792 - 1055.04$   
 $= 736.96 \text{ cm}^2$

Q17 (a)  $\$128 \div \$5 = 25.6$   
 $25 \times 12 = 300$

(b) Assume all are 8 candies boxes  
 $42 \times 8 = 336$   
 $336 - 300 = 36$   
 $8 - 6 = 2$   
 $36 \div 2 = 18$

Q18 (a)

	20¢	50¢
Alan	7	17
Ben	17	7
Carl	-	24

Alan =  $0.2 \times 7 + 0.5 \times 17$   
 $= \$9.90$

Ben =  $0.2 \times 17 + 0.5 \times 7$   
 $= \$6.90$  (Least)

Carl =  $0.5 \times 24$   
 $= \$12$  (Most)

(b)  $\$9.90 - \$6.90 = \$3$

(c)  $0.20 \times 17 = \$3.40$   
 $\$3.40 + \$9.10 = \$12.50$   
 $\$12.50 \div 0.50 = 25$





**CATHOLIC HIGH SCHOOL**  
**PRELIMINARY EXAMINATION TWO (2017)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET A)**

Name : \_\_\_\_\_ (            )

Class : Primary 6 - \_\_\_\_\_

Date : 23 August 2017

Total Time for Booklets A and B: 50 min

15 questions

20 marks

**INSTRUCTIONS TO CANDIDATES**

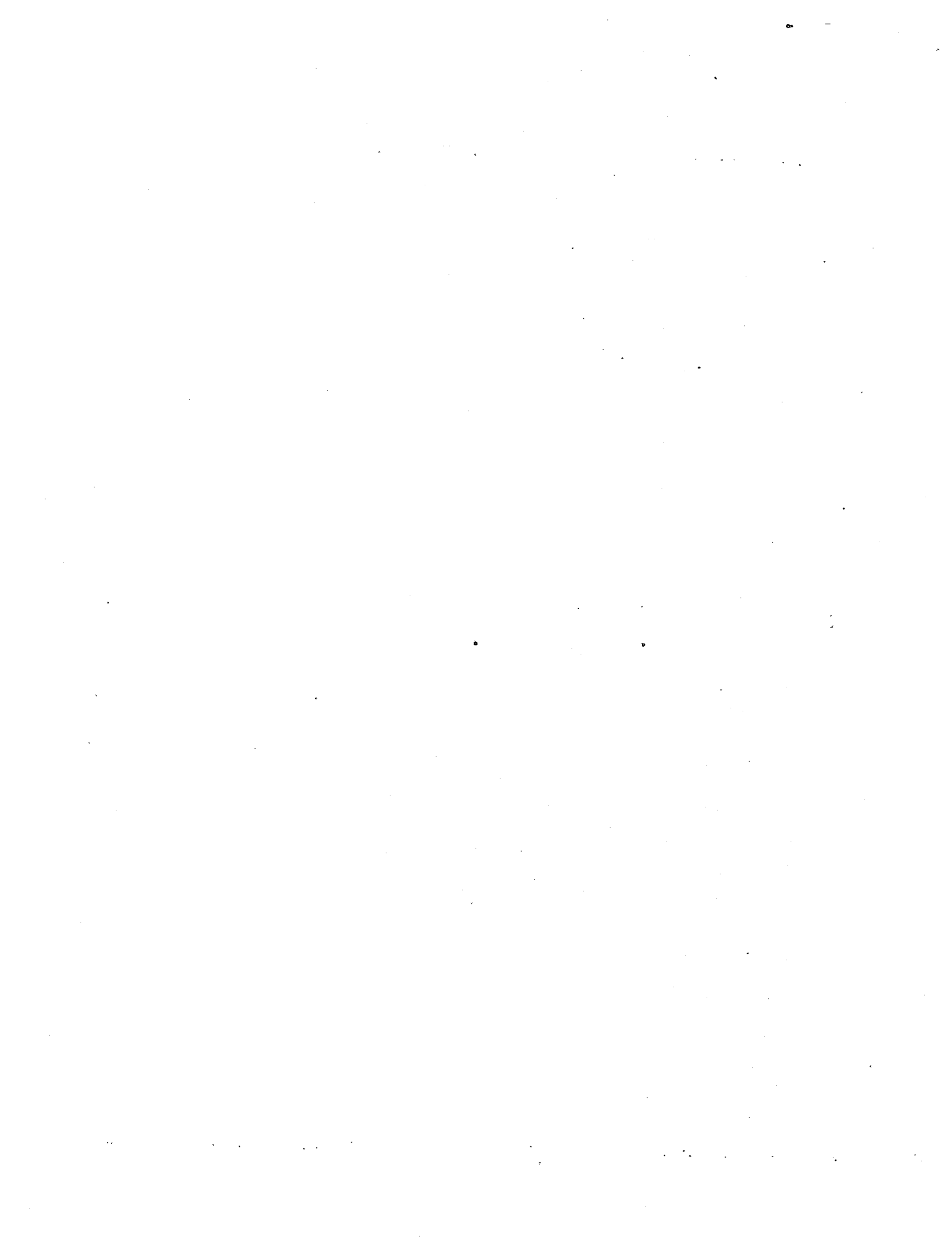
Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

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

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



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)

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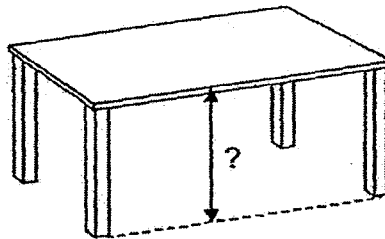
1. Round 16 641 to the nearest hundred.

- (1) 16 000
  - (2) 16 600
  - (3) 16 700
  - (4) 17 000
- 

2. Which one of the following is the same as 3090 g?

- (1) 3 kg 9 g
  - (2) 3 kg 90 g
  - (3) 30 kg 9 g
  - (4) 30 kg 90 g
- 

3. Which one of the following is likely to be the height of a dining table top from the ground?



- (1) 8.5 cm
  - (2) 8.5 m
  - (3) 85 cm
  - (4) 85 m
- 

(Go on to the next page)

4. What is the value of 2 ones, 8 tenths and 14 hundredths?

- (1) 2.804
  - (2) 2.814
  - (3) 2.84
  - (4) 2.94
- 

5. Which one of the following has the same value as  $7 \div \frac{3}{5}$ ?

- (1)  $\frac{7}{1} \times \frac{5}{3}$
  - (2)  $\frac{7}{1} \times \frac{3}{5}$
  - (3)  $\frac{1}{7} \times \frac{3}{5}$
  - (4)  $\frac{1}{7} \times \frac{5}{3}$
- 

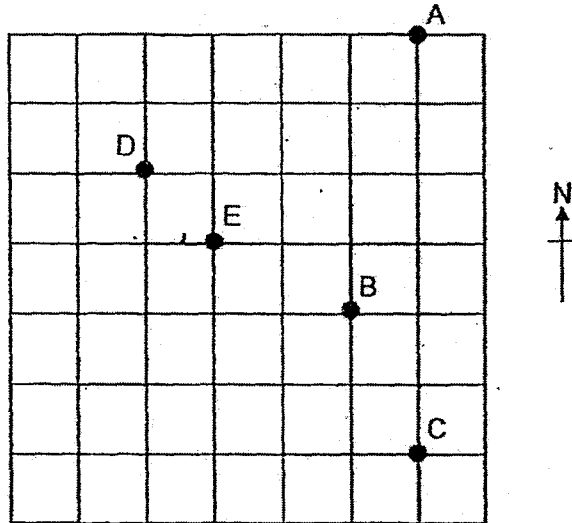
6. Express 0.7% as a fraction.

- (1)  $\frac{1}{7}$
  - (2)  $\frac{7}{10}$
  - (3)  $\frac{7}{100}$
  - (4)  $\frac{7}{1000}$
- 

(Go on to the next page)



7. Five landmarks A, B, C, D and E on a map are shown in the square grid below.



Dennis is at landmark E.  
He faces west and turns  $135^\circ$  anti-clockwise.  
Which one of the following landmark is he now facing?

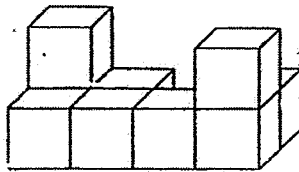
- (1) A  
(2) B  
(3) C  
(4) D
- 
8. Wendy paid \$280 for 3 similar shirts and 2 similar belts. The price of each belt is half the price of each shirt. What is the price of each belt?
- (1) \$35  
(2) \$40  
(3) \$56  
(4) \$70
- 

(Go on to the next page)

9. Jane used a packet of flour to bake some muffins and cupcakes. After using  $\frac{2}{5}$  of the packet of flour for muffins and 210 g of flour for cupcakes, she had 150 g of flour left. What was the mass of flour used for the muffins?

- (1) 70 g
  - (2) 120 g
  - (3) 240 g
  - (4) 600 g
- 

10. The solid shown is formed using some unit cubes. How many unit cubes are used to form the solid?



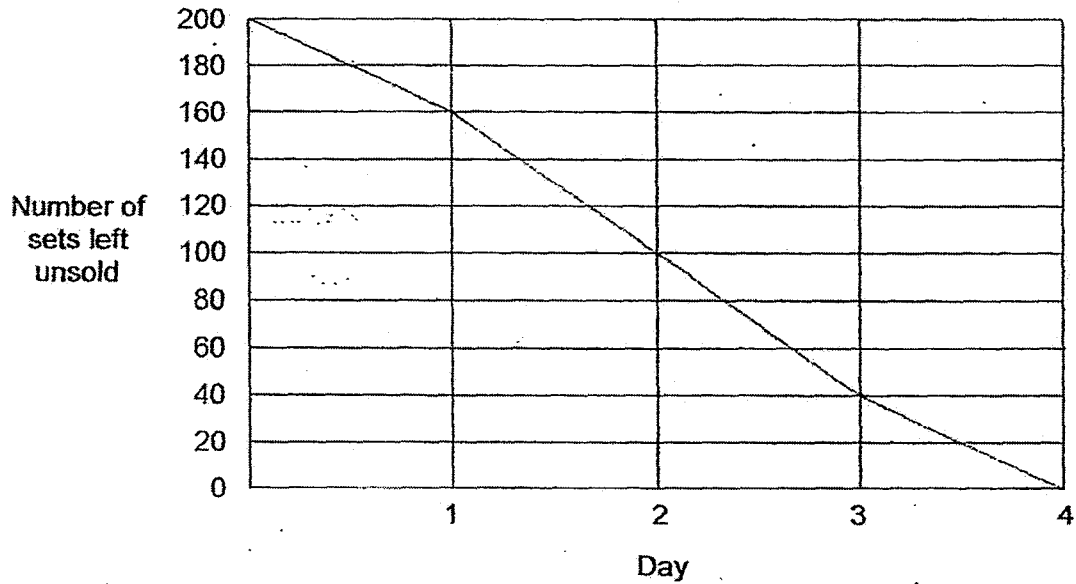
- (1) 8
  - (2) 9
  - (3) 10
  - (4) 11
- 

11. The price of a Pego figure set was \$20. Sally bought one such figure set and had to pay 7% GST on the price. How much did she pay for the Pego figure set?

- (1) \$1.40
  - (2) \$9.80
  - (3) \$21.40
  - (4) \$27
- 

(Go on to the next page)

12. A toy store sold 200 sets of brick games during a 4-day sale. The line graph shows the number of sets left unsold at the end of each day.

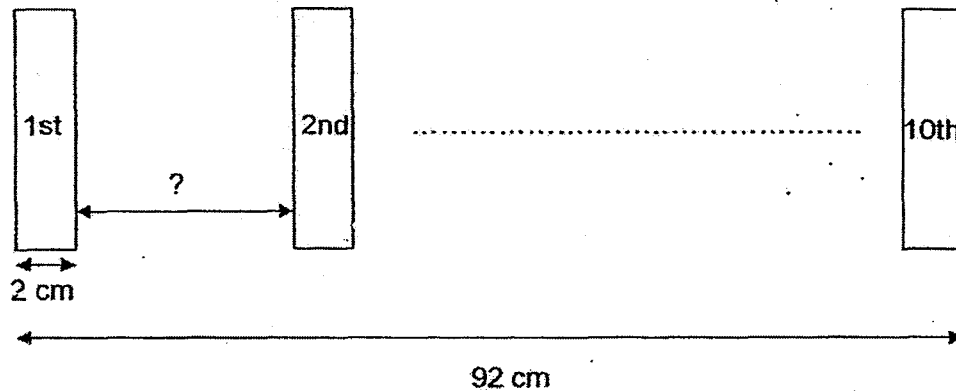


What percentage of the brick games were sold at the end of Day 3?

- (1) 20%
  - (2) 40%
  - (3) 60%
  - (4) 80%
- 
13. John had thrice as many local stamps as foreign stamps. After giving away 59 local stamps and 11 foreign stamps, John had equal number of local and foreign stamps left. How many foreign stamps were there at first?
- (1) 24
  - (2) 35
  - (3) 72
  - (4) 105

(Go on to the next page)

14. 10 identical rectangular cards are placed in a straight line at equal distance from one card to the next card.



How far apart is one rectangular card from the next one?

- (1) 7.2 cm
  - (2) 8 cm
  - (3) 9 cm
  - (4) 9.2 cm
- 
15. A box contained equal number of red and blue marbles. The blue marbles are repacked into 2 smaller bags in the ratio 5 : 7. The difference in the number of marbles between the two bags is 30 marbles. How many marbles were there in the box at first?

- (1) 90
- (2) 105
- (3) 180
- (4) 360

END OF BOOKLET A

**PRELIMINARY EXAMINATION (2017)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET B)**

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

Total Time for Booklets A and B: 50 min

15 questions

20 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.

Questions 16 to 25 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

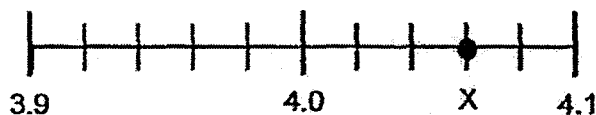
16. Write one million, ten thousand and ninety in numerals.

Ans: \_\_\_\_\_

17. Find the value of  $56 - (20 \div 5) \times 3 + 1$

Ans: \_\_\_\_\_

18. The number line below is marked at equal intervals. What is the value of X?



Ans: \_\_\_\_\_

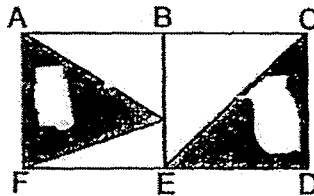
(Go on to the next page)

19. Write down all the common factors of 30 and 36.

Do not write  
in this space

Ans: \_\_\_\_\_

20. Figure ABCDEF is made up of 2 identical squares ABEF and BCDE.  
What fraction of the figure is shaded?  
Give your answer in the simplest form.



Ans: \_\_\_\_\_

21. Find the value of  $\frac{8m}{3} - m$  when  $m = 6$ .

Ans: \_\_\_\_\_

(Go on to the next page)

22. The table shows the car park charges at a car park.

First hour	\$2.50
Every subsequent $\frac{1}{2}$ hour or part thereof	\$1.50

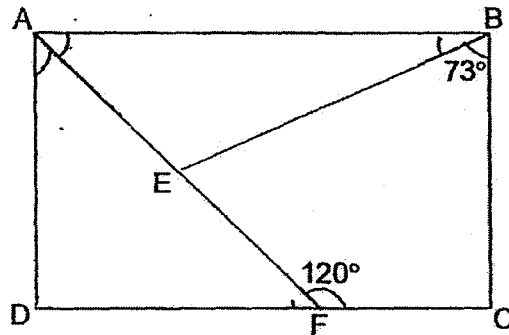
Mrs Lee parked in the car park from 8.45 a.m. to 11.00 a.m. on the same day. How much did she pay for the car park charges?

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in this space

Ans: \$ \_\_\_\_\_



23. In the figure, ABCD is a rectangle. AEF is a straight line. Find  $\angle BEF$ .



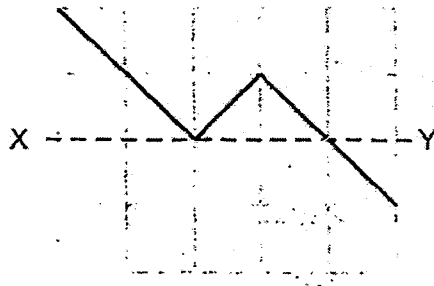
Ans: \_\_\_\_\_



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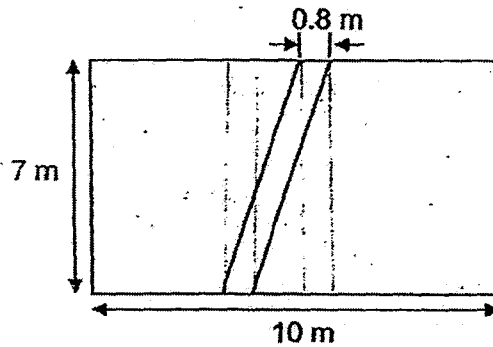
24. In the square grid below, three straight lines are drawn. Draw three more straight lines to form a symmetric figure with XY as the line of symmetry.



Do not write in this space



25. The figure below shows a rectangular garden of length 10 m and breadth 7 m with a footpath of 0.8 m wide. What is the area of the garden excluding the footpath?



Ans: \_\_\_\_\_ m<sup>2</sup>



marks for questions 16 to 25



(Go on to the next page)

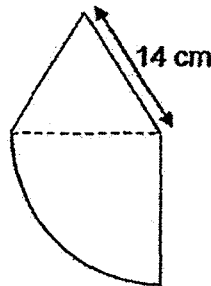
Questions 26 to 30 carry 2 marks each. Show your working and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

26. At a fruit stall, 3 mangoes cost as much as 2 papayas. Each papaya costs \$0.70 more than a mango. What is the cost of a papaya?

Ans: \$ \_\_\_\_\_

27. The figure below is made up of a quarter circle and an equilateral triangle. Find the perimeter of the figure. Give your answer in terms of  $\pi$ .

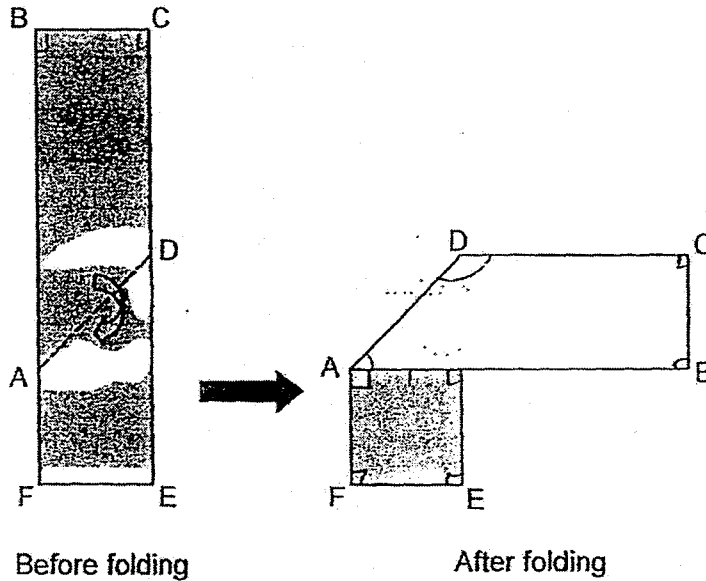


Ans: \_\_\_\_\_ cm

(Go on to the next page)

28. A rectangular piece of paper BCEF is folded along the dotted line AD as shown below. Find  $\angle ADC$ .

Do not write in this space



Ans: \_\_\_\_\_ °



29. Some chicken nuggets were shared among a group of children. When each child tried taking 5 chicken nuggets, there were 12 chicken nuggets left over. When each child tried to take 8 chicken nuggets, they found that they needed 6 more nuggets. How many children were there in the group?

Ans: \_\_\_\_\_



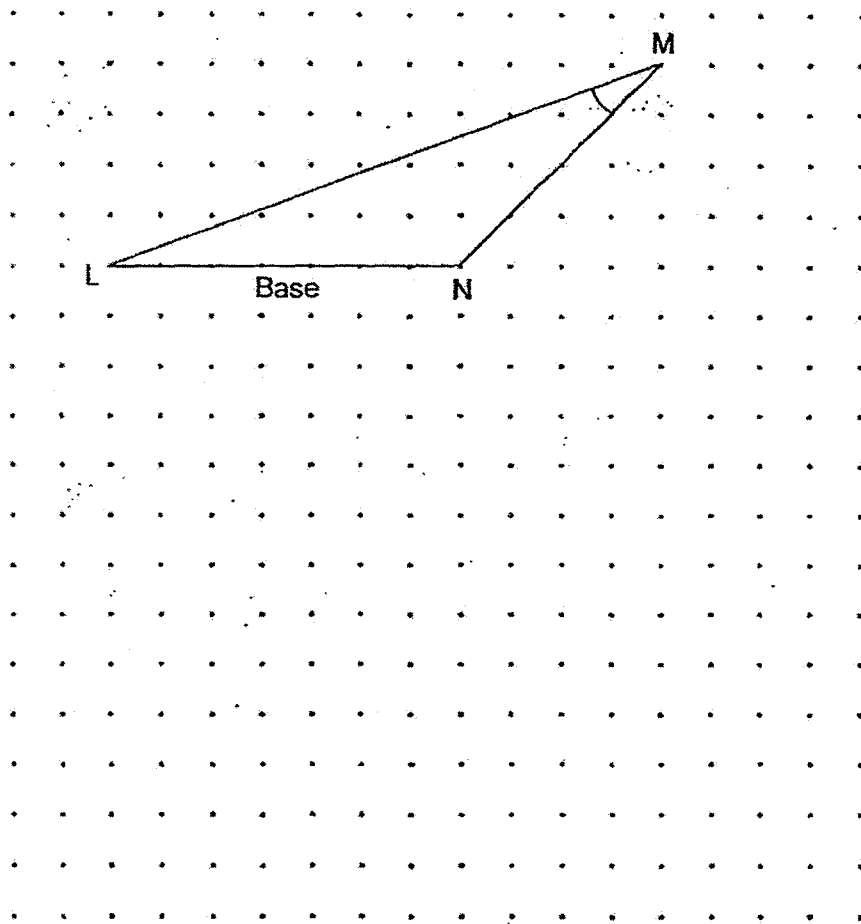
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30. A triangle LMN is drawn by joining dots on the square grid below with three straight lines.

Do not write  
in this space

(a) Measure and write the size of  $\angle LMN$ .

(b) In the same way, draw a right-angled triangle with the same area as triangle LMN and the same base LN.



Ans: (a) \_\_\_\_\_ °

Total marks for questions 26 to 30

END OF BOOKLET B  
END OF PAPER 1



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. All diagrams are not drawn to scale. (10 marks)

Do not write  
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1. A fish burger costs \$1 less than a chicken burger. The total cost of 4 fish burgers is \$x.

(a) Express the cost of 20 fish burgers in terms of x.

(b) Express the cost of a chicken burger in terms of x.

Ans: (a) \$ \_\_\_\_\_

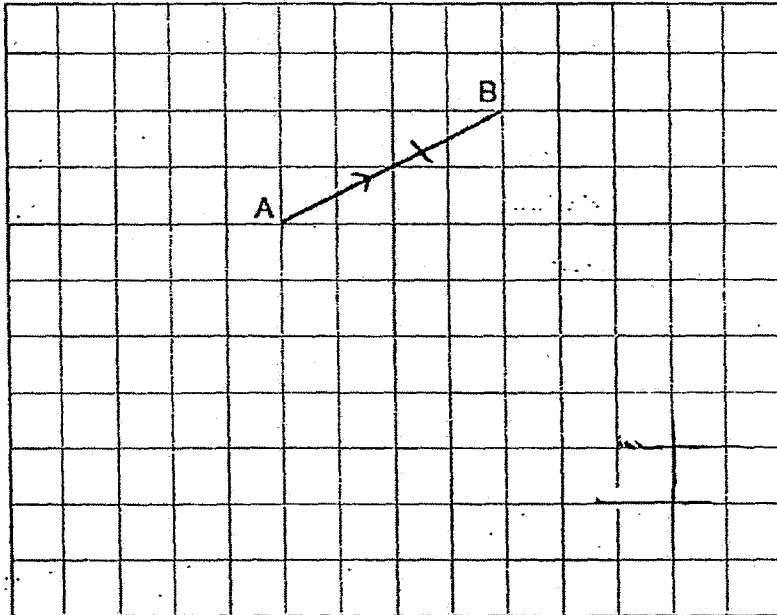
(b) \$ \_\_\_\_\_

2. The average of 4 numbers is 27. When one of the numbers is removed, the sum of the remaining numbers is 72. What is the number that has been removed?

Ans: \_\_\_\_\_

3. In the square grid below, AB is one side of a trapezium ABCD.  
 (a) Draw and label BC that is equal in length as AB and perpendicular to AB.  
 (b) Draw and label CD that is parallel to AB and twice the length of AB.

Do not write  
in this space



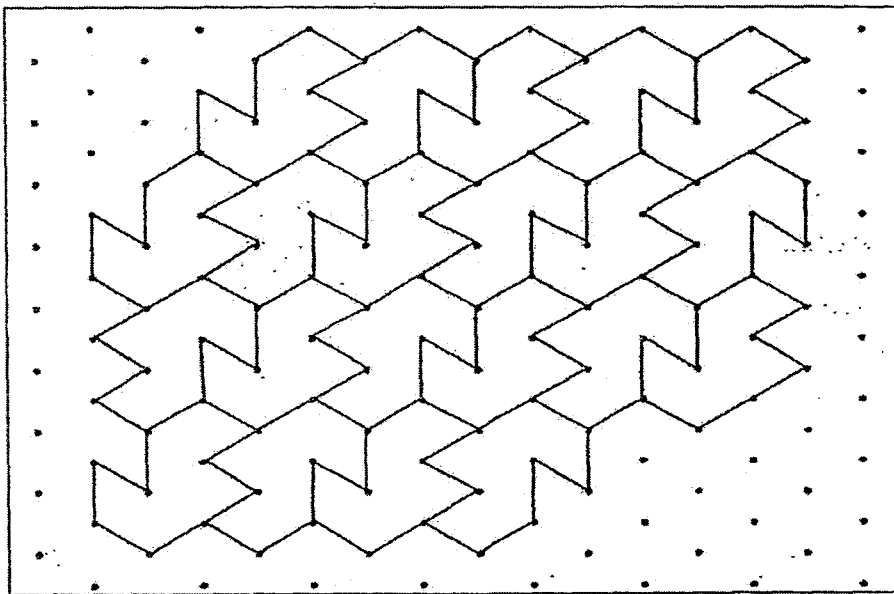
4. Maverick and Nathan completed a run with a total time of 23 minutes. Maverick was 5 minutes faster than Nathan. How long did Maverick take to complete the run?

Ans: \_\_\_\_\_ min



5. The pattern in the box shows part of a tessellation. Extend the tessellation by drawing two more unit shapes in the space provided in the box.

Do not write  
in this space



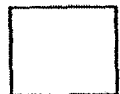


For questions 6 to 18, show your working and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. All diagrams are not drawn to scale. (50 marks)

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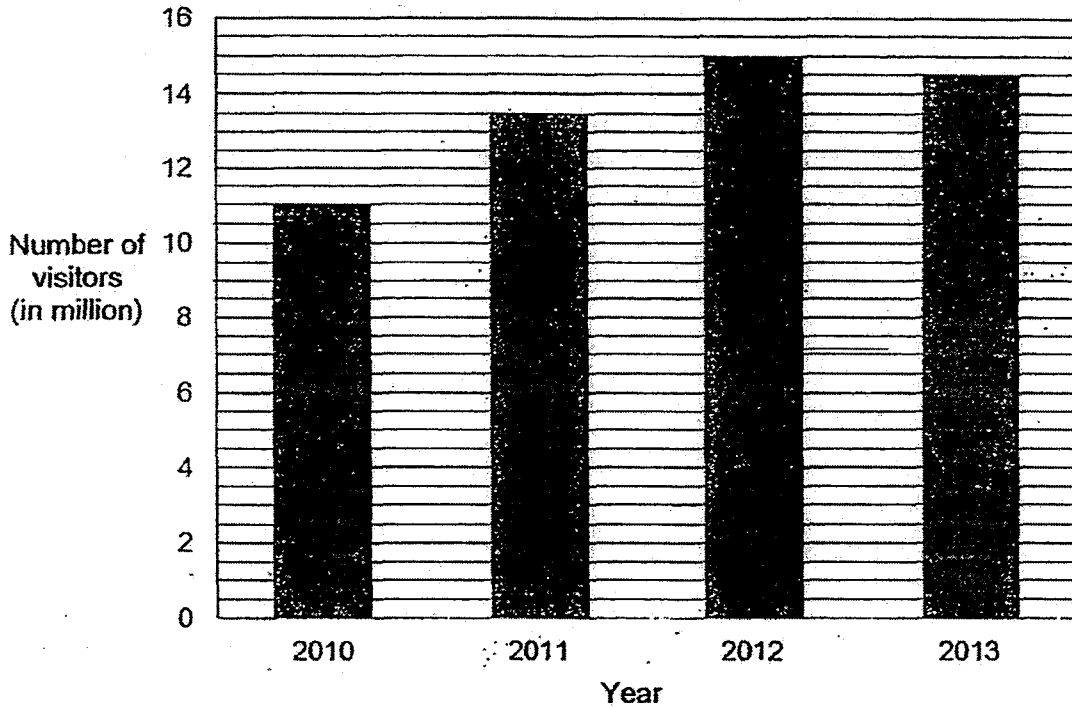
6. The mass of a container with 50 identical cups is 1500 g. When 30 of the cups are removed, the mass of the container with the remaining cups is 660 g. What is the mass of each cup?

Ans: \_\_\_\_\_ [3]



7. The graph below shows the number of visitors who arrived in Singapore from 2010 to 2013.

Do not write  
in this space



- (a) What was the ratio of the number of visitors in 2011 to the number of visitors in 2012 to the number of visitors in 2013?
- (b) What was the percentage increase in the number of visitors who visited Singapore in 2013 compared to 2010? Give your answer correct to 2 decimal places.

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

8. Jack and Alison have a total of \$352 at first. After Jack spent  $\frac{2}{3}$  of his money and Alison spent  $\frac{3}{5}$  of her money, they had equal amount of money left. How much money did Jack spend?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]

9. The ratio of the volume of liquid in container A to the volume of liquid in container B was 5 : 2. When 112 ml of liquid from container A was poured into container B, the ratio of the volume of liquid in container A to the volume of liquid in container B became 1 : 2. What was the volume of liquid in container B in the end?

Do not write  
in this space

Ans \_\_\_\_\_ [3]



10. 398 candies were given to some children at a festival. Each boy was given 5 candies and each girl was given 3 candies. There were 18 more girls than boys at the festival. How many children were there at the festival?

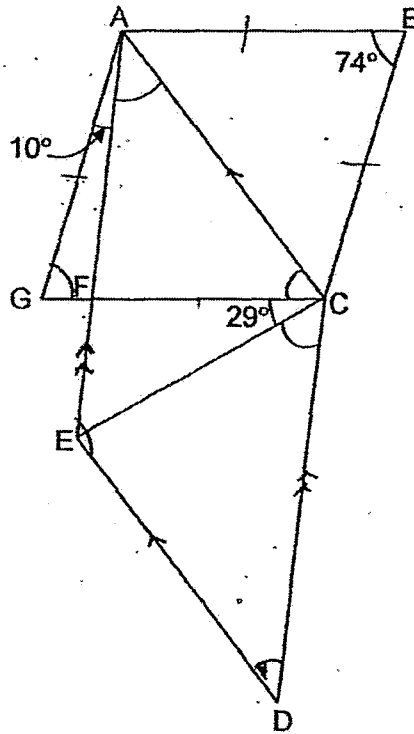
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in this space

Ans: \_\_\_\_\_ [3]



11. In the figure,  $ABCG$  is a rhombus and  $ACDE$  is a parallelogram.  
 $\angle ABC = 74^\circ$ ,  $\angle FCE = 29^\circ$  and  $\angle GAF = 10^\circ$ .

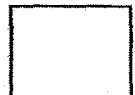
- (a) Find  $\angle FAC$ .  
 (b) Find  $\angle ECD$ .



Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



12. Anne  
~~Anna~~ has 150 more stamps than Betty. After Anne sold  $\frac{1}{3}$  of her stamps  
and Betty sold  $\frac{5}{8}$  of her stamps, Anne has 191 more stamps than Betty.  
How many stamps do both girls have in total at first?

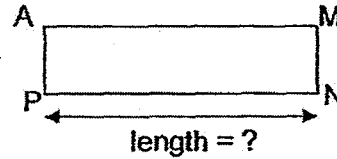
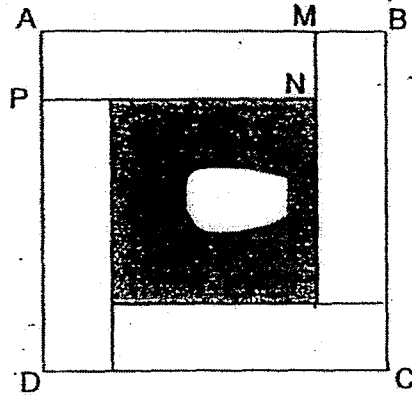
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Ans: \_\_\_\_\_ [4]



13. Derek uses four identical rectangles to form the figure ABCD with a shaded square in the middle as shown below. Rectangle AMNP is one such rectangle. The perimeter of rectangle AMNP is 30 cm. The area of the shaded square is  $81 \text{ cm}^2$ .

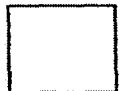
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- (a) Find the length of PN.
- (b) What is the area of figure ABCD?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]





14. After a discount of 25%, the price of a theme park ticket is \$65.25. Senior citizens are given a further discount of \$7.

Do not write  
in this space

- (a) What is the total amount of discount given to senior citizens for the ticket?
- (b) What is the percentage discount given to senior citizens for the ticket? Give your answer to the nearest whole number.

Ans (a): \_\_\_\_\_ [2]

(b): \_\_\_\_\_ [2]

15. At the start of a birthday party,  $\frac{5}{7}$  of the children were boys and the rest were girls. During the party, some boys left and the remaining number of boys were  $\frac{2}{5}$  of the children. 32 boys then joined the party. The number of children was 10 more than the number of children at the start of the party. How many children were there at the start of the party?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]

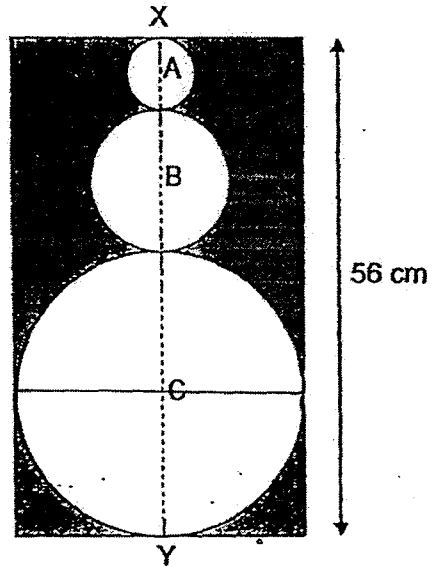


16. The figure below is formed by a rectangle and three circles A, B and C. The diameter of circle A is half that of circle B and the diameter of circle B is half that of circle C. Line XY is the line of symmetry of the figure.

Do not write in this space

- (a) What is the diameter of circle A?  
 (b) Find the shaded area.

Take  $\pi = 3.14$



Ans: (a) \_\_\_\_\_ [2]  
 (b) \_\_\_\_\_ [3]



17. Candies were only sold in packets of 12. Each packet was sold at \$5. Mrs Lim had \$128 and bought as many packets of candies as possible. She re-packed them into 42 boxes. Some boxes contained 6 candies while the rest contained 8 candies.

Do not write  
in this space

- (a) How many candies did she buy?
- (b) How many boxes contained 6 candies?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

18. Three boys Alan, Ben and Carl had the same number of coins. Alan and Ben each had a mix of twenty-cent and fifty-cent coins. Alan had 7 twenty-cent coins while Ben had 17 twenty-cent coins. Carl had only fifty-cent coins.

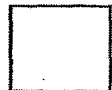
- (a) Of the three boys, who had the most money and who had the least?
- (b) What was the difference in the total value of Alan and Ben's coins?
- (c) Ben used all his fifty-cent coins to buy stationery. He then had \$9.10 less than Carl. How many fifty-cent coins did Carl have?

Ans: (a) Most \_\_\_\_\_

Least \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

(c) \_\_\_\_\_ [2]



**END OF PAPER.  
PLEASE CHECK YOUR WORK CAREFULLY.**



**EXAM PAPER 2017**

**LEVEL : PRIMARY 6**  
**SCHOOL : CATHOLIC HIGH SCHOOL**  
**SUBJECT : MATHEMATICS**

**Paper 1**

**Section A**

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

**Section B**

**Q16** 1010090

**Q17** 45

**Q18** 4.06

**Q19** 1,2,3,6

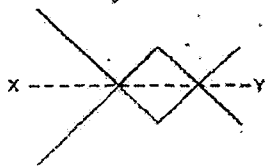
**Q20**  $\frac{1}{2}$

**Q21** 10

**Q22** \$7

**Q23**  $77^\circ$

**Q24**



**Q25**  $64.4\text{m}^2$

**Q26** \$2.10

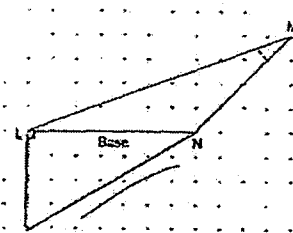
**Q27**  $(7\pi + 42)\text{cm}$

**Q28**  $135^\circ$

**Q29** 6

**Q30** (a)  $25^\circ$

(b)

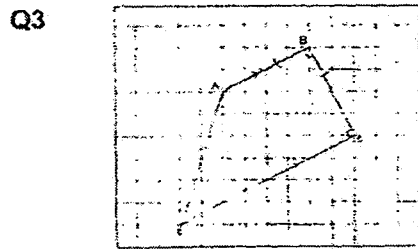


Paper 2

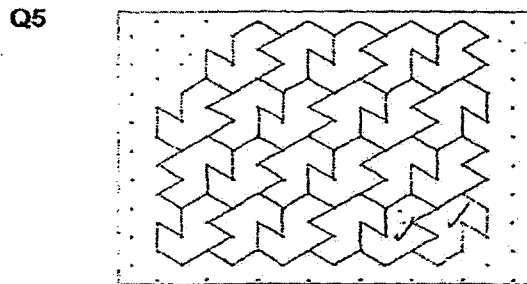
Q1 (a) 4 fish burgers = \$x  
1 fish burger =  $\frac{5x}{4}$   
20 fish burgers =  $\frac{5x}{4} \times 20$   
= \$5x

(b) 1 chicken burger = 1 fish burger + \$1  
=  $\frac{5x}{4} + \$1$   
=  $\$ \left( \frac{x}{4} + 1 \right)$

Q2  $27 \times 4 = 108$   
 $108 - 72 = 36$



Q4  $23 - 5 = 18$   
 $18 \div 2 = 9$



Q6 Mass of 50 cups + container = 1500g  
Mass of 20 cups + container = 660g  
Mass of 30 cups = 840g  
Mass of 1 cup =  $840g \div 30$   
= 28g

Q7 (a) 2011 : 2012 : 2013  
13.5 : 15 : 14.5  
27 : 30 : 29  $\leftarrow \times 2$

(b)  $14.5 - 11 = 3.5$   
 $3.5 \div 11 = 0.3182$   
 $0.3182 \times 100\% = 31.82\%$



Q8

	spent	Left
Jack	$\frac{2}{3}m$	$\frac{1}{3}m$
Alison	$\frac{3}{5}m$	$\frac{2}{5}m$

$$\frac{1}{3} \text{ of Jack} = \frac{2}{5} \text{ of Alison}$$

Equal Fraction

$$\frac{2}{6} \text{ of Jack} = \frac{2}{5} \text{ of Alison}$$

$$6 + 5 = 11$$

$$\$352 \div 11 = \$32$$

$$6 - 2 = 4$$

$$4 \times \$32 = \$128$$

Q9

	A	:	B	Total
At first	$5u_{x3}$	:	$2u_{x3}$	$7u_{x3}$
At the end	$1u_{x7}$	:	$2u_{x7}$	$3u_{x7}$

Total remained unchanged

	A	:	B	Total
At first	$15u$	:	$6u$	$21u$
At the end	$7u$	:	$14u$	$21u$

$$15u - 7u = 8u$$

$$112ml \div 8 = 14ml$$

$$14 \times 14ml = 196ml$$

Q10  $3 \times 8 = 54$

$$398 - 54 = 344$$

$$5 + 3 = 8$$

$$344 \div 8 = 43$$

$$43 \times 2 = 86$$

$$86 + 18 = 104$$

Q11 (a)  $180^\circ - 74^\circ = 106^\circ$

$$106^\circ \div 2 = 58^\circ$$

$$53^\circ - 10^\circ = 43^\circ$$

(b)  $180^\circ - 43^\circ = 137^\circ$

$$53^\circ + 29^\circ = 82^\circ$$

$$137^\circ - 82^\circ = 55^\circ$$

**Q12**  $191 - 150 = 41$   
 $\frac{1}{3}A = \frac{5}{8}B - 41$   
 $A = 1\frac{7}{8}B - 123$   
 $A = B + 150$   
 $150 + 123 = 273$   
 $\frac{7}{8}B = 273$   
 $\frac{1}{8}B = 273 \div 7$   
 $= 39$   
 $B = 39 \times 8$   
 $= 312$   
 $A = 312 + 150$   
 $= 462$   
 $A + B = 462 + 312$   
 $= 774$

**Q13** (a)  $9 \times 9 = 81$   
 $9 + 9 = 18$   
 $30 - 18 = 12$   
 $12 \div 4 = 3$   
 $9 + 3 = 12$

(b)  $12 \times 3 = 36$   
 $36 \times 4 = 144$   
 $144 + 81 = 225$

**Q14** (a)  $100 - 25 = 75$   
 $\$62.25 \div 3 = \$21.75$   
 $\$21.25 + \$7 = \$28.75$

(b)  $\$21.75 \times 4 = \$87$   
 $\$28.75 \div \$87 = 0.33$   
 $0.33 \times 100\% = 33\%$

**Q15** Before

Boys	:	Girls	Total
$5u_{x3}$	:	$2u_{x3}$	
$15u$	:	$6u$	$21u$

After

Boys	:	Girls	Total
$2u_{x2}$	:	$3u_{x2}$	
$4u$	:	$6u$	$10u$

Girls remained  
unchanged

$10u + 32 = 21u + 10$  (32 boys joined, 10 more children)  
 $11u = 22$   
 $1u = 2$   
 $21u = 42$

Q16 (a)  $1u + 2u + 4u = 7u$   
 $7u = 56$   
 $1u = 56 \div 7$   
 $= 8$

(b) Area of circle A =  $3.14 \times 4 \times 4$   
 $= 50.24\text{cm}^2$   
 Area of circle B =  $3.14 \times 8 \times 8$   
 $= 200.96 \text{ cm}^2$   
 Area of circle C =  $3.14 \times 16 \times 16$   
 $= 803.84 \text{ cm}^2$   
 Area of rectangle =  $56 \times 32$   
 $= 1792\text{cm}^2$

Total area of circles =  $1055.04\text{cm}^2$   
 Area of shaded =  $1792 - 1055.04$   
 $= 736.96 \text{ cm}^2$

Q17 (a)  $\$128 \div \$5 = 25.6$   
 $25 \times 12 = 300$

(b) Assume all are 8 candies boxes  
 $42 \times 8 = 336$   
 $336 - 300 = 36$   
 $8 - 6 = 2$   
 $36 \div 2 = 18$

Q18 (a)

	20¢	50¢
Alan	7	17
Ben	17	7
Carl	-	24

Alan =  $0.2 \times 7 + 0.5 \times 17$   
 $= \$9.90$

Ben =  $0.2 \times 17 + 0.5 \times 7$   
 $= \$6.90$  (Least)

Carl =  $0.5 \times 24$   
 $= \$12$  (Most)

(b)  $\$9.90 - \$6.90 = \$3$

(c)  $0.20 \times 17 = \$3.40$   
 $\$3.40 + \$9.10 = \$12.50$   
 $\$12.50 \div 0.50 = 25$





HENRY PARK PRIMARY SCHOOL  
2017 PRELIMINARY EXAMINATION  
MATHEMATICS  
PRIMARY 6

PAPER 1  
(BOOKLET A)

Name: \_\_\_\_\_ ( )

Parent's Signature

Class: Primary 6 \_\_\_\_\_

\_\_\_\_\_

Marks:

Paper 1	Booklet A	20
	Booklet B	20
Paper 2		60
Total		100

Total Time for Booklets A and B: 50 min

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 and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet.  
(20 marks)

---

1. What is the value of 30 ones, 30 tenths and 30 hundredths?

- (1) 33.3
- (2) 30.33
- (3) 33.03
- (4) 3 330

2. Find the value of  $\frac{8}{9} + \frac{2}{3}$

- (1)  $\frac{3}{4}$
- (2)  $\frac{16}{27}$
- (3)  $1\frac{1}{3}$
- (4)  $1\frac{11}{16}$

3. Which of the following is the same as 4020 g ?

- (1) 4 kg 2 g
- (2) 4 kg 20 g
- (3) 40 kg 2 g
- (4) 40 kg 20 g

(Go on to the next page)

4. Mrs Toh started her 20-minute jog at 6.35 a.m. After her jog, she did her housework until 8.15 a.m. How much time did she spend doing her housework?

- (1) 1 h 20 min
- (2) 1 h 40 min
- (3) 2 h 20 min
- (4) 2 h 40 min

5. The table below shows the number of library books borrowed by some pupils on a particular day.

Number of books borrowed	0	1	2	3	4
Number of pupils	6	8	10	12	4

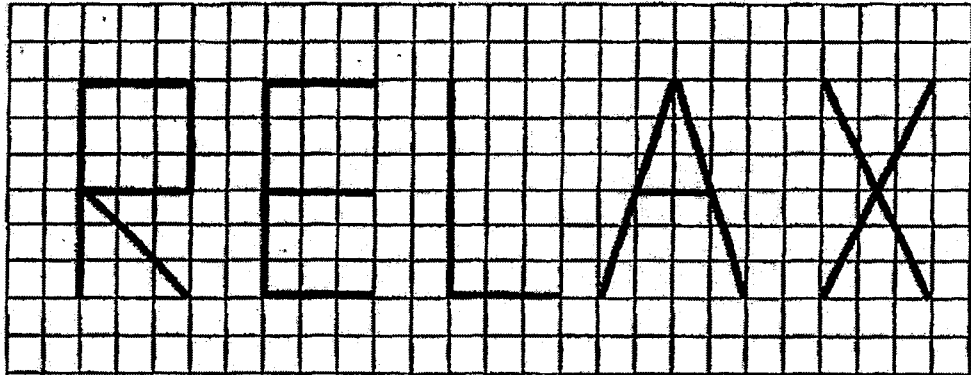
How many pupils borrowed at least 3 library books?

- (1) 24
  - (2) 16
  - (3) 12
  - (4) 4
6. Find the value of  $33 - (18 - 12 \div 3)$ .

- (1) 1
- (2) 9
- (3) 19
- (4) 31

(Go on to the next page)

7. In the diagram below, the letters R, E, L, A and X are drawn on a square grid.



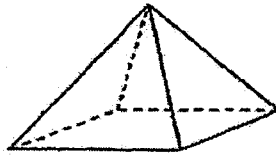
Which of the letters above have only 1 line of symmetry?

- (1) A and E
- (2) A and X
- (3) E and R
- (4) L and X

(Go on to the next page)

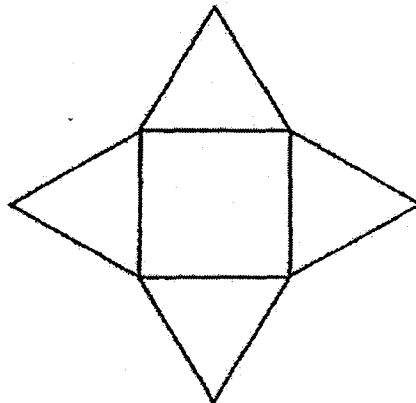


8. The figure below shows a pyramid.

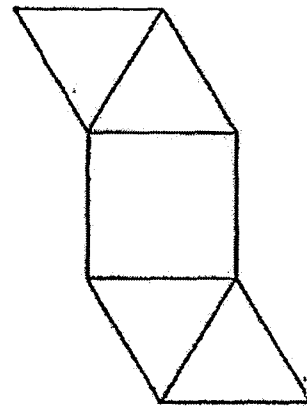


Which one of the following is not a net of the pyramid?

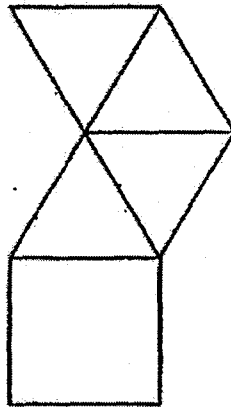
(1)



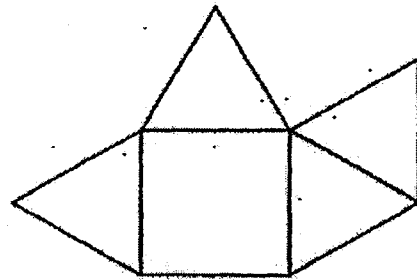
(2)



(3)



(4)

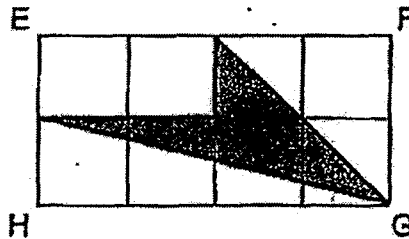


(Go on to the next page)

9. Fatimah spent 30% of her salary and still had \$4200 of her salary left. How much money did she spend?

- (1) \$600
- (2) \$980
- (3) \$1400
- (4) \$1800

10. The rectangle EFGH below is made up of 8 identical squares. What is the ratio of the area of the shaded part to the area of the unshaded part?

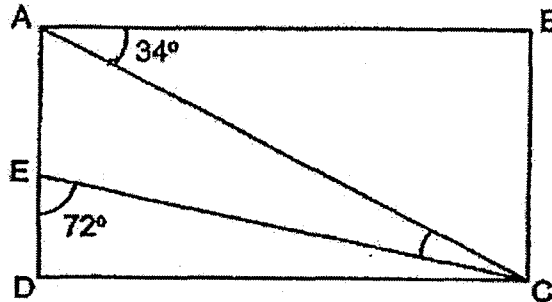


- (1) 1 : 3
  - (2) 1 : 4
  - (3) 3 : 1
  - (4) 4 : 1
11. Jack and Bill had \$300 altogether. After Jack spent \$60, he had twice as much money as Bill. How much money did Bill have?

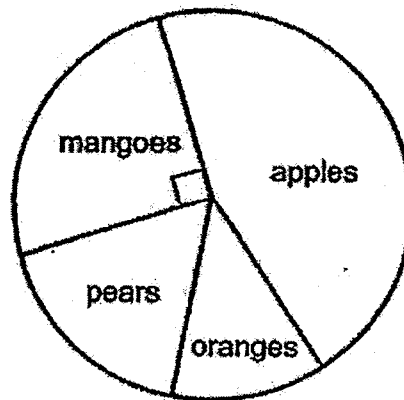
- (1) \$70
- (2) \$80
- (3) \$140
- (4) \$160

(Go on to the next page)

12. In the figure below, ABCD is a rectangle.  $\angle BAC = 34^\circ$  and  $\angle CED = 72^\circ$ . Find the value of  $\angle ACE$ .



- (1)  $16^\circ$   
 (2)  $17^\circ$   
 (3)  $18^\circ$   
 (4)  $27^\circ$
13. The pie chart shows the number of fruits sold at a fruit stall.



There are 65 pears and 100 mangoes at the stall. The number of mangoes is twice the number of oranges. How many apples are there at the stall?

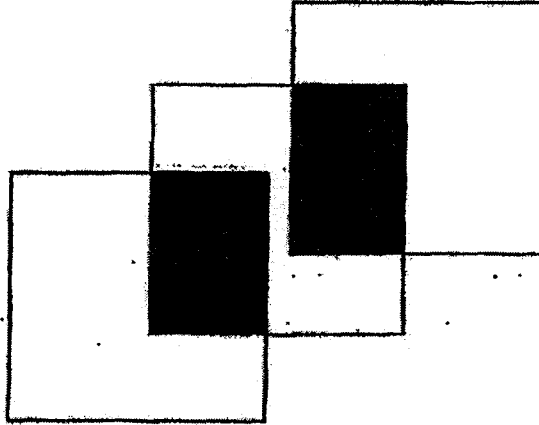
- (1) 115  
 (2) 145  
 (3) 165  
 (4) 185

(Go on to the next page)

14. A baker sold 400 cakes in 5 days. Each day, he sold 7 cakes fewer than the previous day. Find the number of cakes he sold on the first day.

- (1) 59
- (2) 66
- (3) 87
- (4) 94

15. The figure below is made up of 3 identical squares, each with an area of  $81 \text{ cm}^2$ . The squares overlap each other as shown below. The overlapped parts are identical. Given that the area of the figure is  $183 \text{ cm}^2$ , find the area of each overlapped part.



- (1)  $20 \text{ cm}^2$
- (2)  $30 \text{ cm}^2$
- (3)  $51 \text{ cm}^2$
- (4)  $60 \text{ cm}^2$

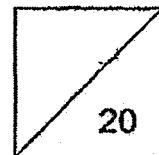
(Go on to Booklet B)

2017 PRELIMINARY EXAMINATION  
MATHEMATICS  
PRIMARY 6

PAPER 1  
(BOOKLET B)

Name: \_\_\_\_\_ ( )

Class: Primary 6 \_\_\_\_\_



Total Time for Booklets A and B: 50 min

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 25 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)

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16. Round off 49 989 to the nearest hundred.

Ans: \_\_\_\_\_

17. In a Mathematics test, Abel scored 64 marks, Barney scored 68 marks and Chris scored 48 marks. What was their average score for the test?

Ans: \_\_\_\_\_

18. Mrs Tee paid for 6 identical bowls with a fifty-dollar note.  
She received  $\$m$  change. Express the cost of 1 bowl in terms of  $m$ .

Ans: \$ \_\_\_\_\_

(Go on to the next page)



19. The table shows the postage charges for sending letters.

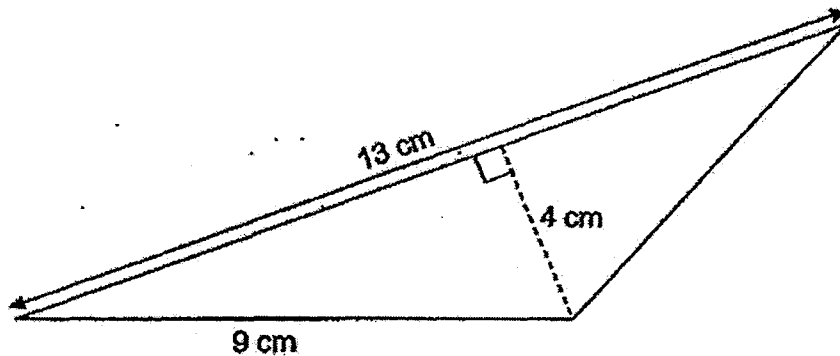
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Mass	Cost
First 20 g	\$ 1.20
Every additional 10 g or part thereof	\$ 0.35

Wendy posted a letter weighing 38 g. How much money did she have to pay as postage?

Ans: \$ \_\_\_\_\_

20. Find the area of the triangle shown below.



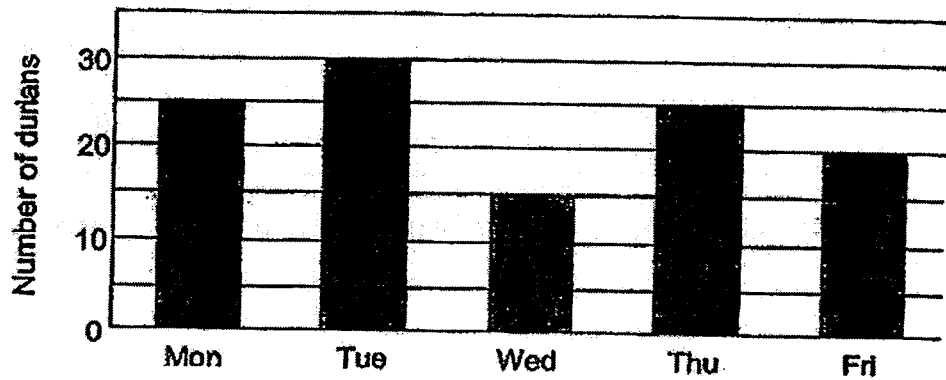
Ans: \_\_\_\_\_ cm<sup>2</sup>

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21. The graph below shows the number of durians sold from Monday to Friday.

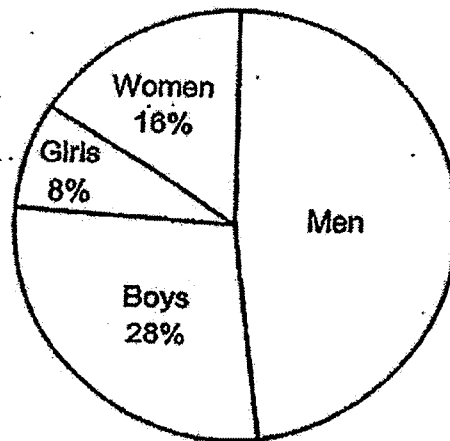
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What is the ratio of the number of durians sold on Wednesday to the total number of durians sold over the five days?

Ans: \_\_\_\_\_

22. The pie chart below represents the number of spectators at a soccer match. What fraction of the spectators is made up of men? Give your answer in the simplest form.



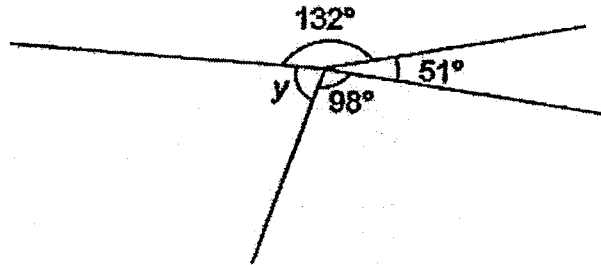
Ans: \_\_\_\_\_

(Go on to the next page)





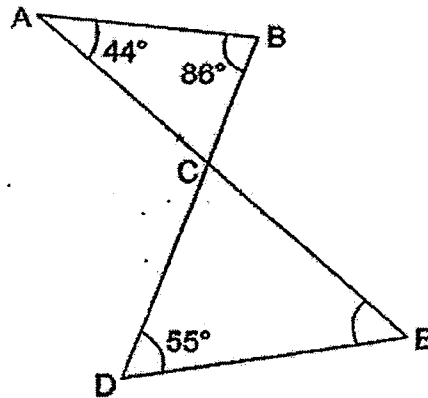
23. Find  $\angle y$  in the figure below.



Do not write  
in this space.

Ans: \_\_\_\_\_°

24. In the figure below, ACE and BCD are straight lines.  
 $\angle ABC = 86^\circ$ ,  $\angle CAB = 44^\circ$  and  $\angle CDE = 55^\circ$ . Find  $\angle CED$ .

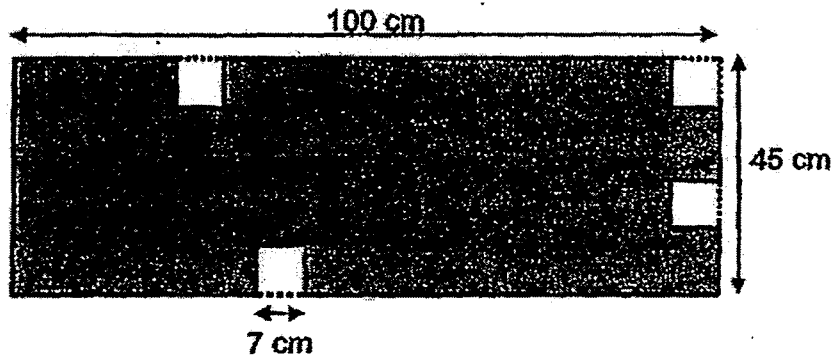


Ans: \_\_\_\_\_°



25. Four identical 7-cm squares were cut out from a rectangular piece of grey paper measuring 100 cm by 45 cm as shown below. Find the perimeter of the remaining piece of grey paper.

Do not write  
in this space



Ans: \_\_\_\_\_ cm

(Go on to the next page)



Questions 26 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.

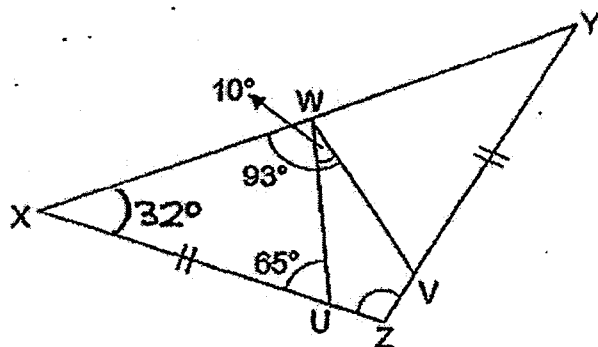
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(10 marks)

26. Sally used 2 identical pieces of ribbon to tie a hamper.  $\frac{5}{8}$  of each piece of ribbon was 4 m. Find the total length of the ribbon used. Express your answer as a fraction in its simplest form.

Ans: \_\_\_\_\_ m

27. In the figure below, XYZ is an isosceles triangle. Given that  $\angle XWV = 93^\circ$ ,  $\angle UWV = 10^\circ$  and  $\angle WUX = 65^\circ$ , find  $\angle XZY$ .



Ans: \_\_\_\_\_ °

28. The price of an eraser is  $\frac{3}{4}$  the price of a pencil. The price of a highlighter is  $\frac{1}{2}$  the price of an eraser. Given that each highlighter costs \$1.50, find the cost of the pencil.

Do not write  
in this space

Ans: \$ \_\_\_\_\_

29. A childhood game is played by rolling a wheel as shown below.



The radius of a wheel is 40 cm. What is the distance covered when the wheel makes 10 complete turns? (Take  $\pi = 3.14$ )

Ans: \_\_\_\_\_ cm

(Go on to the next page)

30. Chloe collected 2 types of bookmarks. The table shows the number of each type of bookmarks she had at first.

Do not write  
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Materials of bookmarks	Number of bookmarks
Paper	69
Plastic	36

After Chloe's father gave her some paper bookmarks, the percentage of her plastic bookmarks decreased to 20%. Find the total number of bookmarks given to Chloe by her father.

Ans: \_\_\_\_\_

End of Paper 1





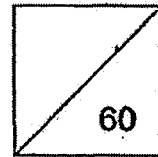
2017 PRELIMINARY EXAMINATION  
MATHEMATICS  
PRIMARY 6

PAPER 2

Parent's Signature

Name: \_\_\_\_\_ ( )

Class: Primary 6 \_\_\_\_\_



Time for Paper 2: 1 h 40 min

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.

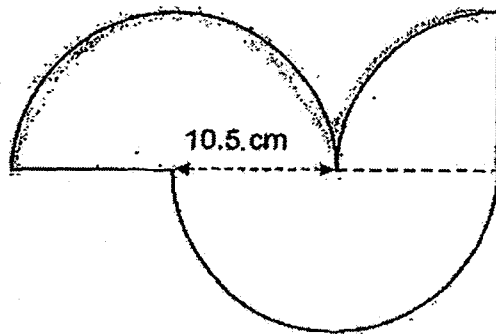
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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1. A chef bought a total of 9 kg of prawns and fish. He cooked 3.855 kg of fish and had  $\frac{1}{4}$  of the mass of fish left. What is the mass of prawns he bought?

Ans: \_\_\_\_\_ kg

2. The figure below is made up of a quadrant and 2 identical semicircles of radius 10.5 cm. Find the perimeter of the figure. (Take  $\pi = \frac{22}{7}$ )



Ans: \_\_\_\_\_ cm

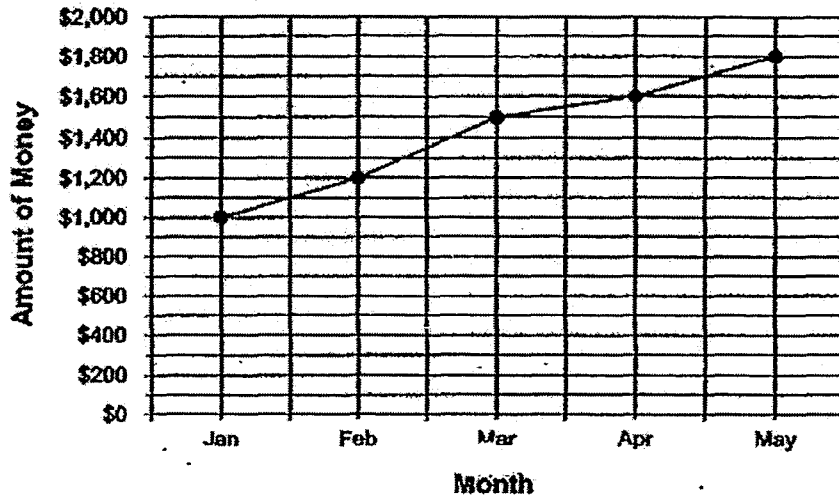
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3. Since January, David deposits his savings into his bank account every month. The graph below shows the amount of money in David's bank account at the end of each month from January to May.

Do not write  
in this space



Given that David's monthly salary is \$4500 what percentage of David's salary did he save in March? Express your answer as a fraction in its simplest form.

Ans: \_\_\_\_\_ %

4. Peter must score an average of 85 points for 3 games in order to win a prize at a funfair. Peter scored 68 points and 79 points for the first 2 games. What is the least number of points he needs to score in the 3rd game to win a prize?

Ans: \_\_\_\_\_

(Go on to the next page)

5. Mrs Yip had 615 red pens and 549 blue pens. After selling twice as many blue pens as red pens, she had a total of 363 pens left. How many red pens had she left?

Do not write in this space

Ans: \_\_\_\_\_

(Go on to the next page)

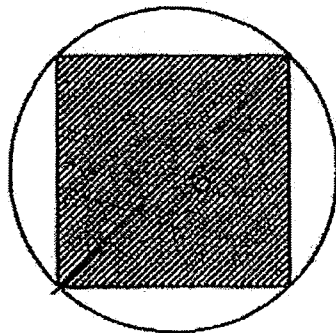


For questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

Do not write  
in this space

(50 marks)

6. The figure below consists of a square and a circle with diameter of 6 cm. What is the area of the unshaded part? (Take  $\pi = 3.14$ )



Ans: \_\_\_\_\_ [3]

7. Ben received \$1.50 more pocket money than Jerry daily. Each boy spent \$2.20 a day and saved the rest. When Jerry had saved \$28.80, Ben had saved \$24 more than Jerry. How much pocket money did Ben receive daily?

Ans: \_\_\_\_\_ [3]

(Go on to the next page)

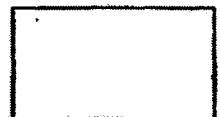


8. A rectangular tank measures 34 cm by 52 cm by 16 cm. Alice managed to fit in a total of 56 identical cubes into the tank before covering it with a lid. This was the greatest number of such cubes she could fit into the tank. Given that the length of one side of the cube is a whole number find its length.

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in this space

Ans: \_\_\_\_\_ [3]

(Go on to the next page)



9. Weiming is  $f$  years old now. His mother is 1 year younger than his father. In 4 years' time, Weiming's father will be twice Weiming's age. How old is Weiming's mother now? Express your answer in terms of  $f$ .

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in this space

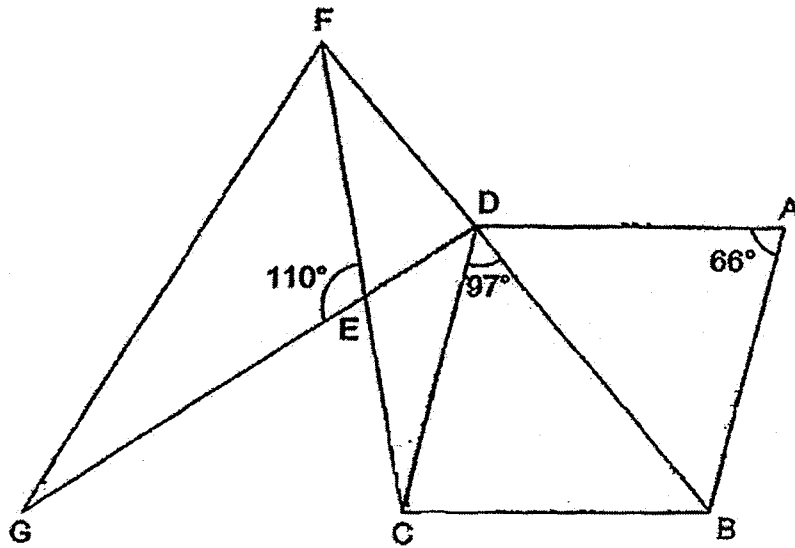
Ans: \_\_\_\_\_ [3]

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10. In the figure below, ABCD is a rhombus.  $\angle EDB = 97^\circ$ ,  $\angle FEG = 110^\circ$  and  $\angle BAD = 66^\circ$ . Given that GED, FEC and FDB are straight lines, find  $\angle FGD$ .

Do not write  
in this space



Ans: \_\_\_\_\_ [3]

(Go on to the next page)



11. Steven and Tom started cycling at the same time along a 6.5 km track. Both did not change their speeds throughout the whole journey. Steven cycled at a speed of 30 m/min faster than Tom. When he reached the end of the track, Tom was 600 m behind him. What was Tom's cycling speed in m/min?

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in this space

Ans: \_\_\_\_\_ [4]

(Go on to the next page)



12. Meifen has a number of 10¢, 20¢ and 50¢ coins in the ratio of 8 : 3 : 5 respectively. The total value of all the coins is \$195.

Do not write  
in this space

- (a) Meifen spent half the number of her 50¢ coins. Find the new ratio of the number of 10¢ coins to the number of 20¢ coins to the remaining number of 50¢ coins.
- (b) What is the total value of the 20¢ coins?

Ans: (a) \_\_\_\_\_ [ 1 ]

(b) \_\_\_\_\_ [ 3 ]

(Go on to the next page)





13. Mrs Tang had some money. She used \$53 to pay for 4 identical large potted plants and 7 identical small potted plants.

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in this space



If she bought another large potted plant, she would be short of \$3.50.  
If she bought another small potted plant, she would have \$1.50 left.

- a) What is the difference in price between the large and the small potted plant?
- b) Find the price of one large potted plant.

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]

(Go on to the next page)



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14. Every month, Jevier spends  $\frac{2}{5}$  of his salary on food  $\frac{4}{9}$  of the remainder on rent and saves the rest of his salary.

(a) What fraction of his salary does Jevier save?

Give your answer in the simplest form

(b) Jevier is saving to buy a laptop that costs \$4000. Given that he spends \$1200 on food every month. how long will he take to save in order to buy the laptop?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

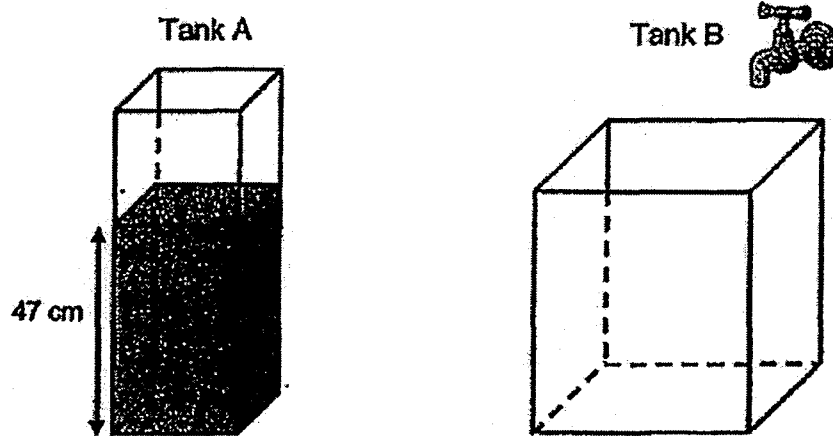
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15.

The figure below shows 2 rectangular tanks, A and B. Tank A has a base area of  $30 \text{ cm}^2$  while Tank B has a base area of  $90 \text{ cm}^2$ .

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in this space



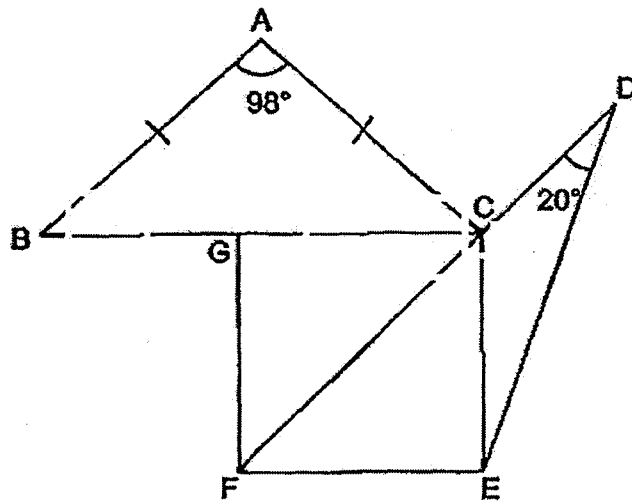
- a) Tank A contained water to a height of 47 cm. What was the volume of water in Tank A?
- b) Tank B was empty at first. Alvin turned on the tap for 6 minutes, allowing water to flow at a rate of  $95 \text{ cm}^3/\text{min}$  into Tank B. Then, he poured some water from Tank A into Tank B until the height of the water level in Tank B was the same as the height of the water level in Tank A. Find the height of the water level in Tank B.

Ans:(a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [4]

(Go on to the next page)

16. In the figure below,  $ABC$  is an isosceles triangle and  $EFGC$  is a square.  $\angle CDE = 20^\circ$  and  $\angle BAC = 98^\circ$ .  $DCF$  is a straight line.
- (a) Find  $\angle FCA$ .
- (b) Find  $\angle DEC$ .



Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

(Go on to the next page)



17. Mr Lau bought a tennis racket and a bag at discounted prices. He spent a total of \$168.75 on the two items. The ratio of the amount Mr Lau paid for the tennis racket to the amount he paid for the bag was 2 : 1.

Do not write  
in this space

- (a) Find the cost of the bag after the discount.
- (b) The total discount given for the two items was \$31.25. Mr Lau was given a 10% discount for the tennis racket. What was the percentage discount given for the bag?

Ans: (a) \_\_\_\_\_ [1]

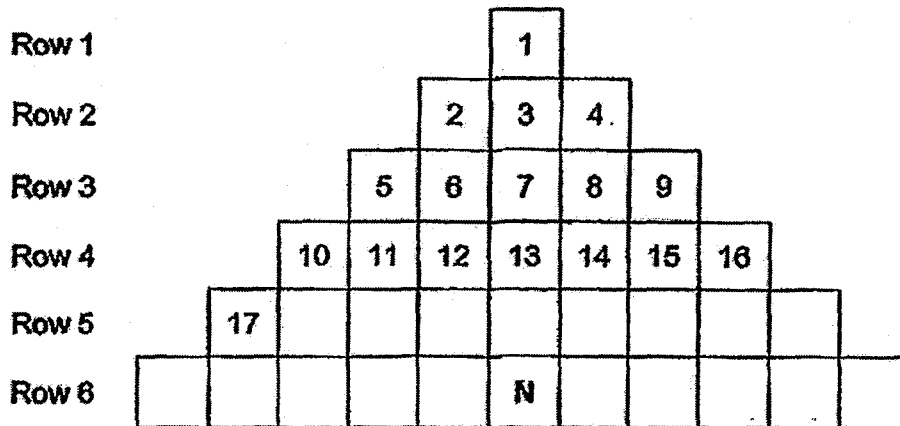
(b) \_\_\_\_\_ [4]

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18. Numbers are written in order beginning from 1 as shown in the pattern below.

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in this space



Given that the pattern continues,

- (a) find the number represented by the letter N.
- (b) find the greatest number in Row 8.
- (c) find the number in the middle of Row 12

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [1]

(c) \_\_\_\_\_ [2]

End of Paper

Setters:

Mrs Josephine Lal, Ms Grace Chan, Ms Yew Hew Mei, Mr Yip Yew Fei and Mrs Norah Idli



# ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : HENRY PARK

SUBJECT : MATHEMATICS

TERM : PRELIM

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

16) 50000

17)  $68 + 64 + 48 = 180$

$$180 \div 3 = 60$$

18)  $\$50 - \$m$

$$= \$(50 - m)$$

$$\$(50 - m) \div 6$$

$$= \$(50 - m/6)$$

19)  $\$1.20 + \$0.70 = \$1.90$

20)  $\frac{1}{2} \times 13\text{cm} \times 4\text{cm} = 26\text{cm}^2$

$$21) 30 + 25 + 25 + 20 + 15 = 115$$

$$15 : 115$$

$$3 : 23$$

$$22) 100\% - 28\% - 16\% - 8\% = 48\%$$

$$= 48/100 = 12/25$$

$$23) 360^\circ - 132^\circ - 98^\circ - 51^\circ = 79^\circ$$

$$24) \angle 180^\circ - 86^\circ - 44^\circ = 50^\circ$$

$$\angle ACB = \angle DCE$$

$$\angle CED \rightarrow 180^\circ - 55^\circ - 50^\circ = 75^\circ$$

$$25) (100\text{cm} + 4\text{cm}) \times 2 = 290\text{cm}$$

$$6 \times 7\text{cm} = 42\text{cm}$$

$$290\text{cm} + 42\text{cm} = 332\text{cm}$$

$$26) 5/8 \rightarrow 4\text{m}$$

$$1/8 \rightarrow 0.8\text{m}$$

$$2 \rightarrow 12.8\text{m} = 128/10\text{m} = 124/5\text{m}$$

$$27) \angle XWU \rightarrow 93^\circ - 10^\circ = 83^\circ$$

$$\angle YXZ \rightarrow 180^\circ - 83^\circ - 65^\circ = 32^\circ$$

$$\angle XYZ \rightarrow 180^\circ - 32^\circ - 32^\circ = 116^\circ$$

$$28) H : E : P \quad 3u \rightarrow \$1.50$$

$$3 : 4$$

$$u \rightarrow \$1.50 \div 3 = \$0.50$$

$$\underline{1 : 2}$$

$$8u \rightarrow 8 \times \$0.50 = \$4$$

$$3 : 6 : 8$$



29)  $40\text{cm} \times 2 = 80\text{cm}$

$10 \times (80\text{cm} \times 3.14)$

$= 2512\text{cm}$

30)  $20\% \rightarrow 36$

$80\% \rightarrow 36 \times 4 = 144$

$144 - 69 = 75$  bookmarks

### Paper 2

1)  $\frac{3}{4} \rightarrow 3.855\text{kg}$

$\frac{1}{4} \rightarrow 3.855\text{kg} \div 3 = 1.285\text{kg}$

$1 \rightarrow 1.285\text{kg} \times 4 = 5.14\text{kg}$

2)  $\frac{1}{4} (2 \times \frac{22}{7} \times 10.5) \times 1\frac{1}{4} = 82.5$

$82.5 + 10.5 + 10.5 = 103.5\text{cm}$

3)  $300/4500 \times 100 = 6\frac{2}{3}$

4)  $85 \times 3 = 255$

$255 - 79 - 68 = 108$

5)  $615 + 549 = 1164$

$1164 - 363 = 801$

$801 \div 3 = 267$

$615 - 267 = 348$  red pens

6) Area of square  $(6\text{cm} \times 6\text{cm}) \div 2 = 18\text{cm}^2$

$6\text{cm} \div 2 = 3\text{cm}$

Area of circle  $\rightarrow 3.14 \times 3\text{cm} \times 3\text{cm} = 28.26\text{cm}^2$

Area of unshaded  $\rightarrow 28.26\text{cm}^2 - 18\text{cm}^2 = 10.26\text{cm}^2$

$$7) \$24 \div \$1.50 = 16$$

$$\$28.80 + \$24 = \$52.80$$

$$\$52.80 \div 16 = \$3.30$$

$$\$3.30 + \$2.20 = \$5.50$$

$$8) 52\text{cm} \div 7\text{cm} = 7\text{R}3\text{cm}$$

$$16\text{cm} \div 7\text{cm} = 2\text{R}2\text{cm}$$

$$34\text{cm} \div 7\text{cm} = 4\text{R}6\text{cm}$$

$$7 \times 4 \times 2 = 56$$

Ans: 7cm

$$9) 4 \text{ years later}$$

$$W \rightarrow (f + 4)$$

$$WF \rightarrow (f + 4) \times 2 = (2f + 8)$$

$$M \rightarrow (2f + 8) - 1 = (2f + 7)$$

Now

$$M \rightarrow (2f + 7) - 4 = (2f + 3) \text{ years old}$$

$$10) \angle CBD \rightarrow 180^\circ - 66^\circ / 2 = 57^\circ$$

$$\angle EDC \rightarrow 97^\circ - 57^\circ = 40^\circ$$

$$\angle FCD \rightarrow 180^\circ - 40^\circ - 110^\circ = 30^\circ$$

$$11) 600\text{m} \div 30 \text{ m/min} = 20 \text{ min}$$

$$6.5\text{km} = 6500\text{m}$$

$$\text{Steven speed} \rightarrow 6500\text{m} \div 20 \text{ min} = 325\text{m/min}$$

$$\text{Tom speed} \rightarrow 325\text{m/min} - 30\text{m/min} = 295\text{m/min}$$

12)a)  $16 : 6 : 5$

b)  $150 \times \$0.20 = \$30$

13)a)  $\$3.50 + \$1.50 = \$5$

b)  $4 \times \$5 = \$20$

$\$53 - \$20 = \$33$

$\$33 \div (7 + 4) = \$3$

$\$3 + \$5 = \$8$

14)a)  $1 - 2/5 = 3/5$

R  $\rightarrow 4/9 \times 3/5 = 4/15$

$1 - 2/5 - 4/15 = 1/3$

b) F  $\rightarrow 6/15$

R  $\rightarrow 4/5$

S  $\rightarrow 5/15$

6u  $\rightarrow \$1200$

u  $\rightarrow \$1200 \div 6 = \$200$

5u  $\rightarrow \$200 \times 5 = \$1000$

$\$4000 \div \$1000 = 4$  months

15)a)  $47\text{cm} \times 30\text{cm}^2 = 1410\text{cm}^3$

b)  $95\text{cm}^3/\text{min} \times 6\text{min} = 570\text{cm}^3$

$1410\text{cm}^3 + 570\text{cm}^3 = 1980\text{cm}^3$

$1980\text{cm}^3 \div (90\text{cm}^2 + 30\text{cm}^2) = 16.5\text{cm}$

$$16)a) \angle ACB \rightarrow (180^\circ - 98^\circ) \div 2 = 41^\circ$$

$$\angle GCF \rightarrow 90^\circ \div 2 = 45^\circ$$

$$\angle FCA \rightarrow 45^\circ + 41^\circ = 86^\circ$$

$$b) \angle FEC \rightarrow 90^\circ$$

$$\angle CFE \rightarrow 90^\circ \div 2 = 45^\circ$$

$$\angle DEC \rightarrow 180^\circ - 90^\circ - 20^\circ - 45^\circ = 25^\circ$$

$$17)a) u \rightarrow \$168.75 \div 3 = \$56.25$$

$$b) TR \rightarrow \$56.25 \times 2 = \$112.50$$

$$90\% \rightarrow \$112.50$$

$$10\% \rightarrow \$112.50 \div 9 = \$12.50$$

$$\text{Discount for bag} \rightarrow \$31.25 - \$12.50 = \$18.75$$

$$\$56.25 + \$18.75 - \$75$$

$$18.75/75 \times 100 = 25\%$$

$$18)a) (6 \times 5) + 1 = 31$$

$$b) \text{Middle number for row 8} \rightarrow (8 \times 7) + 1 = 57$$

$$8 - 1 = 7$$

$$57 + 7 = 64$$

$$c) (12 \times 11) + 1 = 133$$

# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



## PRELIMINARY EXAMINATION 2017 PRIMARY 6 MATHEMATICS

### PAPER 1 (BOOKLET A)

Total Time for Booklets A and B: 50 minutes

#### INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

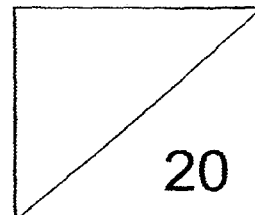
Shade your answers in the Optical Answer Sheet (OAS) provided.

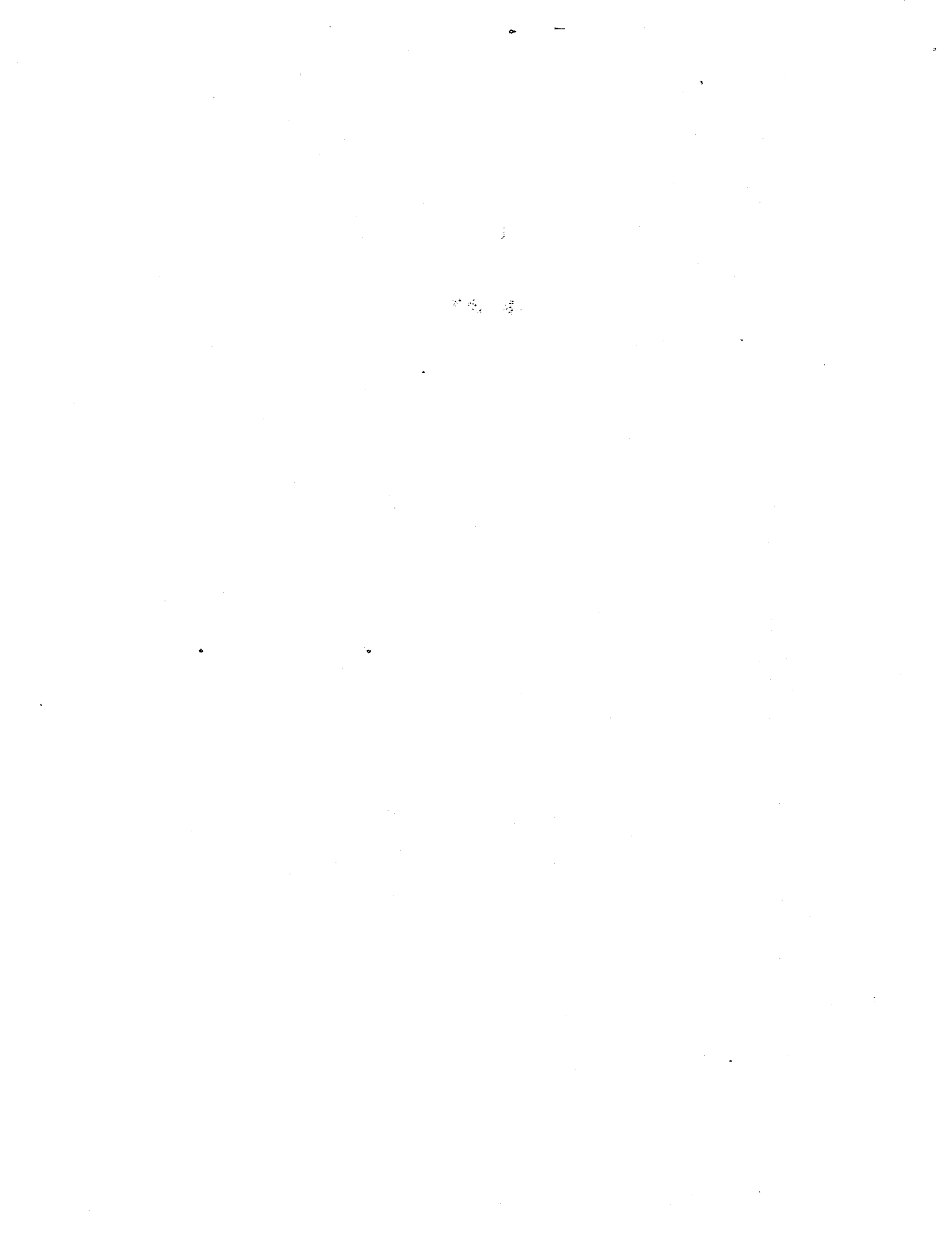
The use of calculators is **NOT** allowed.

Name: \_\_\_\_\_ ( )

Class: Primary 6. \_\_\_\_\_

Date: 22 August 2017





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 off 145.105 to the nearest hundredth.

- (1) 140 000
- (2) 145.100
- (3) 145.110
- (4) 150 000

2 Which of the following is the most likely height of the desk in a classroom?

- (1) 7 cm
- (2) 7 m
- (3) 70 cm
- (4) 70 m

3 Sally paid \$12 for 30 identical pencils. What was the cost of each pencil?

- (1) \$0.04
- (2) \$0.25
- (3) \$0.40
- (4) \$2.50

4 Which one of the following fractions is less than  $\frac{1}{3}$ ?

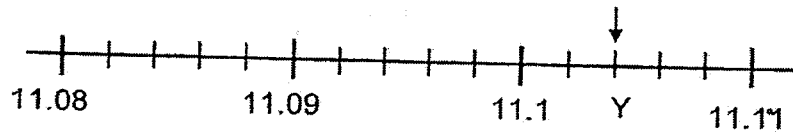
(1)  $\frac{4}{10}$

(2)  $\frac{4}{11}$

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

(4)  $\frac{4}{13}$

5 In the scale below, what is the value of Y?



(1) 11.12

(2) 11.14

(3) 11.102

(4) 11.104

6 Express 36 minutes as a percentage of 2 hours.

(1) 18%

(2) 30%

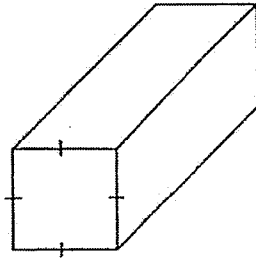
(3) 36%

(4) 60%

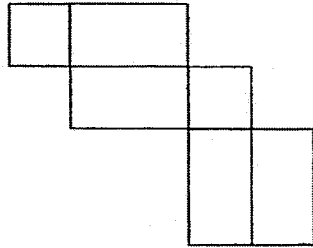


7

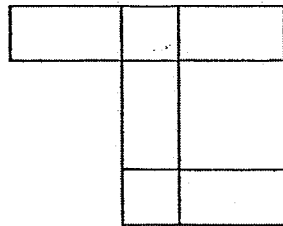
Which of the following is not a net of the solid below?



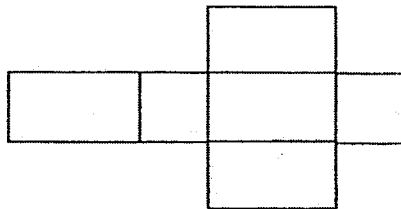
(1)



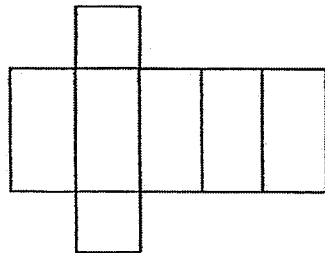
(2)



(3)



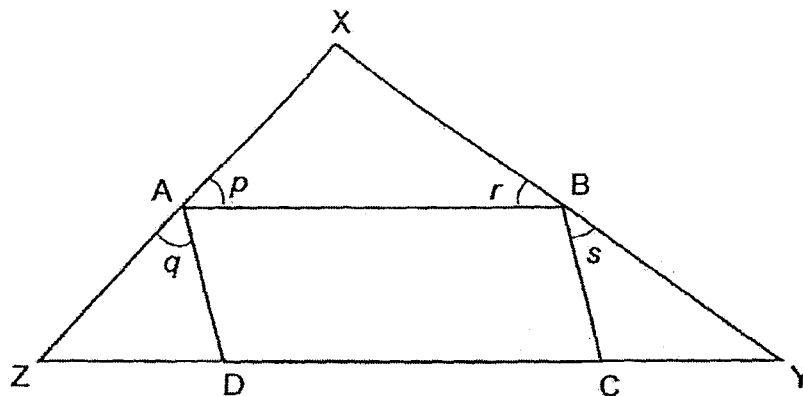
(4)



8 Find the value of  $\frac{17b}{5} - 2b + 3$  when  $b = 4$ .

- (1) 4.4
- (2) 8.6
- (3) 14.6
- (4) 15

9 In the figure below, ABCD is a parallelogram and XYZ is a triangle.  
Find the value of  $\angle p + \angle q + \angle r + \angle s$ .



- (1)  $180^\circ$
- (2)  $270^\circ$
- (3)  $360^\circ$
- (4)  $540^\circ$

10 Mrs Lim bought 1.4 m of ribbon to make 5 bows. What was the length of the ribbon used for each bow?

- (1) 0.28 cm
- (2) 2.80 cm
- (3) 28 cm
- (4) 280 cm

- 11 There are 54 girls and 36 boys in a school choir. All of them are arranged such that there are the same number of pupils in each row. Each row is made up of either all girls or all boys. What is the greatest number of pupils in each row?

- (1) 9
- (2) 6
- (3) 3
- (4) 18

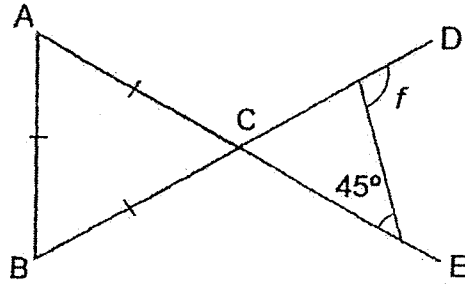
- 12 Shu Ning bought  $\frac{5}{6}$  kg of minced meat. She gave  $\frac{1}{4}$  of it to her neighbour and  $\frac{1}{3}$  of the remainder to Ali. How much minced meat had Shu Ning left?

- (1)  $\frac{1}{4}$  kg
- (2)  $\frac{1}{2}$  kg
- (3)  $\frac{5}{12}$  kg
- (4)  $\frac{5}{24}$  kg

- 13 There were 1600 participants at a conference. 80% of them were female. Some female participants left the conference and the ratio of the number of female participants to the number of male participants became 7 : 4. How many female participants left the conference?

- (1) 320
- (2) 560
- (3) 720
- (4) 960

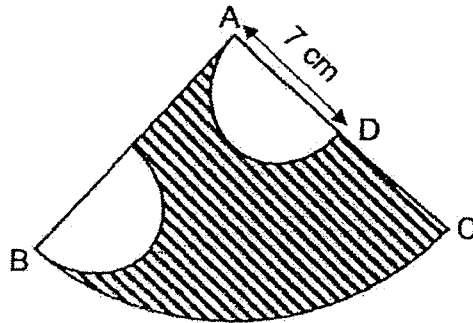
- 14 In the figure below, ABC is an equilateral triangle. AE and BD are straight lines. Find  $\angle f$ .



- (1)  $45^\circ$
- (2)  $75^\circ$
- (3)  $105^\circ$
- (4)  $120^\circ$

- 15 The figure below is made up of a quadrant and 2 identical semicircles. AC is twice of AD. What is the perimeter of the shaded figure below?

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



- (1) 44 cm
- (2) 47 cm
- (3) 51 cm
- (4) 58 cm

PRELIMINARY EXAMINATION 2017  
PRIMARY 6  
MATHEMATICS

PAPER 1  
(BOOKLET B)

Total Time for Booklets A and B: 50 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 calculators is **NOT** allowed.

Name: \_\_\_\_\_ ( )

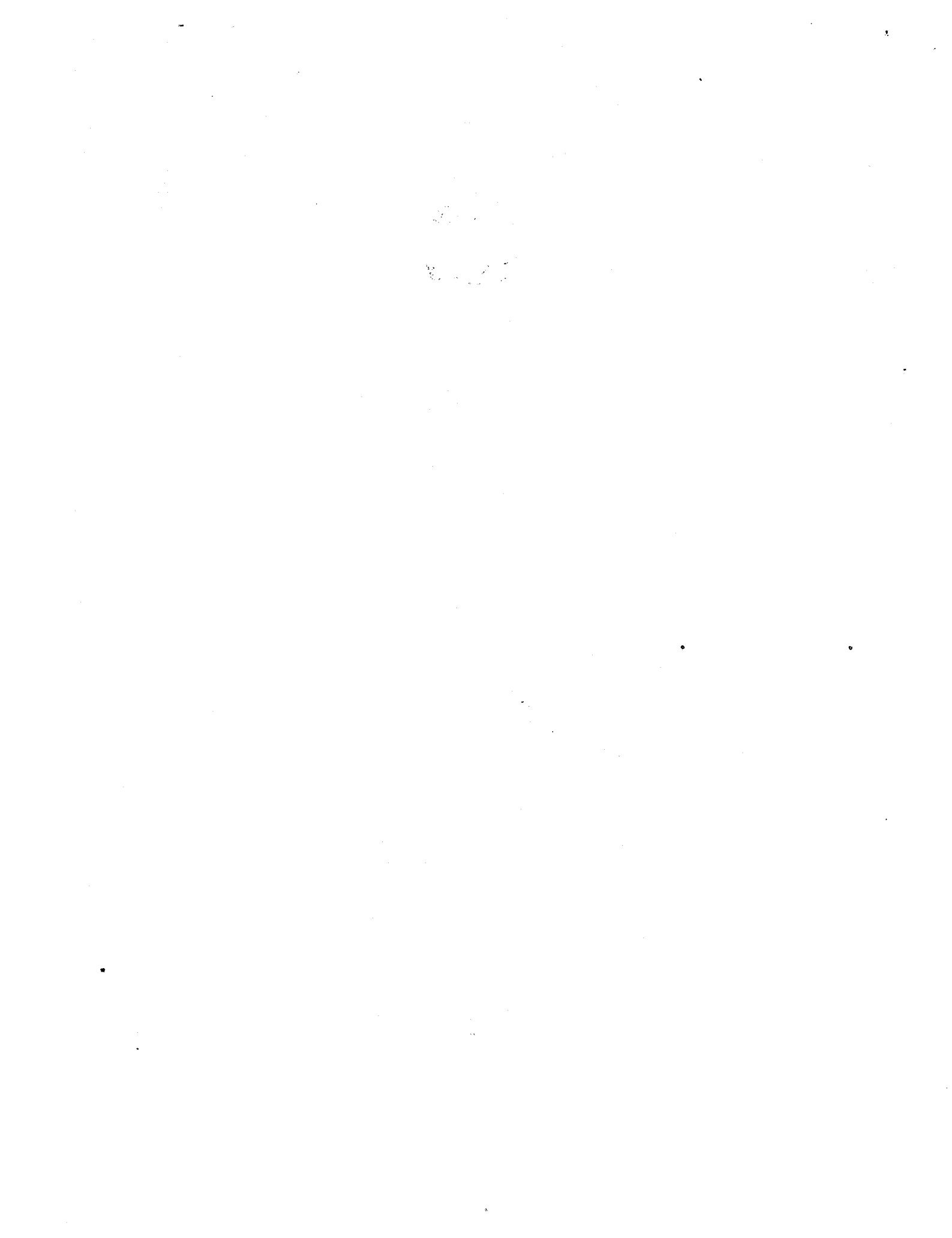
Class: Primary 6. \_\_\_\_\_

Date: 22 August 2017

Parent's Signature: \_\_\_\_\_

Paper 1 Booklet A	/ 20
Paper 1 Booklet B	/ 20
Paper 2	/ 60
<b>TOTAL</b>	<b>/ 100</b>

This booklet consists of 8 printed pages including this page.



Questions 16 to 25 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 Write one million, twenty thousand and three in numerals.

Ans: \_\_\_\_\_

17 Find the value of  $7\ 056 \div 7$ .

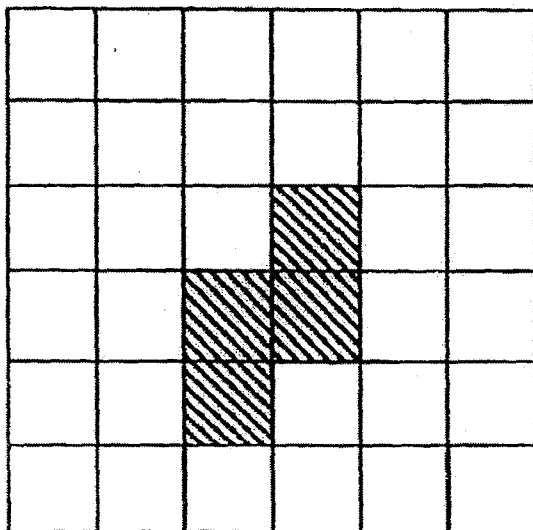
Ans: \_\_\_\_\_

18  $A : B = 5 : 6$  and  $B : C = 2 : 5$ . What is the ratio of  $A : C$  ?

Ans: \_\_\_\_\_

- 19 The shaded figure below shows an incomplete net of a cube. Shade the square(s) needed to complete the net of a cube.

Do not writ  
in this spac



- 20 The average of 5 numbers is 8. When one of the numbers was removed, the average became 9. What is the value of the number that was removed?

Ans: \_\_\_\_\_





21 Express  $\frac{1}{11}$  as a decimal to 2 decimal places.

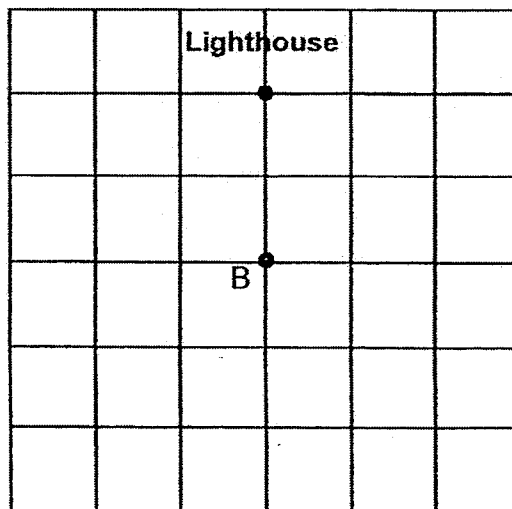
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Ans: \_\_\_\_\_

22 Find the value of  $2\frac{4}{9} - \frac{2}{3}$ . Give your answer as a mixed number in its simplest form.

Ans: \_\_\_\_\_

23 In the diagram, a ship is at point B facing the lighthouse. The lighthouse is north of the ship. The captain of the ship turns the ship  $135^\circ$  anticlockwise. Which direction is the ship facing now?



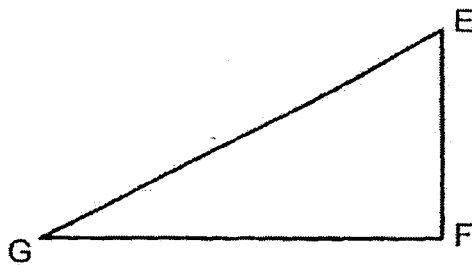
Ans: \_\_\_\_\_

- 24 A cheetah can run at an average speed of 120 km/h. How long will it take for the cheetah to run a 42-km marathon?

Do not wr  
in this spa

Ans: \_\_\_\_\_ min

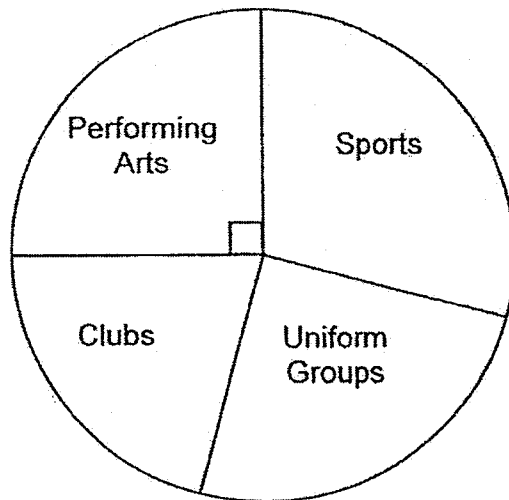
- 25 The figure below shows a right-angled triangle EFG.  
Construct 2 lines, HG and HE, such that  $\angle HGE = 40^\circ$  and HEFG is a trapezium.



Questions 26 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. (10 marks)

Do not write in this space

- 26 The pie chart below shows the Co-curricular Activities (CCA) that the Primary 6 pupils of Sophia Primary School participated in. There are 240 pupils in Primary 6. The number of pupils who participate in the Performing Arts and the Uniformed Group are the same.



- (a) What fraction of the pupils participated in the Performing Arts and Uniformed Groups?

Ans: \_\_\_\_\_

- (b) 20% of the pupils were in the Clubs CCA. How many pupils participated in Sports?

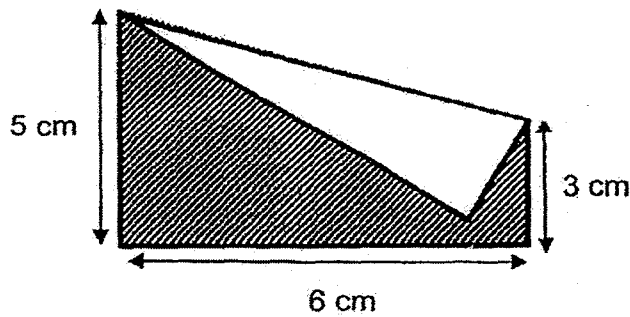
Ans: \_\_\_\_\_

- 27 There were two boxes containing yellow and red beads. Each box had the same total number of beads. In Box A, the ratio of the number of yellow beads to the number of red beads was 5 : 1. In Box B, the ratio of the number of yellow beads to the number of red beads was 6 : 1. All the beads were then transferred into an empty container. What was the ratio of the number of yellow beads to the number of red beads in the container in the end?

Do not write in this space

Ans: \_\_\_\_\_

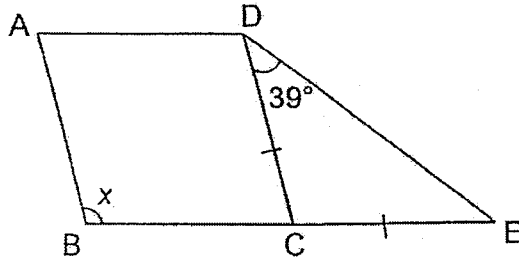
- 28 A rectangle piece of paper is folded at one of the corners as shown in the diagram below. Find the area of the shaded part.



Ans: \_\_\_\_\_ cm<sup>2</sup>

- 29 In the figure below, ABCD is a rhombus and CDE is an isosceles triangle.  $\angle CDE = 39^\circ$  and BCE is a straight line. Find  $\angle x$ .

Do not write  
in this space.

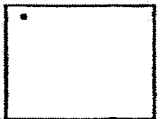


Ans: \_\_\_\_\_



- 30 What is the greatest number of cuboids 5 cm by 3 cm by 3 cm that can fit into a carton 40 cm by 30 cm by 20 cm?

Ans: \_\_\_\_\_



End of Paper



PRELIMINARY EXAMINATION 2017  
PRIMARY 6  
MATHEMATICS

PAPER 2

Duration: 1 hour 40 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.

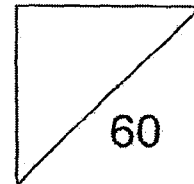
The use of an approved calculator is expected, where appropriate.

Name: \_\_\_\_\_ ( )

Class: Primary 6. \_\_\_\_\_

Date: 22 August 2017

Parent's Signature: \_\_\_\_\_



This booklet consists of 15 printed pages including this page.





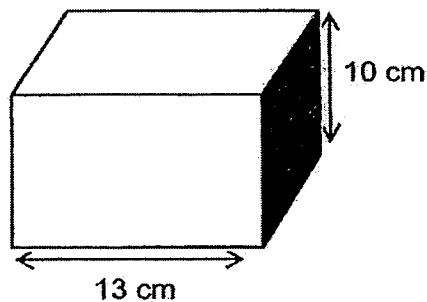
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

- 1 The average mass of Mark, Steven and Raju is 65 kg. The mass of each of these 3 boys is a whole number. Mark and Steven have the same mass. Raju's mass is less than 71 kg. What is the largest possible mass of Raju?

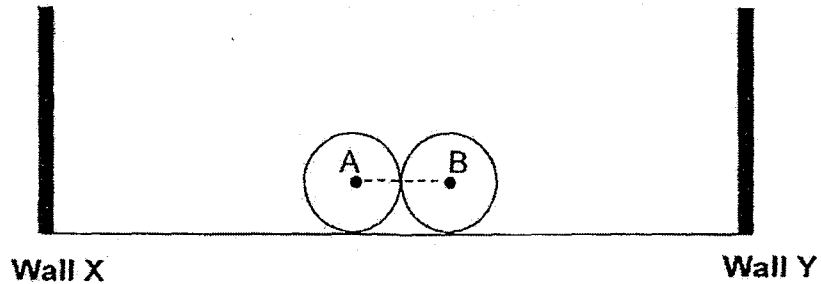
Ans: \_\_\_\_\_ kg

- 2 The figure below shows a cuboid. The volume of the cuboid is  $780 \text{ cm}^3$ . Find the perimeter of the shaded face of the cuboid.



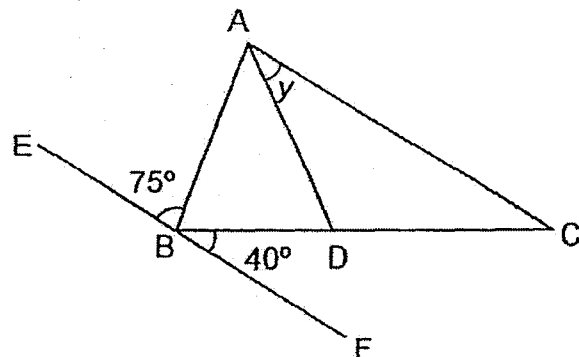
Ans: \_\_\_\_\_ cm

- 3 Two wheels, with centres A and B, are rolled along a straight line in opposite directions. Each wheel makes 3 completed revolutions before touching Wall X and Wall Y. The diameter of each wheel is 62 cm. What is the distance between Wall X and Wall Y in terms of  $\pi$ ?



Ans: \_\_\_\_\_ cm

- 4 In the figure below, ABC is a triangle and EBF is a straight line. AC is parallel to EF and  $AB = AD$ . Find  $\angle y$ .



Ans: \_\_\_\_\_

- 5 Mrs Raju bought some files. She gave 100 files to her pupils and  $\frac{3}{7}$  of the remainder to Ms Lim. The number of files left was  $\frac{1}{3}$  of the number of files she had at first. How many files did Mrs Raju buy at first?

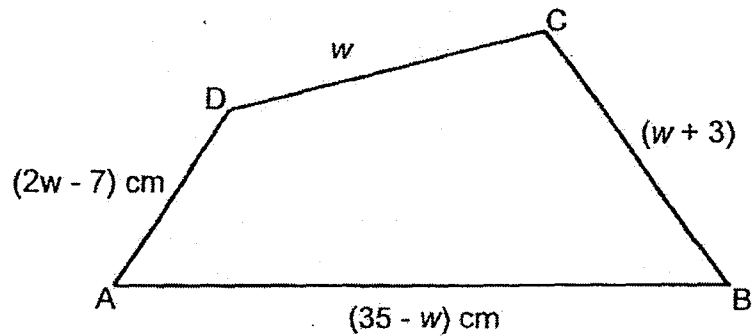
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in this space

Ans: \_\_\_\_\_

For Questions 6 to 18, 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. (50 marks)

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- 6 A 2-m string was used to form the figure below.

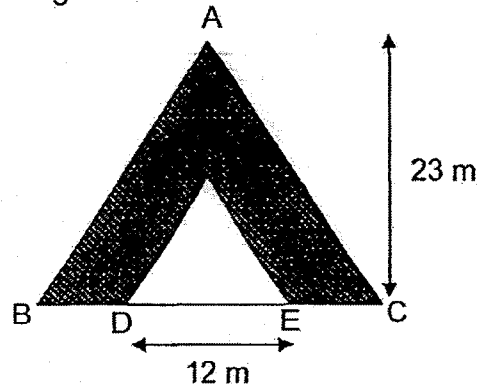


- (a) Express the length of the string that was used to form the figure in terms of  $w$ .
- (b) If  $w = 4$ , what was the length of the remaining string?  
Give your answer in centimetres.

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

- 7 The figure below is made up of 2 triangles. The ratio of the length of BD to the length of DE to the length of EC is 2 : 3 : 2. DE is 12 cm. The shaded area of the figure is 60% of the area of Triangle ABC. What is the area of the unshaded part?



Do not write in this space

Ans: \_\_\_\_\_ [3]

- 8 Tank X with a rectangular base measuring 120 cm by 80 cm was filled with water to a height of 15 cm. When 30 l of water was removed from the tank, the water level dropped to  $\frac{3}{5}$  of the height of the tank. What was the capacity of the tank?

Ans: \_\_\_\_\_ [3]

- 9 Mary went to the market and bought 650 g of cod, 0.6 kg of prawns and 1 080 g of squid. She gave the fishmonger \$100. How much change did Mary receive? Give your answer to the nearest ten-cent.

Seafood	Price per kg
Prawns	\$23.50
Cod	\$68.00
Squid	\$17.25

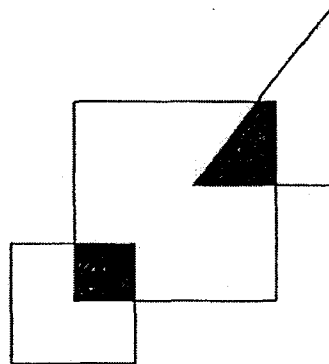
Ans: \_\_\_\_\_ [3]

- 10 John left Admiralty Town at 11.30 a.m. for Bukit Town which was 35 km away. At the same time, Bala left Bukit Town for Admiralty Town. Bala's speed was 16 km/h faster than John's speed. They travelled along the same route. Fifteen minutes later, they were 10 km apart, after passing each other. Find Bala's average speed.

Ans: \_\_\_\_\_ [3]

- 11 The figure below is made up of 2 squares and a triangle.  $\frac{1}{4}$  of the smaller square is shaded and  $\frac{1}{3}$  of the triangle is shaded. The ratio of the area of the small square to the area of the big square to the area of the triangle is 1 : 3 : 2. What fraction of the big square is shaded?

Do not write  
in this space



Ans: \_\_\_\_\_ [4]



- 12 Ahmad and David collected some toy cars. The ratio of the number of Ahmad's toy cars to the number of David's toy cars was 8 : 11. Both of them gave away an equal number of toy cars. In the end, the ratio of the number of Ahmad's toy cars to the number of David's toy cars became 9 : 14. What percentage of his toy cars did Ahmad give away?

Do not write in this space

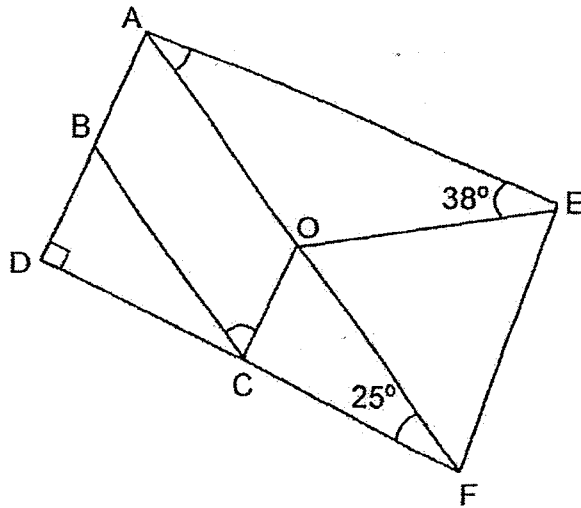
Ans: \_\_\_\_\_ [4]



13 In the figure below, OABC is a parallelogram and  $OA = OE = OF$ . ADF is a right-angled triangle and AOF is a straight line.

(a) Find  $\angle OCB$ .

(b) Find  $\angle CFE$ .



Do not write in this space

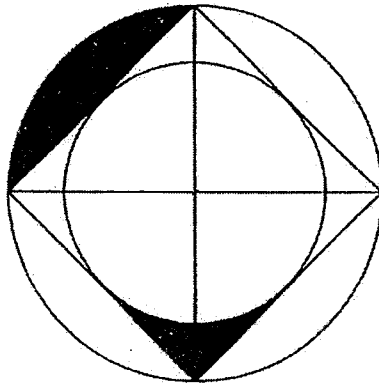
Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



- 14 The figure below is made up of a big circle, a small circle and a square. The corners of the square touch the circumference of the big circle. The radius of the small circle is 8 cm. The area of the square is  $256 \text{ cm}^2$ . Find the area of the shaded part. (Take  $\pi = 3.14$ )

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in this space

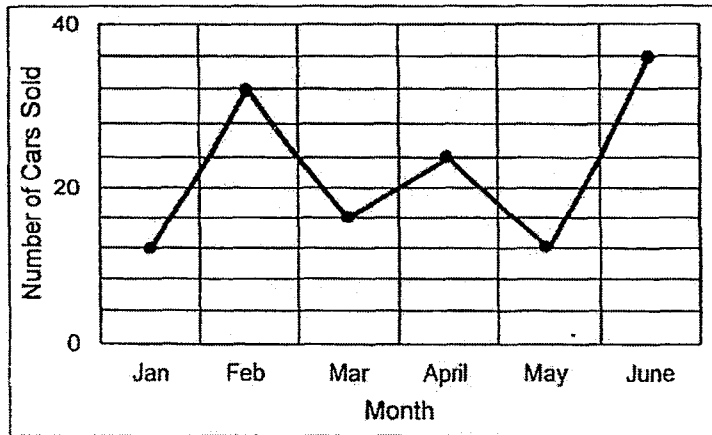


Ans: \_\_\_\_\_ [4]



- 15 The line graph below shows the sale of cars in a showroom from January to June. Study the graph and answer the questions.

Do not write  
in this space



- (a) Between which 2 months was there the biggest drop in the sale of cars?
- (b) In which month, was the sale of cars  $1\frac{1}{2}$  times that of March?
- (c) What was the average number of cars sold per month from January to June?

Ans: (a) \_\_\_\_\_ and \_\_\_\_\_ [1]

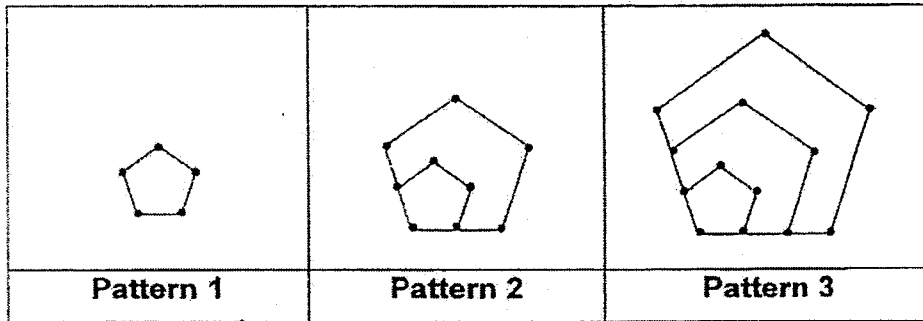
(b) \_\_\_\_\_ [1]

(c) \_\_\_\_\_ [2]



16 The pattern below shows a series of hexagons which are made using beads and strings. Study the pattern and answer the questions that follow.

Do not write in this space



- (a) How many beads are there in Pattern 5?
- (b) Which pattern number will have 253 beads?
- (c) Ahmad wants to make a pattern consisting of 43 hexagons. He has 151 beads. How many more beads does he need?

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

(c) \_\_\_\_\_ [2]



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in this space

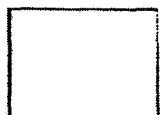
- 17 In a library, there were 160 books on Bookshelf A. Bookshelf B had 15% fewer books than Bookshelf A. The librarian added more books to Bookshelf B and the number of books on Bookshelf B increased by 25%. Some books from Bookshelf A were borrowed by some children and the number of books on Bookshelf A decreased by 10%.

- (a) How many books were there on Bookshelf B after the librarian had added more books?
- (b) (i) Was there an overall increase or decrease in the total number of books?  
(ii) What was the percentage increase or decrease in the total number of books? Give your answer correct to the nearest whole number.

Ans: (a) \_\_\_\_\_ [2]

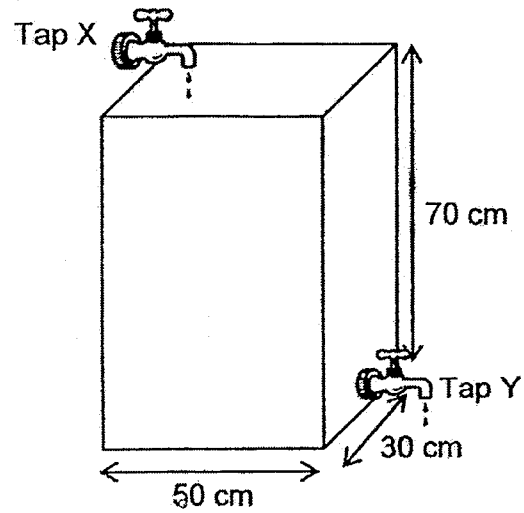
(b) (i) \_\_\_\_\_ [1]

(ii) \_\_\_\_\_ [1]



- 18 A tank measuring 50 cm by 30 cm by 70 cm was completely filled with water at first. Tap Y was then turned on and water flowed out at a rate of 1.2 l per minute. After 10 minutes, Tap X was turned on and water filled the tank at a rate of 800 cm<sup>3</sup> per minute. Tap Y was still running when Tap X was turned on. Find the height of the water in the tank after Tap X had been running for 30 minutes.

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in this spat



Ans: \_\_\_\_\_ [5]

END OF PAPER.

**PRELIMINARY EXAM PAPER 2017**

**SCHOOL : METHODIST GIRLS' PRIMARY SCHOOL**  
**SUBJECT : PRIMARY 6 MATH PAPER 1 BOOKLET A & B**  
**TERM : PRELIMINARY EXAMINATION 2017**

**Paper 1**

**Booklet A:**

**Answer:**

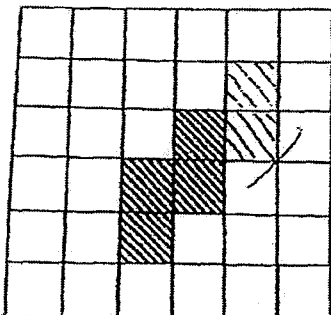
<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q5</b>	<b>Q6</b>	<b>Q7</b>	<b>Q8</b>	<b>Q9</b>	<b>Q10</b>
3	3	3	4	4	2	2	2	1	3
<b>Q11</b>	<b>Q12</b>	<b>Q13</b>	<b>Q14</b>	<b>Q15</b>					
4	3	3	3	4					

**Paper 1**

**Booklet B:**

16) Ans: 1020003 17) Ans: 1008 18) 1: 3

19)



20) Ans: 4

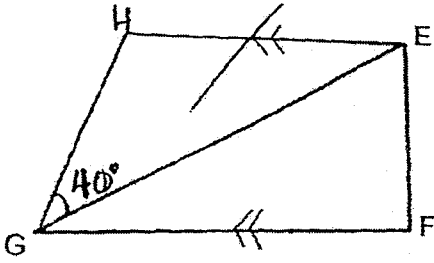
21) Ans: 0.09

22) Ans:  $1\frac{7}{9}$

23) Ans: South-West

24) Ans: 21 min

25)



26a) Ans:  $\frac{1}{2}$

26b) Ans: 72

27) Ans: 71:13

28) Ans:  $18\text{cm}^2$

29) Ans:  $102^\circ$

30) Ans: 520

END



**PRELIMINARY EXAM PAPER 2017**

**SCHOOL : METHODIST GIRLS' PRIMARY SCHOOL**  
**SUBJECT : PRIMARY 6 MATH PAPER 2**  
**TERM : PRELIMINARY EXAMINATION 2017**

**PAPER 2 ANSWER**

Question 1:

$$65 \times 3 = 195$$

$$195 - 69 = 126$$

$$126 \div 2 = 63$$

Answer: 69kg

Question 2:

$$780 \div 3 \div 10 = 6$$

$$6 + 10 + 6 + 10 = 32$$

Answer: 32cm

Question 3:

$$62\pi \times 6 + 62 + 62 = (372\pi + 124)$$

Answer:  $(372\pi + 124)$ cm .

Question 4:

$$\angle ABD = \angle ADB$$

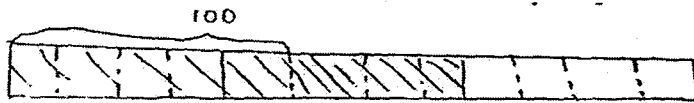
$$= 180^\circ - 75^\circ - 40^\circ = 65^\circ$$

$$\angle BAD = 180^\circ - 65^\circ - 65^\circ = 50^\circ$$

$$\angle Y = 75^\circ - 50^\circ = 25^\circ$$

Answer:  $25^\circ$

Question 5:



$$5u \rightarrow 100$$

$$1u \rightarrow 20$$

$$3 \times 4 = 12$$

$$12u \rightarrow 240$$

Answer: 240

Question 6:

$$\begin{aligned} \text{a) } & 2w - 7 + W + W + 3 + 35 - W \\ & = 2W + W + W - W - 7 + 3 + 35 \\ & = (3w + 31) \end{aligned}$$

Answer a: (3w+31)cm

$$\text{b) } 3 \times 4 + 31 = 43$$

$$2m = 200\text{cm}$$

$$200 - 43 = 157$$

Answer b: 157cm

Question 7:

$$12 \div 3 \times 7 = 28$$

$$28 \times 23 \times \frac{1}{2} = 322$$

$$100\% - 60\% = 40\%$$

$$322 \times 40\% = 128.8$$

Answer: 128.8m<sup>2</sup>

Question 8:

$$120 \times 80 \times 15 = 144000$$

$$30L = 30000\text{cm}^2$$

$$144000 - 30000 = 114000$$

$$114000 \div 3 \times 5 = 190000$$

$$190000\text{cm}^2 = 190L$$

Answer: 190L

Question 9:

$$650g = 0.65kg$$

$$1080g = 1.08kg$$

$$23.5 \times 0.6 = 14.1$$

$$68 \times 0.65 = 44.2$$

$$17.25 \times 1.08 = 18.63$$

$$100 - 14.1 - 44.2 - 18.63 = 23.07 \text{ round up to } 23.10$$

Answer: \$23.10

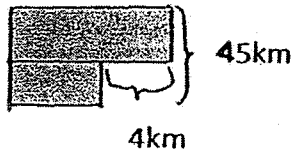
Question 10:

11.30am J  $\rightarrow$  B

J  $\leftarrow$  B 11.30am

Total 10km 2 way of J to B

AT  $\leftarrow$  35km  $\rightarrow$  BT



Total distance  $\rightarrow 35km + 10km = 45km$

1h = 16km

$$15\text{min} = \frac{1}{4}\text{h} \rightarrow \frac{1}{4}\text{h} \times 16\text{km} = 4\text{km}$$

$$45\text{km} + 4\text{km} = 49\text{km}$$

$$49\text{km} \div 2 = 24.5\text{km}$$

$$\text{Speed} \rightarrow 24.5\text{km} \div \frac{1}{4}\text{h} = 98\text{km/h}$$

Answer: 98km/h

Question 11:

S: B: T

1: 3: 2

12: 36 : 24

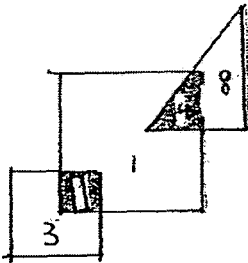
$$\frac{1}{4} \times 12 = 3$$

$$\frac{1}{3} \times 24 = 8$$

$$3 + 8 = 11$$

Fraction of BS  $\rightarrow \frac{11}{36}$

Answer:  $\frac{11}{36}$  of it is shaded



Question 12:

A: D

8: 11

9: 14

-70

$$80u - 9p = 11u - 14p$$

$$14p - 9p = 11u - 8u$$

$$5p = 3u$$

$$p = 0.6u$$

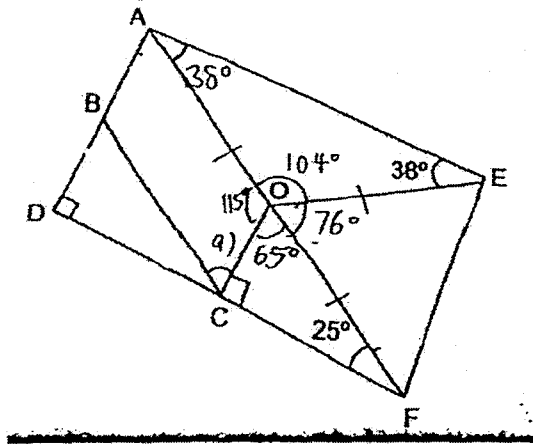
$$9p = 5.4u$$

$$8u - 5.4u = 2.6u$$

$$2.6u \div 8 \times 100 = 32.5$$

Answer: 32.5%

Question 13:



a)  $\angle COF = \angle OCB$   
 $= 180^\circ - 25^\circ - 90^\circ = 65^\circ$   
Answer:  $\angle OCB$  is  $65^\circ$

b)  $\angle AOC = 180^\circ - 65^\circ = 115^\circ$   
 $\angle AOE = 180^\circ - 38^\circ - 38^\circ = 104^\circ$   
 $\angle EOF = 360^\circ - 104^\circ - 115^\circ - 65^\circ = 76^\circ$   
 $\angle OFE = \angle EOF$   
 $= 180^\circ - 76^\circ \div 2 = 52^\circ$   
 $\angle CFE = 52^\circ + 25^\circ = 77^\circ$   
Answer:  $77^\circ$

Question 14:

$$256 \times \frac{1}{4} = 64$$

$$R \times r = 128$$

$$BQ \rightarrow \frac{1}{4} \times 3.14 \times 128 = 100.48$$

$$SQ \rightarrow \frac{1}{4} \times 3.14 \times 8 \times 8 = 50.24$$

$$100.48 - 50.24 = 50.24 \text{ cm}^2$$

Answer: 50.24 cm<sup>2</sup>

Question 15:

15a) Answer: February & March

$$b) 20 \div 5 = 4$$

$$4 \times 4 = 16$$

$$16 \times 1\frac{1}{2} = 24$$

The sale of cars was  $1\frac{1}{2}$  times that of March in April.

15b) Answer: April

$$c) (12 + 32 + 16 + 24 + 12 + 36) \div 6 = 22$$

15c) Answer: 22

Question 16:

$$16a) 5 - 1 = 4$$

$$4 \times 4 + 5 = 21$$

Answer: a) 21

$$16b) 253 - 5 = 248$$

$$248 \div 4 = 62$$

$$62 + 1 = 63$$

Answer: b) 63

$$16c) 43 - 1 = 42$$

$$42 \times 4 + 5 = 173$$

$$173 - 151 = 22$$

Answer: c) 22

Question 17

a)  $160 \times 85\% = 136$

$136 \times 125\% = 170$

Answer: a) 170

b(i)  $160 \times 90\% = 144$

After  $\rightarrow 144 + 170 = 314$

Before  $\rightarrow 160 + 136 = 296$

Answer: b(i) increase

b(ii)  $314 - 296 = 18$

$\frac{18}{296} \times 100 \approx 6$

Answer: b(ii) 6%

Question 18

$50 \times 30 \times 70 = 10500$

$1.2L = 1200cm^3$

$1200 \times 10 = 12000$

$10500 - 12000 = -93000$

$800 \times 30 = 24000$

$93000 + 24000 = 117000$

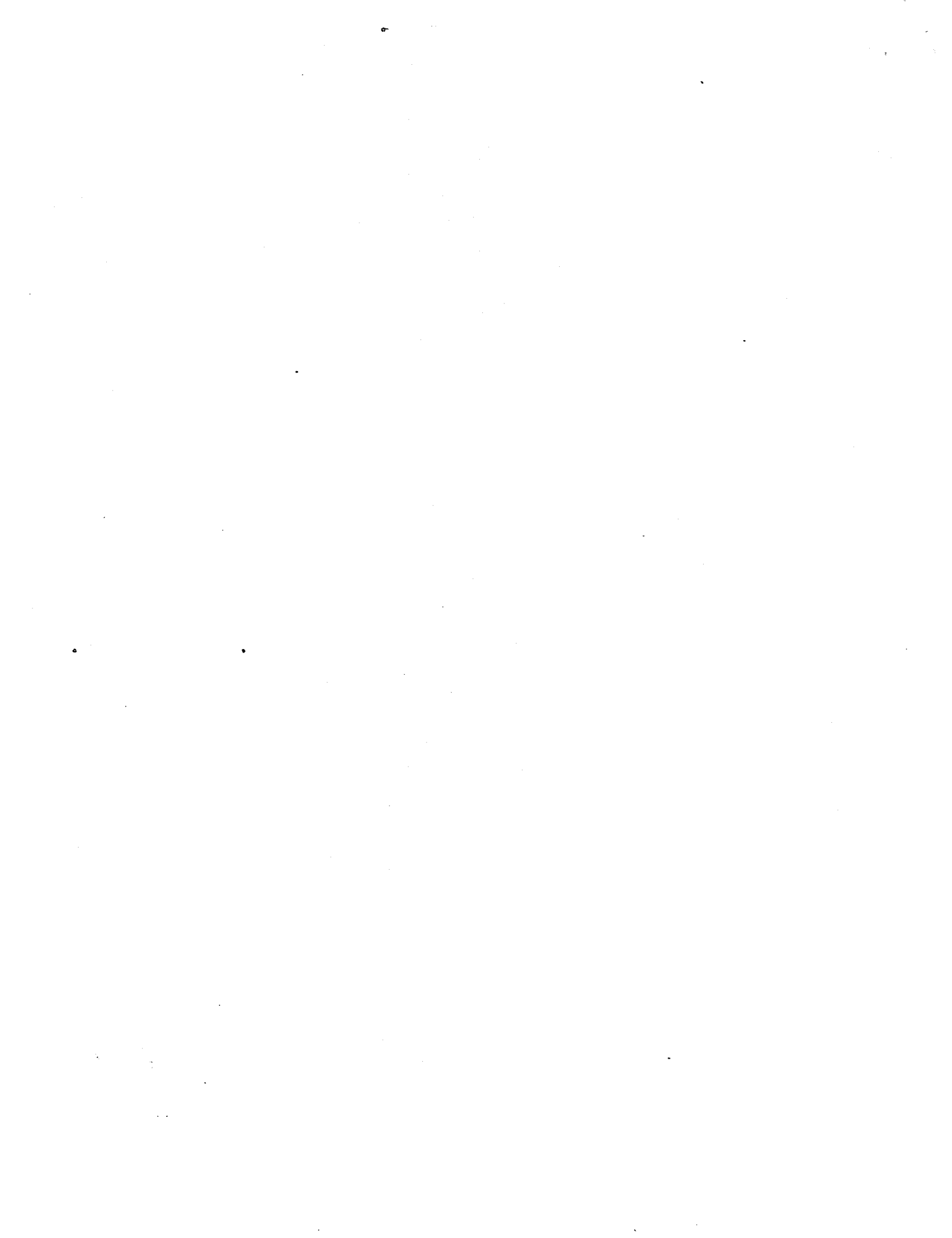
$1200 \times 30 = 36000$

$17000 - 36000 = 81000$

$81000 \div 50 \div 30 = 54$

Answer: 54cm

END





Index No.

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**NAN HUA PRIMARY SCHOOL  
PRELIMINARY EXAMINATION – 2017  
PRIMARY 6**

**MATHEMATICS**

**Paper 1**

**Section A: 15 Multiple Choice Questions ( 20 marks )**

**Section B: 15 Short Answer Questions ( 20 marks )**

**Total Time for Paper 1: 50 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**

<b>Paper 1</b>	<b>Booklet A</b>		<b>/ 40</b>
	<b>Booklet B</b>		
<b>Paper 2</b>			<b>/ 60</b>
<b>Total</b>			<b>/ 100</b>

**Name :** \_\_\_\_\_ (            )

**Class :** 6 \_\_\_\_\_

**Date :** 23 August 2017

**Parent's Signature :** \_\_\_\_\_

THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY

REPORT OF THE  
COMMISSIONERS OF THE  
SCHOOL OF CHEMISTRY  
FOR THE YEAR 1900

CHICAGO, ILL., 1901

PRINTED BY THE UNIVERSITY OF CHICAGO PRESS

CHICAGO, ILL., 1901

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**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.

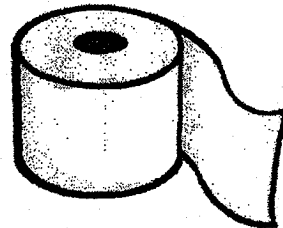
Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. How many 1000s are there in 2 100 000?

- (1) 21
- (2) 210
- (3) 2100
- (4) 21 000

2. Which one of the following is the most likely mass of a new toilet paper roll?

- (1) 10 g
- (2) 100 g
- (3) 1 kg
- (4) 10 kg



3. Round 586 783 to the nearest thousand.

- (1) 586 000
- (2) 587 000
- (3) 590 000
- (4) 600 000

4. What is the missing number in the box?

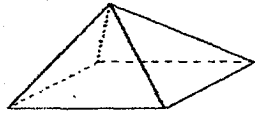
$$2 : 3 = \square : 12$$

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

5. Which one of the following fractions is smaller than  $\frac{1}{2}$ ?

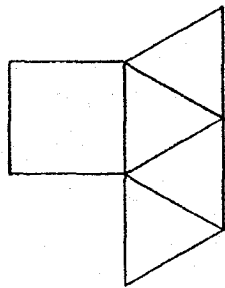
- (1)  $\frac{10}{21}$
- (2)  $\frac{9}{17}$
- (3)  $\frac{7}{13}$
- (4)  $\frac{6}{11}$

6. The figure below shows a square-based pyramid.

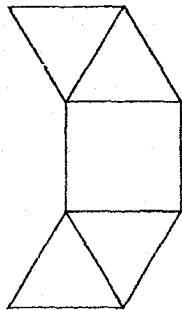


Which one of the following is a possible net of the square-based pyramid?

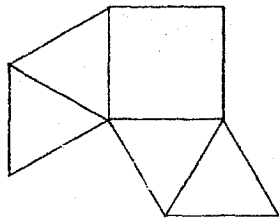
(1)



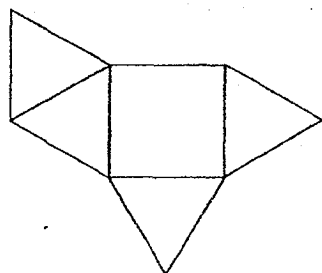
(2)



(3)



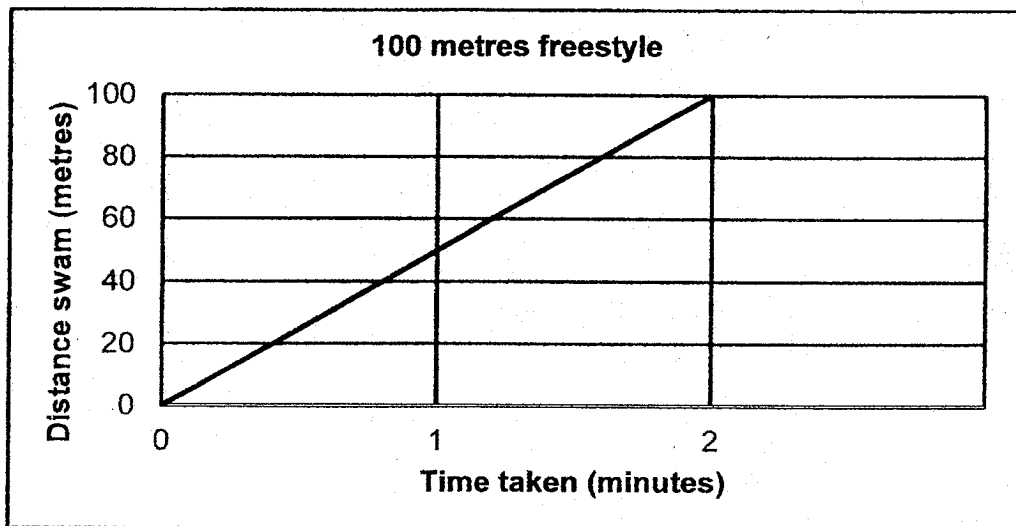
(4)



7. A number when rounded to the nearest tenth is 4.0. Which of the following is the original number?

- (1) 3.898
- (2) 3.945
- (3) 4.046
- (4) 4.196

8. Alan took part in a 100 m freestyle swimming race. His performance was shown in the line graph below.



What was his average speed for the whole swimming race?

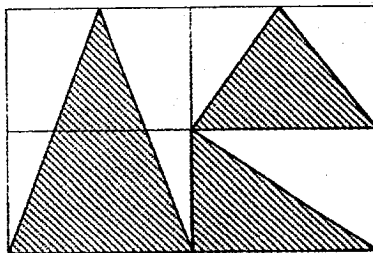
- (1) 50 m/min
- (2) 75 m/min
- (3) 100 m/min
- (4) 150 m/min

9. The table below shows the test marks obtained by a pupil in Mathematics.

Mathematics	Marks (out of 50)
First test	40
Second test	50

Find the percentage increase in his marks.

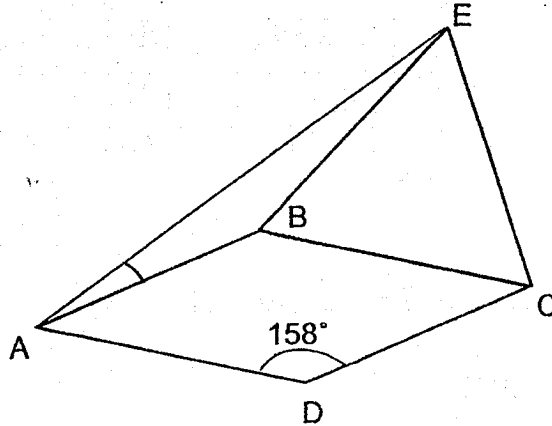
- (1) 100%
- (2) 80%
- (3) 25%
- (4) 20%
10. Three triangles are drawn within a grid of 4 identical rectangles. What fraction of the grid is shaded?



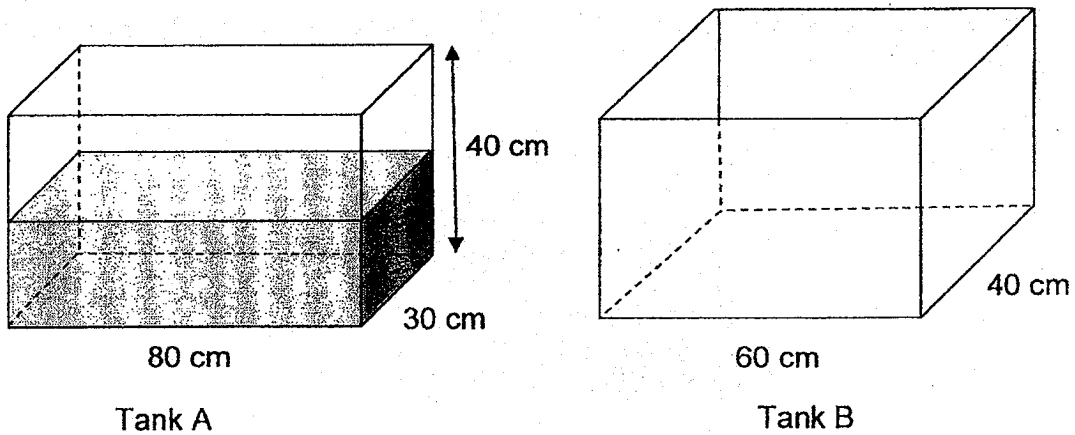
- (1)  $\frac{1}{4}$
- (2)  $\frac{3}{8}$
- (3)  $\frac{1}{2}$
- (4)  $\frac{3}{4}$

11. In the figure, ABCD is a rhombus and BEC is an equilateral triangle. Find  $\angle BAE$ .

- (1)  $11^\circ$
- (2)  $19^\circ$
- (3)  $22^\circ$
- (4)  $38^\circ$



12. Two rectangular tanks are shown below. Tank A contained water to half its height. Half of the water from Tank A was poured into Tank B without spilling.

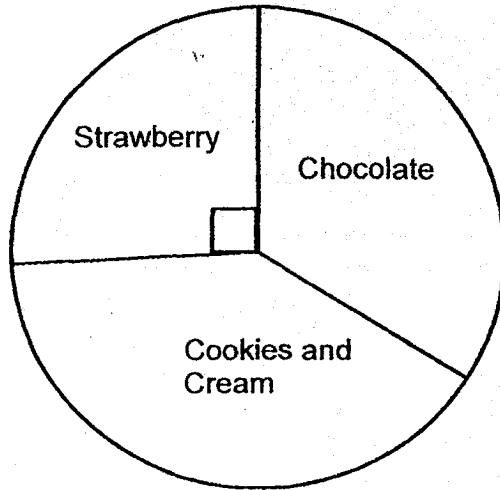


What is the height of the water level in Tank B now?

- (1) 10 cm
- (2) 20 cm
- (3) 40 cm
- (4) 48 cm

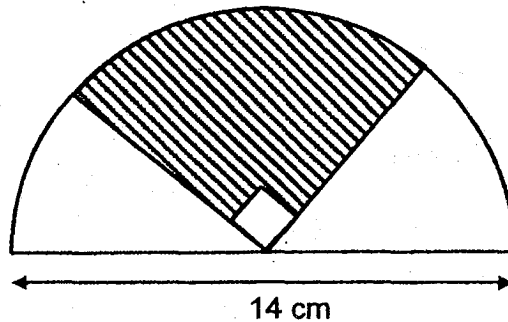


13. The pie chart below shows the different types of cupcakes sold at a bakery. The number of chocolate cupcakes sold was  $\frac{4}{5}$  of the number of cookies and cream cupcakes sold. What fraction of the cupcakes sold was cookies and cream?



- (1)  $\frac{1}{3}$   
(2)  $\frac{5}{12}$   
(3)  $\frac{4}{9}$   
(4)  $\frac{5}{9}$

14. The figure shows a quarter circle in a semicircle. The diameter of the semicircle is 14 cm. Find the area of the unshaded parts. (Take  $\pi = \frac{22}{7}$ )



- (1) 38.5 cm<sup>2</sup>  
(2) 77 cm<sup>2</sup>  
(3) 154 cm<sup>2</sup>  
(4) 308 cm<sup>2</sup>
15. Nina and Polly had \$372 altogether. Nina spent twice as much money as Polly. The amount of money Polly had left was \$8 more than what she had spent. She had twice as much money left as Nina. How much money did Polly spend?
- (1) \$40  
(2) \$80  
(3) \$160  
(4) \$168

**Section B (20 marks)**

Questions 16 to 25 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.

4	6	9
---	---	---

Using each digit only once, form the smallest three-digit number which is a multiple of 4.

Ans: \_\_\_\_\_

---

17. What is 9045 divided by 45?

Ans: \_\_\_\_\_

---

18. Ms Lee has  $\frac{1}{6}$  kg flour. She uses  $\frac{2}{5}$  of it to make some cupcakes. How much flour does she have left?

Ans: \_\_\_\_\_ kg

---

19. Yixian ran at a speed of 15 km/h for 40 min. How far did he run?

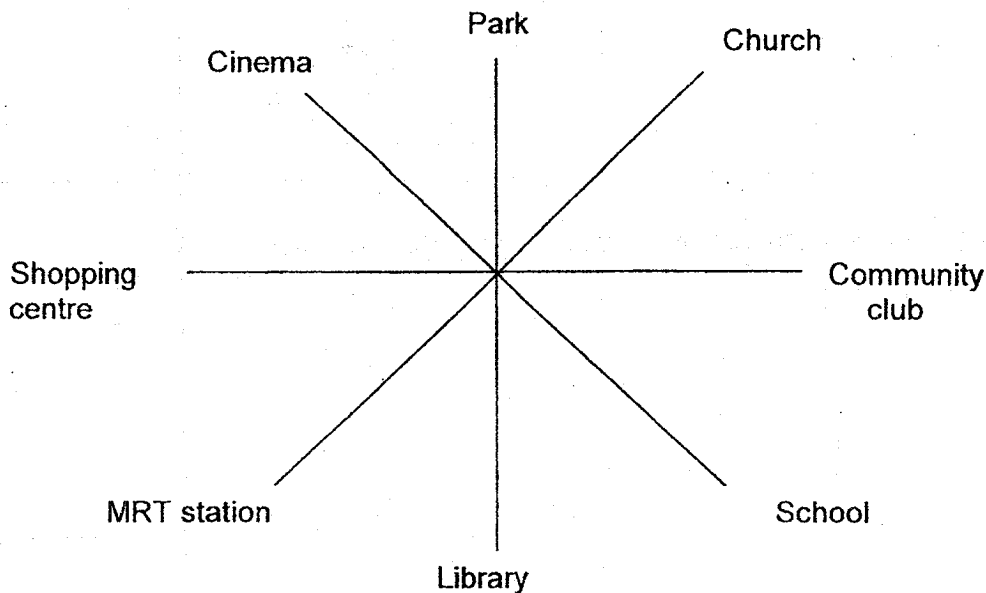
Do not write  
in this space

Ans: \_\_\_\_\_ km

20. The total area of the 6 faces of a cube is 150 cm<sup>2</sup>. What is the volume of the cube?

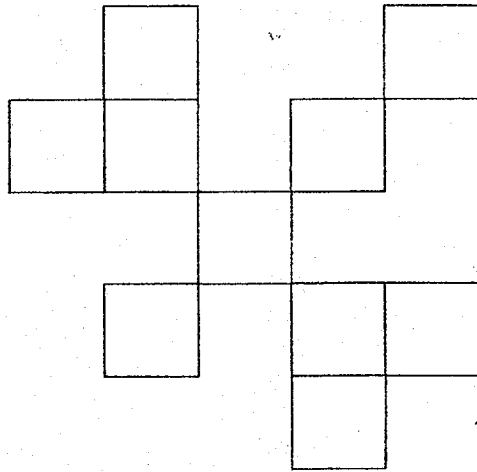
Ans: \_\_\_\_\_ cm<sup>3</sup>

21. Germaine is facing the cinema. If she turns 225° anticlockwise, where will she be facing?



Ans: \_\_\_\_\_

22. The figure below is made up of 10 identical squares. Draw a line of symmetry in the figure below.



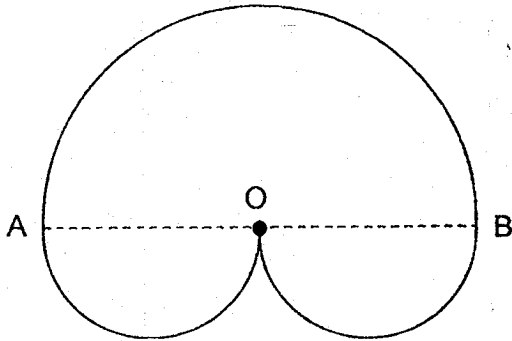
Do not write  
in this space

- 
23. Simplify  $14q - 3 - 6q + 6$ .

Ans: \_\_\_\_\_

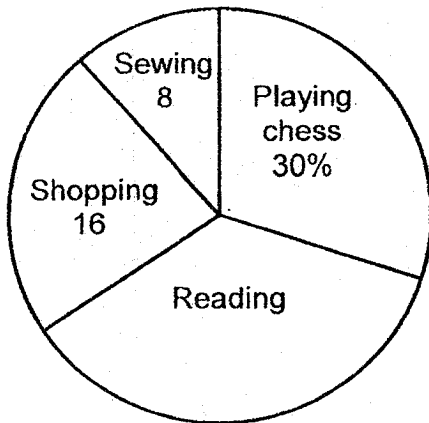
24. The figure below is made up of 2 identical smaller semicircles and a bigger semicircle. O is the centre of the bigger semicircle of radius 7 cm. Find the perimeter of the whole figure. (Take  $\pi = \frac{22}{7}$ )

Do not write in this space



Ans: \_\_\_\_\_ cm

25. The pie chart below shows the different hobbies that a group of pupils have. Each pupil has only 1 hobby. 4 more pupils like reading than playing chess. How many pupils are there altogether?

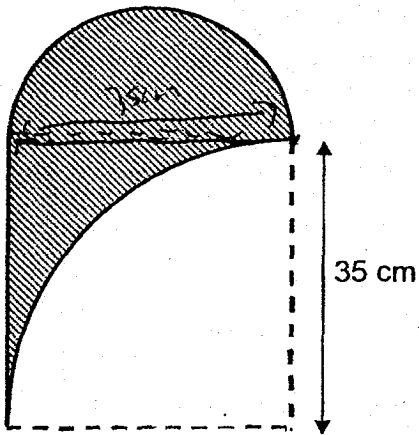


Ans: \_\_\_\_\_

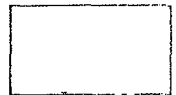
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For each questions which require units, give your answers in the units stated. [10 marks]

26. The shaded figure below is formed by a semicircle and a quadrant. The radius of the quadrant is 35 cm. Find the perimeter of the shaded part.  
 (Take  $\pi = \frac{22}{7}$ )

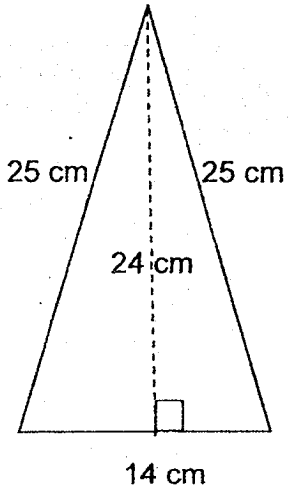
Do not write in this space



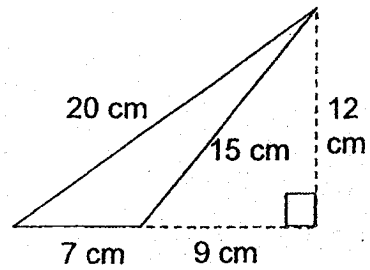
Ans: \_\_\_\_\_ cm



27. There are 2 triangles, A and B in the figure below. What is the ratio of the area of triangle A to the area of triangle B? (Leave your answer in the simplest form)



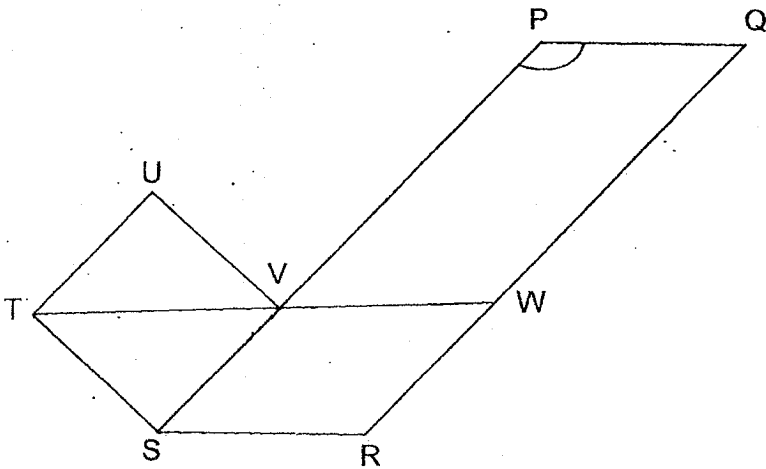
Triangle A



Triangle B

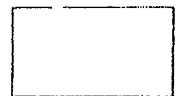
Ans : \_\_\_\_\_

28. PQRS and VWRS are parallelograms and UVST is a square. Given that TVW is a straight line, find  $\angle VPQ$ .



Ans : \_\_\_\_\_ °

Do not write  
in this space





29. Jay folds a piece of rectangular paper along its diagonal AB as shown in the diagram below.

Do not write  
in this space

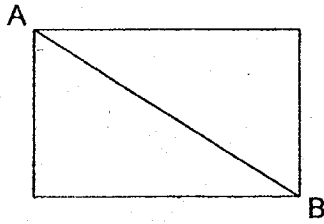


Figure 1

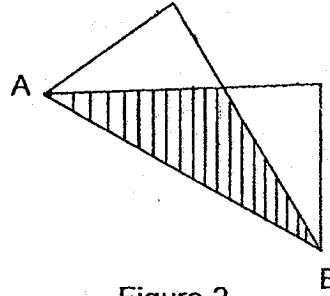


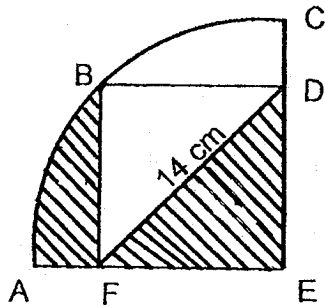
Figure 2

The ratio of the area of Figure 2 to the area of Figure 1 is 4 : 7. If the area of the shaded part is  $24 \text{ cm}^2$ , find the area of the piece of rectangular paper in Figure 1.

Ans : \_\_\_\_\_  $\text{cm}^2$

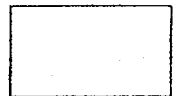


30. The figure below is formed by a square BDEF and a quadrant. Given that  $DF = 14$  cm, find the total area of the shaded parts. (Take  $\pi = \frac{22}{7}$ )



Do not write  
in this space

Ans: \_\_\_\_\_ cm<sup>2</sup>



END OF PAPER

Index No.

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**NAN HUA PRIMARY SCHOOL  
PRELIMINARY EXAMINATION – 2017  
PRIMARY 6**

**MATHEMATICS**

**Paper 2**

**Total Time for Paper 2: 1 hour 40 minutes**

**5 Short Answer Questions (10 marks)**

**13 Structured / Long Answer Questions (50 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**

<b>Total</b>		<b>/ 60</b>
--------------	--	-------------

**Name :** \_\_\_\_\_ (       )

**Class :** 6 \_\_\_\_\_

**Date :** 23 August 2017

**Parent's Signature :** \_\_\_\_\_



**Paper 2 (60 marks)**

Questions 1 to 5 carry 2 marks each. Show your workings clearly in the space below it and write your answer in the space provided. Give your answers in the units stated.

1.	<p>Ben has <math>10y</math> stamps and Zach has <math>2y</math> stamps. How many stamps must Ben give to Zach so that they have an equal number of stamps? Leave your answer in terms of <math>y</math>.</p> <p style="text-align: right;">Ans: _____ stamps</p>	Do not write in this space  <input data-bbox="1278 1017 1422 1079" type="text"/>
2.	<p>Vincent spent <math>\frac{2}{5}</math> of his money on a book and <math>\frac{4}{9}</math> of the remaining money on a file. Vincent had \$20 left, how much did he have at first?</p> <p style="text-align: right;">Ans: \$ _____</p>	<input data-bbox="1278 1897 1422 1960" type="text"/>

3.

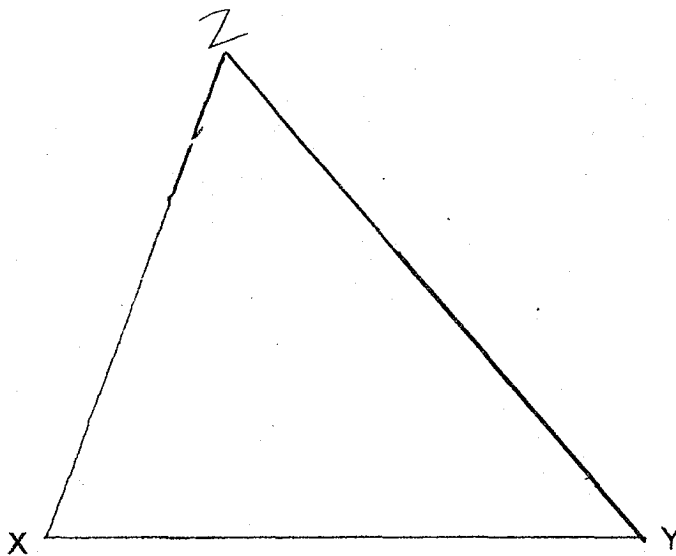
A pen cost \$2.80 and a file cost \$3.60. Tony bought an equal number of such pens and files. If he spent \$13.60 more on the files than the pens, how many pens did he buy?

Do not write in this space

Ans: \_\_\_\_\_ pens

4.

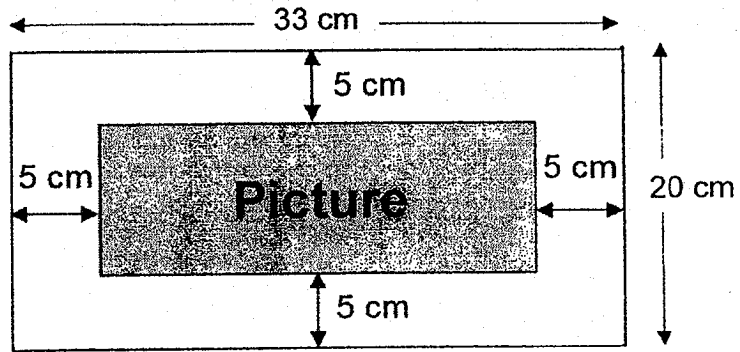
Using the line XY, construct a triangle XYZ in the space below, such that  $\angle XYZ = 50^\circ$  and  $XZ = 7$  cm. Label your triangle clearly.



5.

The figure below shows a picture (shaded part) surrounded by a 5 cm border. The outer border measures 33 cm by 20 cm. What is the area of the picture?

Do not write in this space



Ans: \_\_\_\_\_ cm<sup>2</sup>

For each question from 6 to 18, show your workings clearly in the space below it and write your answer in the space provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.  
Remember to include the units wherever possible.

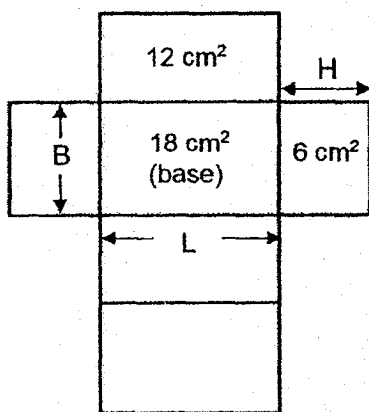
6.	<p>There were a total of 1300 cows and birds in a large field. There were a total of 3440 birds' and cows' legs. How many cows were there?</p> <p>Ans: _____ [3]</p>	Do not write in this space  <input data-bbox="1257 919 1407 982" type="text"/>
7.	<p>In a test, a class of 34 pupils scored a total of 2890 marks at first. A mistake in marking was discovered. Half the class of pupils then had 4 marks added to each of them, while the other half had 2 marks added to each of them. Find the average score of the class in the end.</p> <p>Ans: _____ [3]</p>	<input data-bbox="1257 1860 1407 1922" type="text"/>



8. The figure below shows the net of a box. Three of its faces had areas  $6 \text{ cm}^2$ ,  $12 \text{ cm}^2$  and  $18 \text{ cm}^2$  as shown.

a) Write down the length (L), breadth (B) and height (H) of the box after the net was folded.

b) Find the volume of the box after the net was folded.



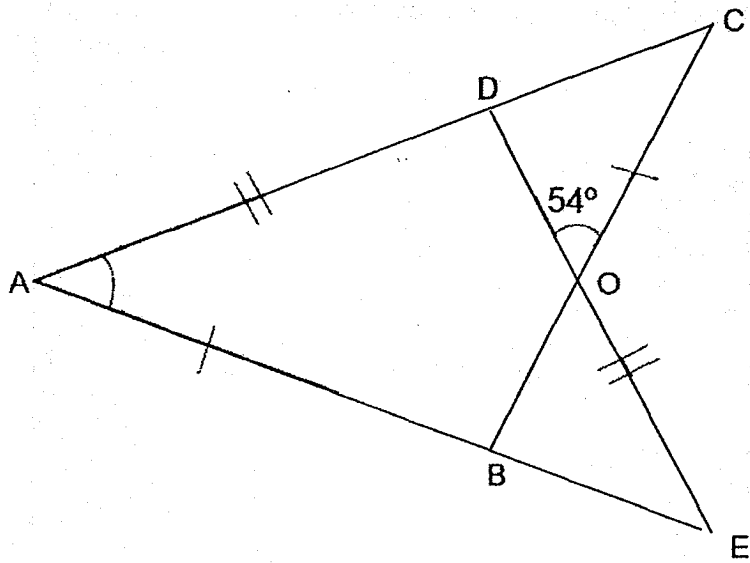
Ans: a) Length: \_\_\_\_\_, Breadth: \_\_\_\_\_, Height : \_\_\_\_\_ [1]

b) \_\_\_\_\_ [2]

9. Sally and Ken drove from Town A to Town B at constant speeds. Ken started his journey 2 hours after Sally. Ken travelled faster than Sally by  $40 \text{ km/h}$  and overtook her in 3 hours. Find Sally's speed.

Ans: \_\_\_\_\_ [3]

10. Two identical isosceles triangles, ABC and ADE, overlapped as shown in the figure below. Given that  $BA = BC$ ,  $DA = DE$  and  $\angle COD = 54^\circ$ , find  $\angle CAE$ .



Ans:

[3]

11. Rongcai had \$1053 more than Caris. After Rongcai gave  $\frac{2}{9}$  of his money to Caris, they each had the same amount of money.

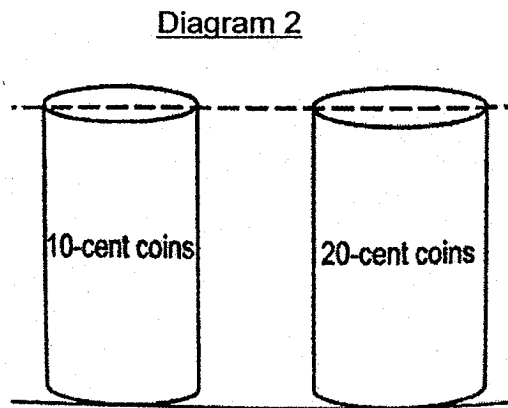
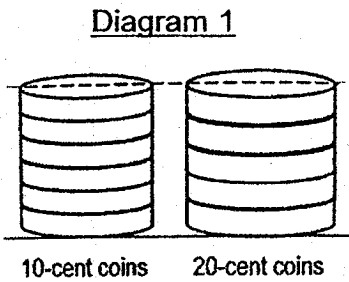
How much money did Caris have at first?

Ans: \_\_\_\_\_ [3]

12. In Country X, the height of six 10-cent coins is the same as that of five 20-cent coins as shown in diagram 1. Diagram 2 shows an unknown number of such 10-cent coins stacked to the same height as another stack of such 20-cent coins.

If the total value of the 2 stacks of coins in diagram 2 is \$88,

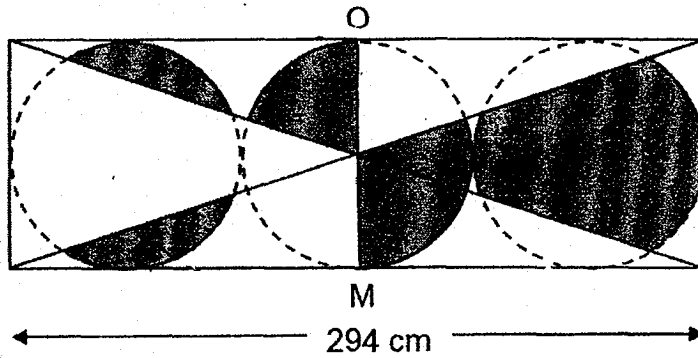
- a) find the number of 10-cent coins used in diagram 2.
- b) find the value of all the 20-cent coins used in diagram 2.



Ans: a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [2]

13. The figure below shows 3 identical circles drawn within a rectangle. The two slanted lines are the diagonals of the rectangle and OM is a straight line. If the length of the rectangle is 294 cm, what is the total area of the unshaded parts? (Take  $\pi = \frac{22}{7}$ ).



Ans: \_\_\_\_\_ [5]

14.

There were some adults and children at a party. 190 more boys then joined in, while 65 adults left. As a result, the percentage of girls in the party decreased from 36% to 24%.

- a) Find the percentage increase in the total number of people at the party.
- b) Find the number of girls at the party.

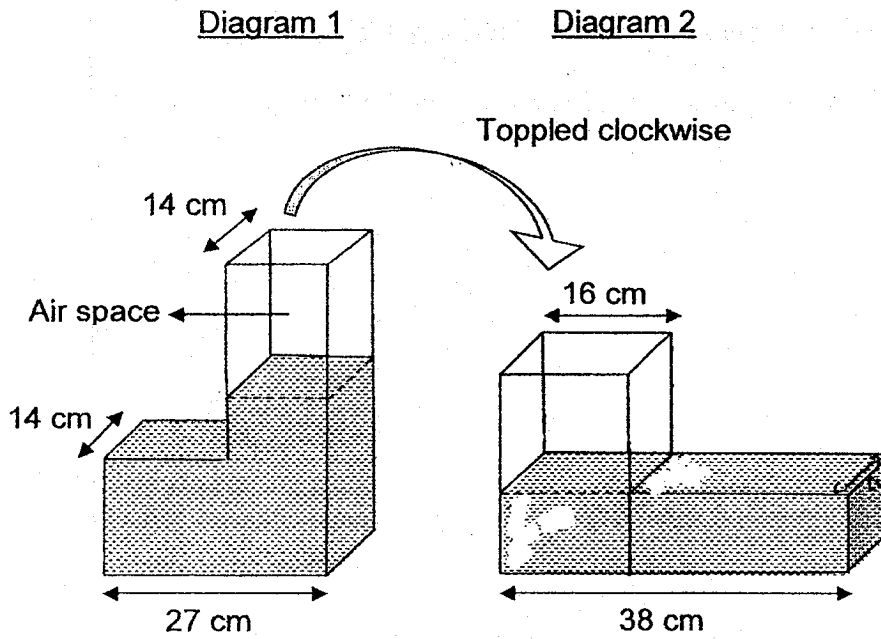
Ans: a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [2]

15. Danny and Petsy each borrowed an identical book from a library. On the first day, Danny read  $\frac{1}{3}$  of the book plus 28 pages. On the second day, he read  $\frac{2}{5}$  of the remaining book and had 42 pages of the book left. If Petsy read at most 20 pages of the book daily, what is the least number of days Petsy would take to finish reading the book?

Ans: \_\_\_\_\_ [5]

16. A sealed L-shaped container, partially filled with oil (shaded part), was toppled clockwise into another position as shown. The air space in diagram 1 was  $3360 \text{ cm}^3$ . Using the dimensions given below, find the volume of oil in the container.



Ans: \_\_\_\_\_ [5]



17. At a fruit stall, the ratio of the number of avocados to that of the peaches to that of the lemons was  $2 : 9 : 8$  at first. The stall owner then sold 52 avocados, 12 peaches and 60 lemons. As a result, the ratio of the number of peaches to that of the lemons became  $6 : 5$ . What was the total number of avocados, peaches and lemons left in the stall at the end?

Ans: \_\_\_\_\_ [5]

18. Hatta formed some figures that followed a pattern using squares and circles as shown below.

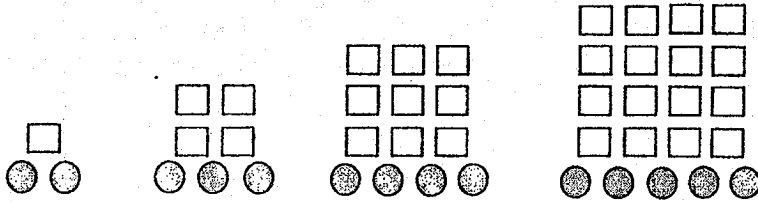


Figure 1

Figure 2

Figure 3

Figure 4

The table shows the number of squares and circles for the first four figures.

Figure number	1	2	3	4
Number of squares	1	4	9	16
Number of circles	2	3	4	5
Number of squares divided by Number of circles	0 R1	1 R1	2 R1	3 R1
	Note: "R" denotes remainder in the above columns.			

- a) A Figure number has 3481 squares. Find the answer when its number of squares is divided by its number of circles.
- b) In a certain Figure number, 99 R1 is obtained when its number of squares is divided by its number of circles. Find the total number of squares and circles in that Figure number.

Ans: a) \_\_\_\_\_ [2]

b) \_\_\_\_\_ [2]



– End of Paper 2 –

YEAR : 2017  
LEVEL : PRIMARY 6  
SCHOOL : NAN HUA PRIMARY  
SUBJECT : MATHEMATICS  
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 496

Q17 201

Q18  $\frac{1}{10}$  kg

Q19 10 km

Q20 125 cm<sup>3</sup>

Q21 community club

Q22



Q23  $8q + 3$

Q24 44 cm

Q25 70 pupils

Q26 145 cm

Q27 4 : 1

Q28 135 °

Q29 56 cm<sup>2</sup>

Q30 77 cm<sup>2</sup>

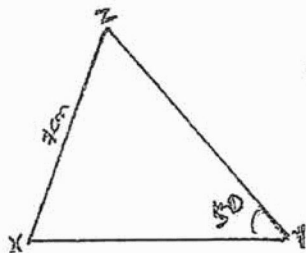
Paper 2

Q1  $10 + 2 = 12$   
 $12 \div 2 = 6$   
 $6 - 2 = 4 \Rightarrow$  4y stamps

Q2  $6 + 4 = 10$   
 $15 - 10 = 5$   
 $20 \div 5 = 4$   
 $4 \times 15 \Rightarrow$  \$60

Q3  $3.60 - 2.80 = 0.80$   
 $13.60 \div 0.80 \Rightarrow$  17 pens

Q4



Q5 Length  $\rightarrow 33 - 5 - 5 = 23$   
Breadth  $\rightarrow 20 - 5 - 5 = 10$   
Area  $\rightarrow 23 \times 10 \Rightarrow$  230 cm<sup>2</sup>

NAN HUA PRELM

Q6  $1300 \times 2 = 2600$   
 $3440 - 2600 = 840$   
 $4 - 2 = 2$   
 $840 \div 2 \Rightarrow \underline{420 \text{ cows}}$

Q7  $34 \div 2 = 17$   
 $17 \times 4 = 68$   
 $17 \times 2 = 34$   
 $2890 + 68 + 34 = 2992$   
 $2992 \div 34 \Rightarrow \underline{88}$

Q8 (a) Length: 6 cm , Breadth: 3 cm , Height: 2 cm

(b) Volume  $\rightarrow 6 \times 3 \times 2 \Rightarrow \underline{36 \text{ cm}^3}$

Q9  $40 \times 3 = 120$   
 $120 \div 2 \Rightarrow \underline{60 \text{ km/h}}$

Q10  $180 - 84 = 96$   
 $180 - 96 = 84$   
 $84 \div 2 = 42$   
 $180 - 54 - 84 \Rightarrow \underline{42^\circ}$

Q11  $1053 \div 2 = 526.50$   
 $526.5 \div 2 = 263.25$   
 $263.25 \times 9 = 2369.25$   
 $2369.25 - 1053 \Rightarrow \underline{\$1316.25}$

Q12 (a)  $88 \div 1.60 = 55$   
 $55 \times 6 \Rightarrow \underline{330}$

(b)  $55 \times 5 = 275$   
 $275 \times 0.20 \Rightarrow \underline{\$55}$

Q13  $294 \div 3 = 98$

$98 \div 2 = 49$

Total shaded  $\rightarrow 1\frac{1}{2} \times \frac{22}{7} \times 49 \times 49 = 11319$

Area of rectangle  $\rightarrow 294 \times 98 = 28812$

Unshaded  $\rightarrow 28812 - 11319 \Rightarrow \underline{17493 \text{ cm}^2}$

Q14 (a)  $5 \times 50 = 250$

$5 \times 75 = 375$

$\frac{375 - 250}{250} \times 100 \Rightarrow \underline{50\%}$

(b)  $5 \times 18 \Rightarrow \underline{90 \text{ girls}}$

Q15  $\frac{42}{3} \times 5 = 70$

$70 + 28 = 98$

$\frac{98}{2} \times 3 = 147$

$147 \div 20 = 7R7$

$7 + 1 \Rightarrow \underline{8 \text{ days}}$

Q16  $14 \times 16 = 224$

$3360 \div 224 = 15$

$27 - 15 = 12$

Volume  $\rightarrow 33 \times 14 \times 12 \Rightarrow \underline{6384 \text{ cm}^3}$

NAN HUA PRELIM

Q17  $45u - 60 = 30p$

$$9u - 12 = 6p$$

$$8u - 60 = 5p$$

$$48u - 360 = 30p$$

$$3u \rightarrow 360 - 60 = 300$$

$$1u \rightarrow 300 \div 3 = 100$$

$$100 \times 19 = 1900$$

$$1900 - 52 - 12 - 60 \Rightarrow \underline{1776 \text{ fruits}}$$

Q13 (a)  $\sqrt{3481} = 59$

$$3481 \div 60 \Rightarrow \underline{58R1}$$

(b)  $99 + 1 = 100$

$$100 \times 100 = 10000$$

$$100 + 1 = 101$$

$$10000 + 101 \Rightarrow \underline{10101 \text{ squares and circles}}$$

End





**PRELIMINARY EXAMINATION, 2017**

**MATHEMATICS**

**PAPER 1**

**(BOOKLET A)**

Additional materials: Optical Answer Sheet (OAS) Total Time For Booklets A & B : 50 min

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_

Date : 2 August 2017

**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. What does the digit 5 in 532 081 stand for?

- (1) 500
- (2) 5000
- (3) 50 000
- (4) 500 000

2. The price of a television when rounded to the nearest hundred is \$2000.  
Which of the following is likely to be the price of the television?

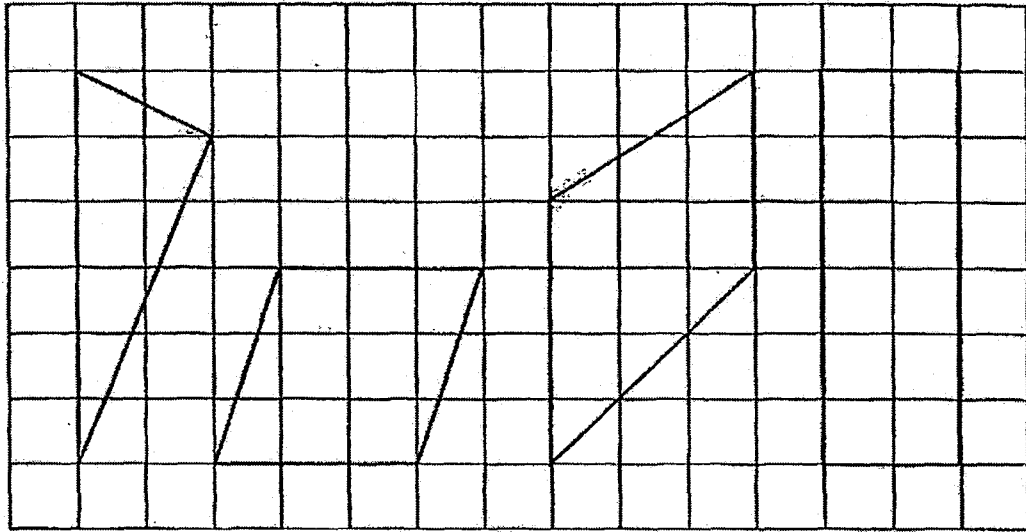
- (1) \$1948
- (2) \$1952
- (3) \$2073
- (4) \$2125

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

$$\frac{5}{8}, \frac{2}{5}, \frac{7}{10}$$

- (1)  $\frac{2}{5}, \frac{7}{10}, \frac{5}{8}$
- (2)  $\frac{5}{8}, \frac{7}{10}, \frac{2}{5}$
- (3)  $\frac{2}{5}, \frac{5}{8}, \frac{7}{10}$
- (4)  $\frac{7}{10}, \frac{5}{8}, \frac{2}{5}$

4. Which of the following figures below is a trapezium?



(1)

(2)

(3)

(4)

5. Which of the following fractions is the nearest to 0.8?

(1)  $\frac{8}{20}$

(2)  $\frac{21}{30}$

(3)  $\frac{15}{20}$

(4)  $\frac{9}{10}$

6. Express 8005 m in kilometres and metres.

(1) 8 km 5 m

(2) 8 km 50 m

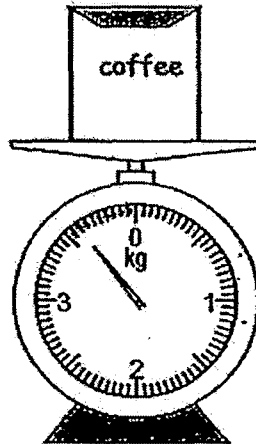
(3) 80 km 5 m

(4) 80 km 50 m

7. What is the value of  $\frac{8m+6}{6}$  when  $m = 9$ ?

- (1) 13
- (2) 20
- (3) 73
- (4) 78

8. What is the mass of the packet of coffee as shown on the weighing scale in the figure?

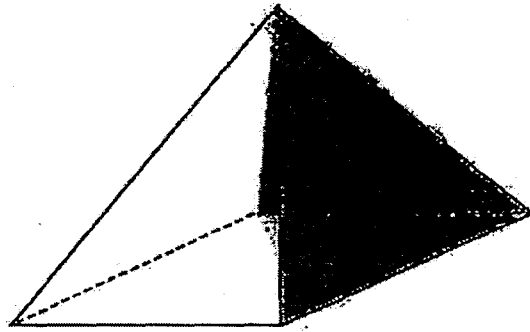


- (1) 3.6 kg
- (2) 3.7 kg
- (3) 4.1 kg
- (4) 4.2 kg

9. Mrs Lee had  $\frac{2}{3}$  kg of rice. She gave away  $\frac{1}{5}$  kg of it to her friends. How much rice had she left?

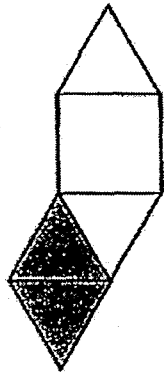
- (1)  $\frac{8}{15}$  kg
- (2)  $\frac{7}{15}$  kg
- (3)  $\frac{4}{15}$  kg
- (4)  $\frac{2}{15}$  kg

10. The figure below shows a pyramid with two sides shaded.

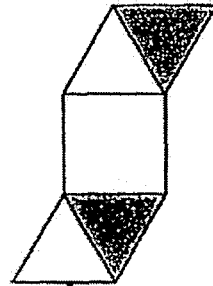


Which of the following are nets of the above solid?

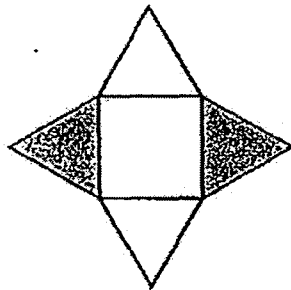
A.



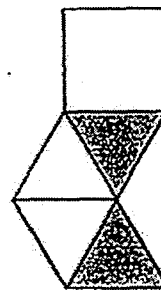
B.



C.



D.



- (1) A and B only  
 (2) C and D only  
 (3) A and C only  
 (4) B and D only

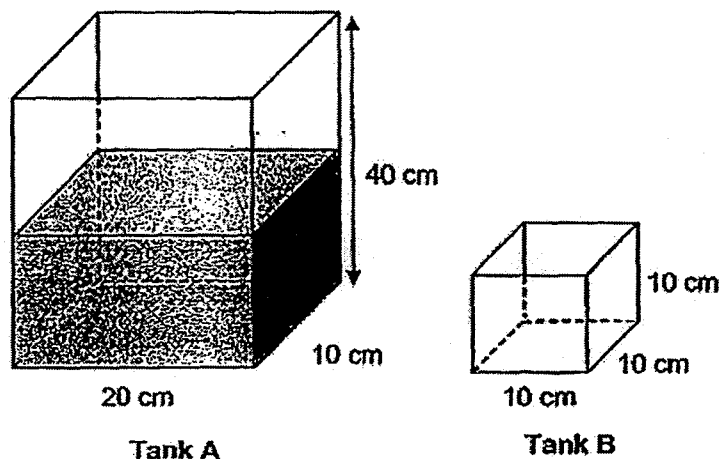
11. George had some buttons. After he bought more buttons, the number of buttons he had increased by 20% to 240. How many buttons did he have at first?

- (1) 40
- (2) 192
- (3) 200
- (4) 1200

12. Hull filled two identical bottles completely with mixtures of orange syrup and water. The ratio of the amount of orange syrup to the amount of water in the first bottle was 2 : 1 and in the second bottle was 5 : 4. What was the ratio of the total amount of orange syrup to the total amount of water in both bottles?

- (1) 7 : 5
- (2) 7 : 18
- (3) 11 : 7
- (4) 11 : 18

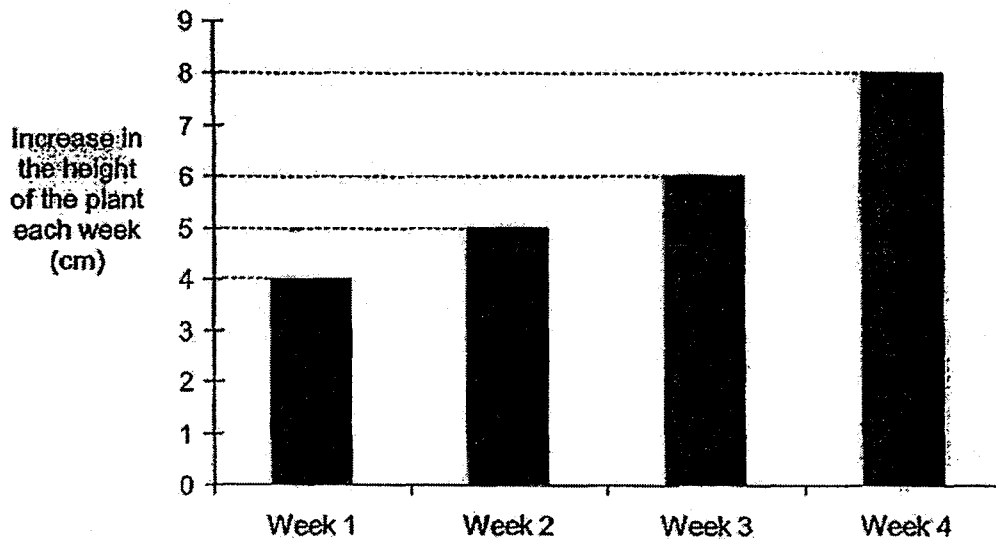
13. Tank A was filled with water to half its height. Water from Tank A was poured into Tank B and filled to its brim.



What was the height of the water level left in Tank A?

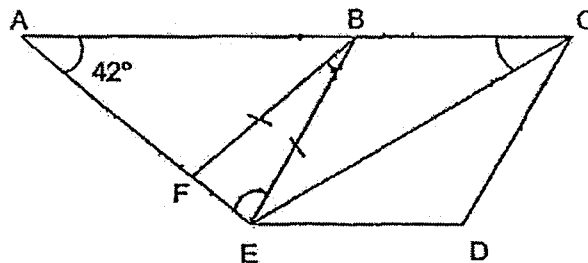
- (1) 5 cm
- (2) 15 cm
- (3) 30 cm
- (4) 35 cm

14. Rahmid bought a plant that was 16 cm tall. He measured the height of the plant and recorded its increase in height by the end of each week. The bar graph below shows his records.



What was the height of the plant at the end of Week 3?

- (1) 6 cm  
 (2) 15 cm  
 (3) 22 cm  
 (4) 31 cm
15. In the figure below, ACDE is a trapezium. ABF and BFE are isosceles triangles. BCDE is a rhombus.



Find  $\angle BCE$ .

- (1)  $27^\circ$   
 (2)  $54^\circ$   
 (3)  $63^\circ$   
 (4)  $84^\circ$





**PRELIMINARY EXAMINATION, 2017**

**MATHEMATICS**

**PAPER 1**

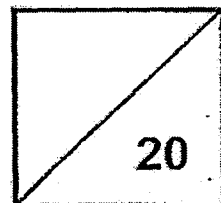
**(BOOKLET B)**

Total Time For Booklets A & B : 50 min

Name : \_\_\_\_\_ (    )

Class : Primary 6 \_\_\_\_

Date : 2 August 2017



**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 NOT ALLOWED TO USE A CALCULATOR.

Questions 16 to 25 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. What is the first common multiple 3 and 6 ?

Answer: \_\_\_\_\_

---

17. Find the value of  $5.07 \times 1000$ .

Answer: \_\_\_\_\_

---

18. What is the value of  $\frac{3}{5} \times \frac{2}{15}$ ? Express your answer as a fraction in its simplest form.

Answer: \_\_\_\_\_

---

19. Find the value of  $118.26 \div 9$ .

Answer: \_\_\_\_\_

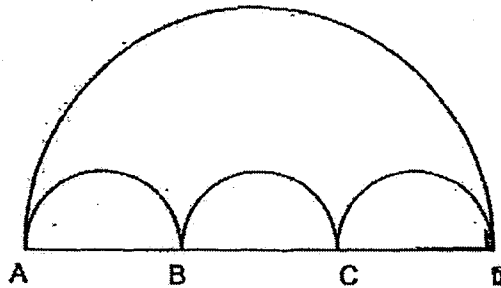
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20. Simplify  $9a + 17 - 5a - 4$ .

Answer: \_\_\_\_\_

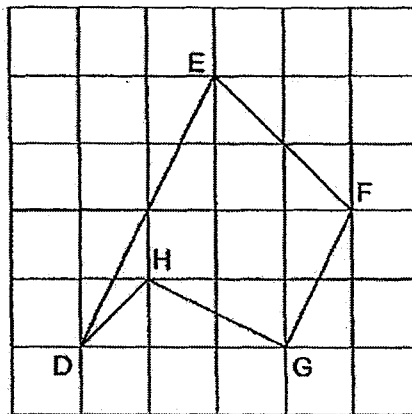
SCORE

21. The figure below shows three identical small semicircles in a big semicircle. AD = 12 cm. What is the radius of each small semicircle?



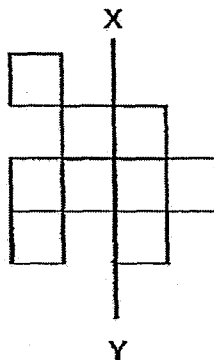
Answer: \_\_\_\_\_ cm

22. Study the figure below. Name a pair of parallel lines in the figure below.



Answer: \_\_\_\_\_ and \_\_\_\_\_

23. The figure below shows some squares. What is the smallest number of squares that must be added so that line XY is the line of symmetry?

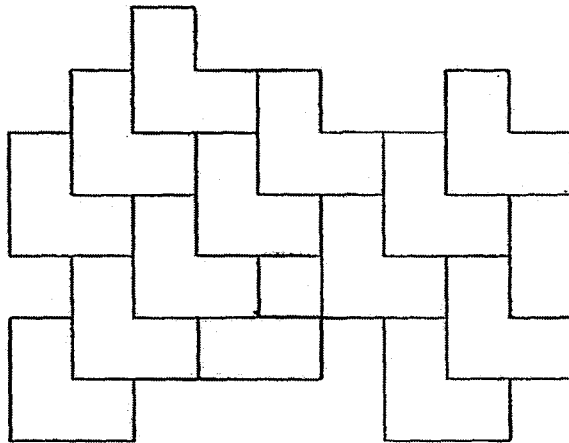


Answer: \_\_\_\_\_

SCORE

24. The pattern below shows part of a tessellation. One of the shapes does not fit into the tessellation shown below. Shade it.

Do not write  
in this space



- 25.

**Café De Singapore**  
**Open Daily**  
**10.30 a.m. to 9:00 p.m.**

For how long is Café De Singapore open each day?  
(Give your answer in h and min.)

Answer: \_\_\_\_\_ h \_\_\_\_\_ min

SCORE

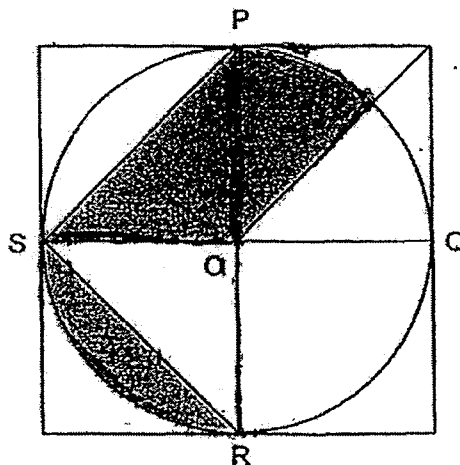
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

26. Anne bought  $\frac{3}{4}$  kg of sweets. She gave  $\frac{1}{2}$  of them to her friend and packed the rest equally into 4 packets. What was the mass of the sweets in each packet?

Answer: \_\_\_\_\_ kg

27. The figure below shows a circle PQRS in a square. The radius of the circle is 40 cm. What is the total area of the shaded parts? Leave your answer in terms of  $\pi$ .



Answer: \_\_\_\_\_ cm<sup>2</sup>

SCORE

28. One afternoon, 5 friends rented 3 bicycle from 5.00 p.m. to 6.30p.m. and took turns to ride on them. At any time, 3 of them cycled while the other 2 friends rested.

Do not write  
in this space

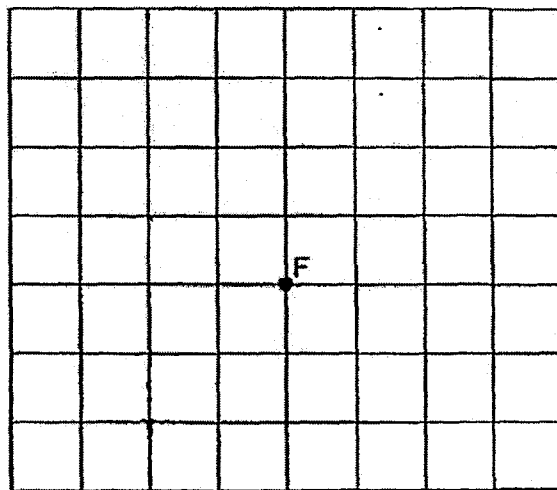
If each of them had the same amount of cycling time, how many minutes did each person ride on a bicycle ?

Answer: \_\_\_\_\_ min

29. Shawn was at a point. He followed the instructions in the following sequence.

- (i) Walk 3 steps to the North
- (ii) Walk 2 steps to the East
- (iii) Walk 1 step to the South

He ended up at point F. Mark the point he started at with a cross (X) and name it S.



1 step

SCORE

30. Patrick bought 30 files with all his money. When the price of each file was decreased by \$2, he could buy 12 more files. How much did each file cost before the decrease in price?

Do not write  
in this space

Answer: \$ \_\_\_\_\_

---

**End of Paper**

Set by : Mdm Hol Wan Hua, Ms Jennifer Foo, Mrs Eileen Sew, Ms Joyce Ng

SCORE





**PRELIMINARY EXAMINATION, 2017**

**MATHEMATICS**

**PAPER 2**

Time: 1 h 40 min

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_

Date : 2 August 2017 .

Parent's Signature: \_\_\_\_\_

Paper 1 (Booklet A)	20
Paper 1 (Booklet B)	20
Paper 2	60
<b>TOTAL</b>	<b>100</b>

**INSTRUCTIONS TO CANDIDATES**

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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 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)

Do not write  
in this space

- 
1. 5 books and 2 pens cost \$41.65. Each book costs 3 times as much as a pen.  
How much does a pen cost?

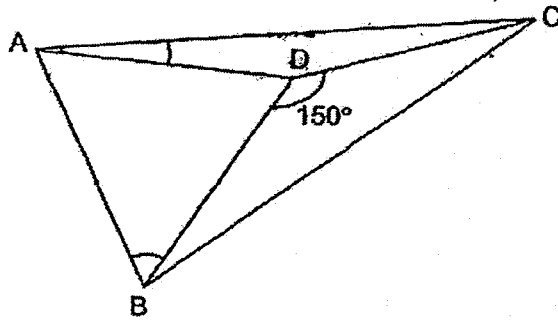
Answer: \$ \_\_\_\_\_

- 
2. Container A had 6530 ml of water at first. Some of its water was poured equally into 15 bottles. In the end, 0.5 l of water was left in the container.  
What was the volume of water in each bottle?

Answer: \_\_\_\_\_ ml

SCORE

3. In the figure below,  $ABC$  is a triangle.  $ABD$  is an equilateral triangle.  $AD = DC$  and  $\angle CDB = 150^\circ$ . Find  $\angle DAC$ .



Do not write  
in this space

Answer: \_\_\_\_\_°

4. Albert and Benny had \$2640 altogether.  
When Albert gave  $\frac{1}{6}$  of his money to Benny, they had the same amount of money.  
How much money did Albert have at first?

Answer: \$ \_\_\_\_\_

SCORE

5. When Sheryl was  $6k$  years old, she was twice as old as her brother. How old will Sheryl be when her brother is 18 years old? Express your answer in terms of  $k$ .

Do not write  
in this space

Answer: \_\_\_\_\_ years old

---

SCORE

For questions 6 to 18, 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: (50 marks)

Do not write  
in this space

6. Alice bought  $\frac{3}{5}$  kg of flour. She used  $\frac{1}{4}$  kg of it to bake some cupcakes. She then gave  $\frac{1}{3}$  of the remaining flour to her neighbour. How much flour had she left? Express your answer as a fraction in its simplest form.

Answer: \_\_\_\_\_ [3]

SCORE



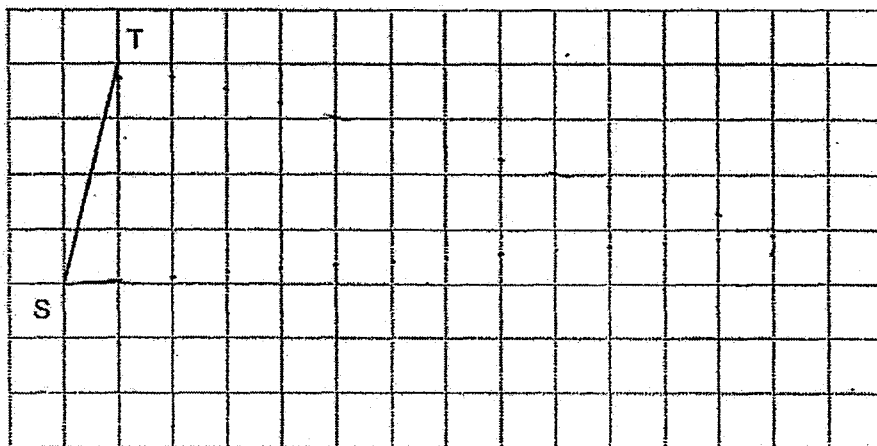
7. In the square grid, one side of a right-angled triangle STU has been drawn.

(a) Measure the length of ST.

(b) Line TU is three times the length of ST.  $\angle STU$  is a right angle. Complete the drawing of triangle STU within the grid.

[2]

Do not write  
in this space



Answer: (a) \_\_\_\_\_ [1]

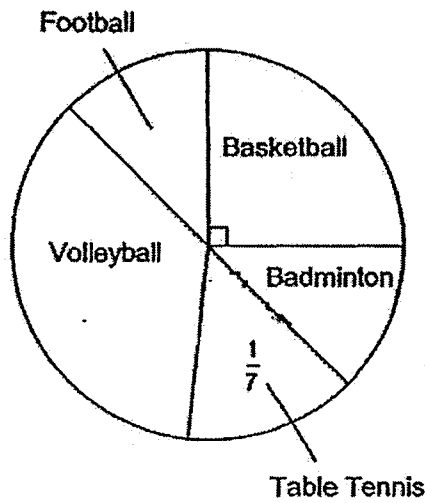
SCORE





8. During a survey, some pupils were asked to name their favourite sport. The pie chart represents their choices.

Do not write  
in this space



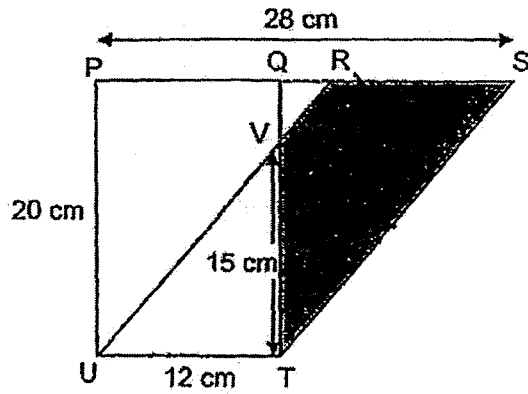
- (a) 84 pupils chose basketball as their favourite sport. How many pupils took part in the survey altogether?
- (b) How many pupils chose volleyball as their favourite sport?

Answer: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

SCORE

9. The diagram below shows a rectangle PQTU and a parallelogram RSTU.



- (a) Find the length of QR.
- (b) Find the area of the shaded part.

Answer: (a) \_\_\_\_\_ [2]

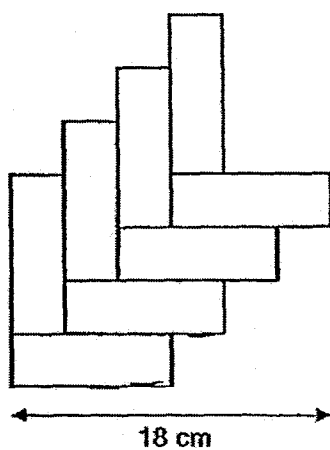
(b) \_\_\_\_\_ [2]

Do not write  
in this space

SCORE

10. The figure below is made up of 8 identical rectangles.

Do not write  
in this space



- (a) Find the area of 1 rectangle.
- (b) Find the perimeter of the figure.

Answer: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

SCORE

11. Luke had  $\frac{1}{6}$  as many stamps as Kenny. After Kenny gave 306 stamps to Luke, the ratio of the number of stamps Luke had to the number of stamps Kenny had was 2 : 3.

- (a) How many stamps did Kenny have in the end?
- (b) If Kenny wanted Luke to have the same number of stamps as him, how many more stamps must Kenny give to Luke?

Do not write  
in this space

Answer: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

SCORE

12. At 09 00, a lorry started from Town P and travelled towards Town Q at a speed of 55 km/h for the whole journey. At 11 00, a car started from Town Q and travelled towards Town P. The speed of the car remained the same throughout the journey. The car passed the lorry at 13 00 and at this point, the lorry had travelled  $\frac{5}{9}$  of the journey.
- (a) How far was the lorry from Town P at 13 00?
- (b) At what time did the car reach Town P?

Do not write  
in this space

Answer: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

SCORE

13. Sun Ne bought some books at an average price of \$27. After buying another 6 books for \$39 each, the average price of all the books increased to \$31.80. How many books did she buy altogether?

Do not write  
in this space

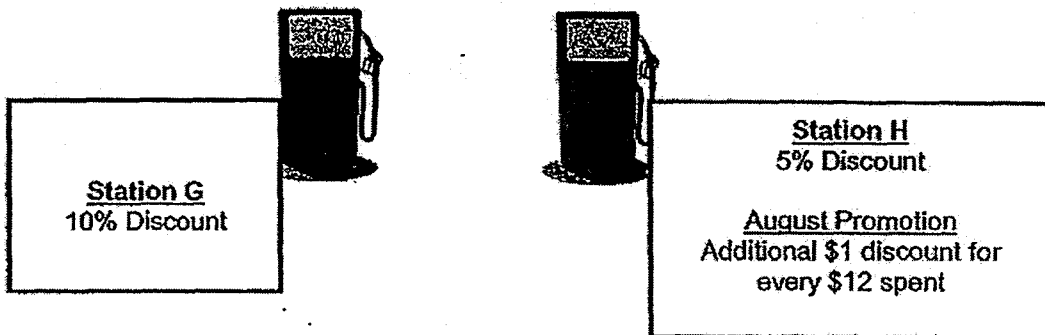
Answer: \_\_\_\_\_ [3]

SCORE

14. The petrol price at Stations G and H was at \$2.40 per litre. Station G gave a 10% discount while Station H gave a 5% discount. For the month of August, Station H had a promotion where an additional \$1 discount was given for every \$12 spent on petrol.  
In August, Mr Kang went to Station G and paid for 38 litres of petrol.

Do not write  
in this space

- (a) How much did Mr Kang pay for his petrol at Station G?
- (b) How much would Mr Kang save if he had gone to Station H for the same amount of petrol in August?



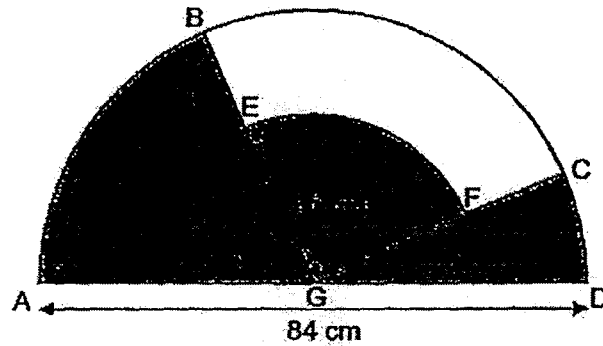
Answer: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]

SCORE

15. The figure below shows a semicircle with a diameter of 84 cm and a quarter circle EFG with a radius of 28 cm. G is the midpoint of AD. BEG and CFG are straight lines.

Do not write  
in this space



- (a) Find the area of the shaded part.  
 (b) Find the perimeter of the shaded part.  
 (Take  $\pi = \frac{22}{7}$ )

Answer: (a) \_\_\_\_\_ [2]

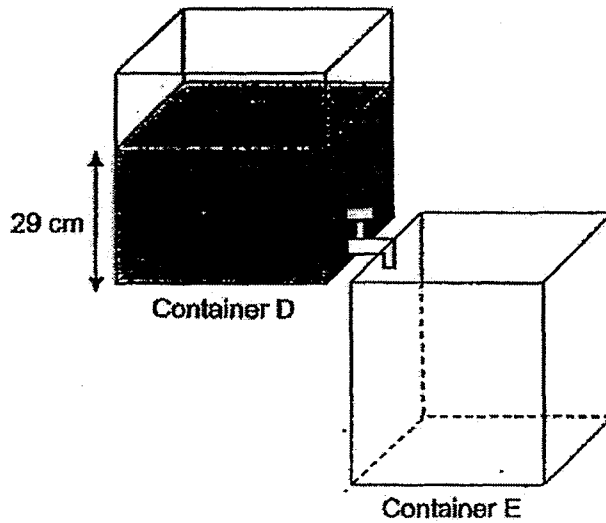
(b) \_\_\_\_\_ [2]

SCORE



16. Container D had a base area of  $650 \text{ cm}^2$  and was filled with oil to a height of  $29 \text{ cm}$ . The oil flowed out of a tap in Container D into an empty Container E which had a base area of  $400 \text{ cm}^2$ . The tap was turned off immediately when the height of the oil in Container E was twice that of the height of the oil left in Container D. What was the volume of oil in Container E in the end?

Do not write  
in this space



Answer: \_\_\_\_\_ [4]

SCORE

17. Kitty, Leng Leng and Nora shared the cost of a present. 25% of Kitty's share was \$18 more than 60% of Leng Leng's share. Nora paid 25% of what Kitty had paid. Leng Leng paid \$28 more than Nora for the present.

Do not write  
in this space

- (a) How much did Leng Leng pay for the present?
- (b) How much more did Kitty pay for the present than Nora?

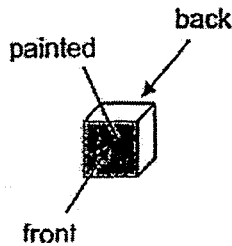
Answer: (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]

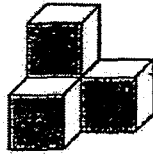
SCORE

18. Jay used identical cubes to form the following patterns. For each pattern, the cubes were glued together to form a solid. The front and the back of the solid were painted.

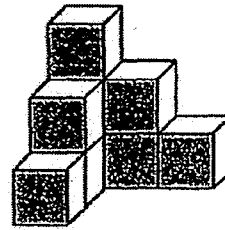
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Pattern 1



Pattern 2



Pattern 3

The number of cubes used and the number of faces painted for each solid were recorded in the table below.

Pattern	Number of cubes used	Number of faces painted
1	1	2
2	4	6
3	9	12
4		

- (a) Complete the table above for Pattern 4. [1]
- (b) What was the number of faces painted for Pattern 18?
- (c) 1406 faces were painted for a solid. How many cubes were used to form the solid?

Answer: (b) \_\_\_\_\_ [2]

(c) \_\_\_\_\_ [2]

End of Paper

Set by : Mdm Hoi Wan Hua, Ms Jennifer Foo, Mrs Eileen Sew, Ms Joyce Ng

SCORE





# ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : PEI CHUN

SUBJECT : MATHEMATICS

TERM : PRELIM

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

16)6      17)5070      18) $\frac{2}{25}$       19)13.14      20) $4a + 13$

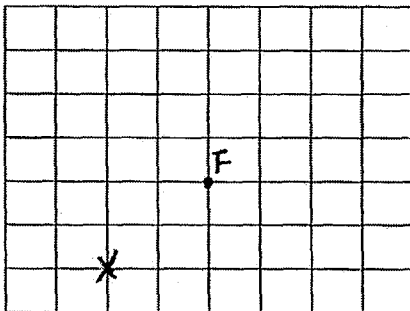
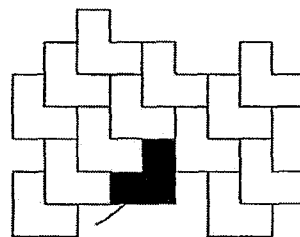
21)2 cm      22)ED and FG      23)3      24)

25)10h 30min      26) $\frac{3}{32}$

27)600II      28)54min

29)

30)\$7



## Paper 2

1) total units  $\rightarrow 3 \times 5 = 15$

1 pen  $\rightarrow 41.65 \div 17 = \$2.45$

2) 0.5L = 500ml

15 bottles  $\rightarrow 6530 - 500 = 6030$

1 bottle  $\rightarrow 6030 \div 15 = 402$

3)  $\angle ADC = 360^\circ - 150^\circ - 60^\circ = 150^\circ$

$\angle ACD = 180^\circ - 150^\circ = 30^\circ$

$\angle DAC = 30^\circ \div 2 = 15^\circ$

4) units  $\rightarrow 5 \times 2 = 10$

1 unit  $\rightarrow 2640/10 = 264$

Albert  $\rightarrow 264 \times 6 = 1584$

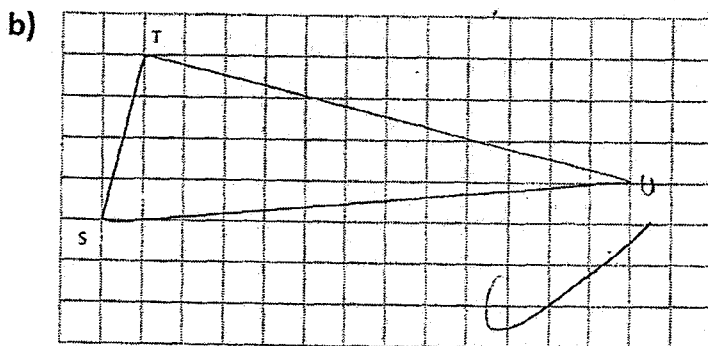
5)  $6k/2 = 3k$

$(18 + 3k)$

6) Remaining  $\rightarrow 3/5 - 1/4 = 7/20$

Left  $\rightarrow 7/20 \times 2/3 = 7/30 \text{kg}$

7) a) 3.4cm



8)a) 1 unit  $\rightarrow 84/7 = 12$

Total  $\rightarrow 12 \times 28 = 336$

b) Volleyball  $\rightarrow 12 \times 10 = 120$

9)a) QR  $\rightarrow 28 - 12 - 12 = 4\text{cm}$

b) QV  $\rightarrow 20 - 15 = 5$

shaded  $\rightarrow 20 \times 16 \times \frac{1}{2} - 5 \times 4 \times \frac{1}{2} = 150\text{cm}^2$

10) Breadth  $\rightarrow 18 \div 6 = 3$

Length  $\rightarrow 3 \times 3 = 9$

a) Area  $\rightarrow 9 \times 3 = 27\text{cm}^2$

b) Perimeter  $\rightarrow 26 \times 3 = 78\text{cm}$

11) 9 units  $\rightarrow 306$

1 unit  $\rightarrow 306/9 = 34$

a) Kenny  $\rightarrow 21 \times 34 = 714$

b) Luke  $\rightarrow 34 \times 14 = 1190$

Give  $\rightarrow 714 - (1190/2) = 119$

12) 5/9 journey  $\rightarrow 4 \times 55 = 220$

4/9 journey  $\rightarrow 220/5 \times 4 = 176$

(car) speed  $\rightarrow 176/2 = 88$

Distance  $\rightarrow 220/5 \times 9 = 396$

Time  $\rightarrow 396 \div 88 = 4.5$

4.5h = 4h 30min

a) 220km

b) 15 30

13)  $31.80 - 27 = 4.80$

More  $\rightarrow (39 - 31.80) \times 6 = 43.2$

Buy  $\rightarrow 43.20 \div 4.80 = 9$

Total  $\rightarrow 9 + 6 = 15$

14)  $100\% - 10\% = 90\%$

1 litre (G discounted price)  $\rightarrow 2.40 \times 90\% = 2.16$

a) paid  $\rightarrow 2.16 \times 38 = \$82.08$

b) 1 litre (H discounted price)  $\rightarrow 2.40 \times 95\% = 2.28$

38 litres  $\rightarrow 2.28 \times 38 = 86.64$

? group  $\rightarrow 86.64 \div 12 = 7\text{R} 2.64$

$7 \times 1 = 7$

Paid  $\rightarrow 86.64 - 7 = 79.64$

Save  $\rightarrow 82.08 - 79.64 = 2.44$

15) a) Area  $\rightarrow 28 \times 28 \times \frac{22}{7} \times \frac{1}{4} + 42 \times 42 \times \frac{22}{7} \times \frac{1}{4} = 2002\text{cm}^2$

b) Perimeter  $\rightarrow 28 \times \frac{22}{7} \times 2 \times \frac{1}{4} + 14 + 14 + 42 \times \frac{22}{7} \times 2 \times \frac{1}{4} + 84 = 222\text{cm}$

16) oil  $\rightarrow 29 \times 650 = 18850$

Total base area  $\rightarrow 400 + 400 + 650 = 1450$

? group  $\rightarrow 18850 \div 1450 = 13$

E (height)  $\rightarrow 13 \times 2 = 26$

Oil (E)  $\rightarrow 26 \times 400 = 10400\text{cm}^2$



17)a)  $40\% \rightarrow 18 + 28 = 46$

LengLeng  $\rightarrow 46/4 \times 10 = \$115$

b)  $60\% \times 4 = 240\%$

$240\% - 60\% = 180\%$

More  $\rightarrow 46/4 \times 18 + 18 \times 3 = \$261$

18)a)  $16 / 20$

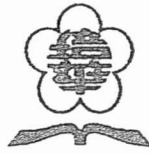
b) Painted  $\rightarrow 18 \times 19 = 342$

$1406 = 37 \times 38$

c) pattern No  $\rightarrow 37$

used  $\rightarrow 37 \times 37 = 1369$





PEI HWA PRESBYTERIAN PRIMARY SCHOOL  
PRELIMINARY EXAMINATION

PRIMARY 6  
MATHEMATICS PAPER 1  
(BOOKLET A)

22 AUGUST 2017

Name : \_\_\_\_\_

Form Class / Register No. : 6R \_\_\_\_\_ / \_\_\_\_\_

Banded Class / Register No. : 6M \_\_\_\_\_ / \_\_\_\_\_

Total time for Booklets A and B: 50min

**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.



**Paper 1 (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 oval ( 1, 2, 3 or 4 ) on the Optical Answer Sheet. You are not allowed to use a calculator. ( 20 marks )

---

1 6 hundreds, 5 tenths and 4 thousandths is \_\_\_\_\_.

(1) 600.054

(2) 600.504

(3) 600.540

(4) 650.004

( )

2 The value of  $\frac{3}{5} \div \frac{1}{2}$  is the same as \_\_\_\_\_.

(1)  $\frac{5}{3} \times \frac{1}{2}$

(2)  $\frac{3}{5} \times \frac{1}{2}$

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

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

( )

3 Which of the following has the greatest value?

(1) 0.6

(2) 0.68

(3) 0.601

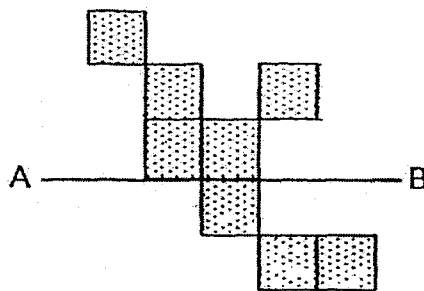
(4) 0.657

( )

- 4 Timothy attended a sports carnival from 9.50 a.m. to 3.05 p.m.. How long was the sports carnival?
- (1) 3 h 55 min
  - (2) 5 h 15 min
  - (3) 5 h 55 min
  - (4) 6 h 45 min
- ( )

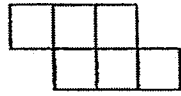
- 5 Karis has 50 identical coins of the same value which amount to \$25. What is the value of each coin?
- (1) 5 cents
  - (2) 10 cents
  - (3) 20 cents
  - (4) 50 cents
- ( )

- 6 The figure below shows 8 squares. What is the smallest number of squares that must be added so that line AB will be the line of symmetry?

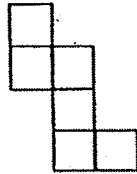


- (1) 7
  - (2) 6
  - (3) 5
  - (4) 4
- ( )

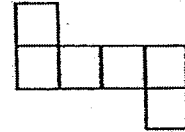
7 Which of the following figures are nets of a cube?



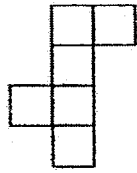
A



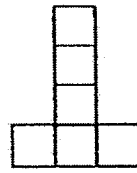
B



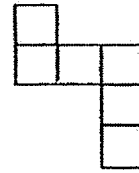
C



D



E



F

(1) A, B, C and D

(2) A, B, E and F

(3) B, C, D and E

(4) C, D, E and F

( )

8 Ahmad's savings is  $3\frac{1}{5}$  times that of Bala's. Find the ratio of Ahmad's savings to Bala's savings.

(1) 9 : 5

(2) 5 : 9

(3) 16 : 5

(4) 5 : 16

( )

9 Express 0.804 as a percentage.

(1) 0.804%

(2) 8.04%

(3) 80.4%

(4) 804%

( )

10 A motorist travelled at an average speed of 80 km/h and reached his destination in 120 min. Find the distance travelled by the motorist.

(1) 160 km

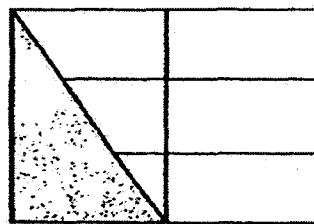
(2) 96 km

(3) 9600 km

(4) 40 km

( )

11 The figure below is made up of 5 identical rectangles. What fraction of the figure is shaded?



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

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

(3)  $\frac{3}{10}$

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

( )



12 The length of each side of a square is an odd number. What is a possible perimeter of the square?

(1) 16 cm

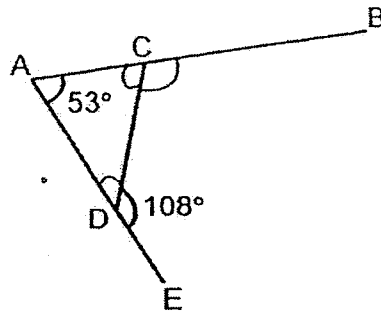
(2) 20 cm

(3) 24 cm

(4) 32 cm

( )

13 In the figure below,  $\angle CAD$  is  $53^\circ$  and  $\angle CDE$  is  $108^\circ$ . Find  $\angle BCD$ .



(1)  $72^\circ$

(2)  $125^\circ$

(3)  $127^\circ$

(4)  $161^\circ$

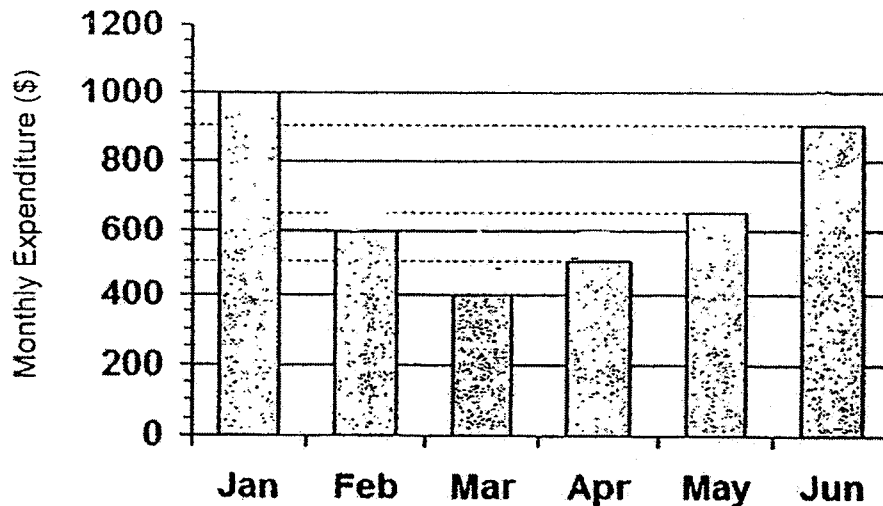
( )

- 14 Hannah spent  $\frac{4}{5}$  of her pocket money to buy 8 pens. She wanted to buy another 8 similar pens but found that she was short of \$12. What was the price of 1 pen?

- (1) \$1.20  
 (2) \$1.50  
 (3) \$2.00  
 (4) \$4.00

( )

- 15 The bar graph below shows Debbie's expenditure on beauty products for the first half of the year.



In which month did she spend  $\frac{3}{5}$  of her combined expenditure in January and April?

- (1) February  
 (2) March  
 (3) May  
 (4) June

( )

**PRELIMINARY EXAMINATION**

**PRIMARY 6  
MATHEMATICS PAPER 1  
(BOOKLET B)**

22 AUGUST 2017

Parent's signature

Name : \_\_\_\_\_

Form Class / Register No. : 6R \_\_\_\_\_ / \_\_\_\_\_

Banded Class / Register No. : 6M \_\_\_\_\_ / \_\_\_\_\_

Total time for Booklets A and B: 50min

**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) :	20
Total Marks (Booklets A and B) :	40

This booklet consists of 7 printed pages, excluding the cover page.

Questions 16 to 25 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  $9\frac{3}{8}$  as a decimal. Give your answer correct to 2 decimal places.

Ans: \_\_\_\_\_

17 Find the value of  $(82 + 72 \div 9) - 30 \times 2$ .

Ans: \_\_\_\_\_

18 0.3 of a number is 45. What is the number?

Ans: \_\_\_\_\_

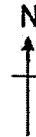
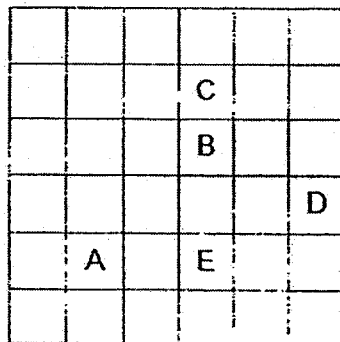
19 Express 60 l 80 ml in millilitres.

Ans: \_\_\_\_\_ ml

20 The volume of a cube is  $64 \text{ cm}^3$ . Find the length of one side of the cube.

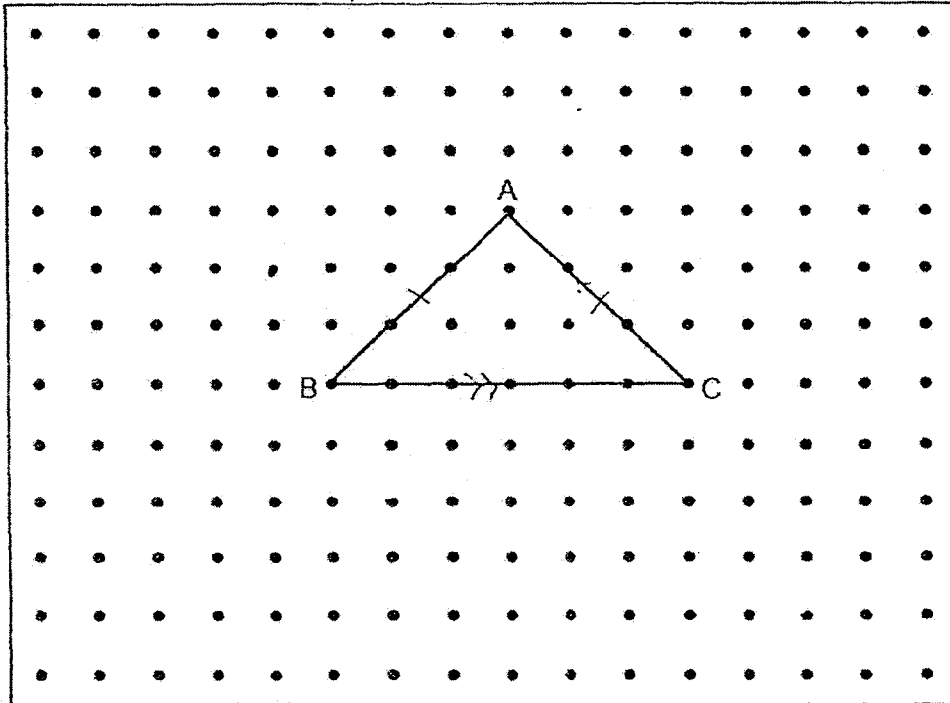
Ans: \_\_\_\_\_ cm

21 Refer to the square grid below and fill in the blanks with A, B, C, D or E.



Point \_\_\_\_\_ is north-east of Point \_\_\_\_\_.

- 22 ABC is an isosceles triangle. D is one of the dots inside the box. Draw two lines, AD and BD, to complete a parallelogram.




- 23 The usual price of a watch is \$220. What is the price of the watch after a 30% discount?

Ans: \$ \_\_\_\_\_

- 24 The table below shows the number of board games borrowed by pupils in a month.

Number of board games borrowed	0	1	2	3	4
Number of pupils	5	16	5	7	3

How many pupils borrowed 2 or more board games in that month?

Ans: \_\_\_\_\_

- 25 Find the value of  $5n - 4 + \frac{3n}{2}$  when  $n = 4$ .

Ans: \_\_\_\_\_

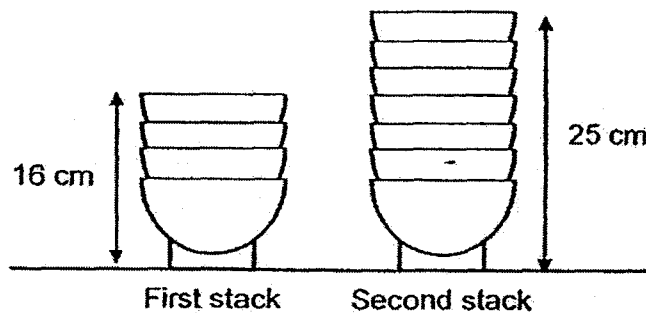
Questions 26 to 30 carry 2 marks each. Show your working clearly and write your answers the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space.

- 26 There are 182 chickens and cows in a farm. For every 4 chickens, there are 3 cows. How many more chickens than cows are there?

Ans: \_\_\_\_\_

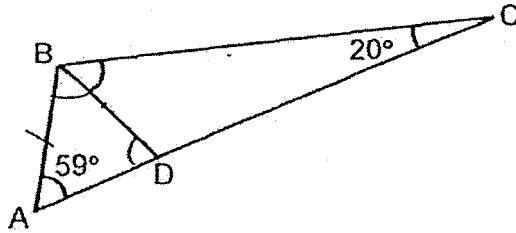
- 27 Some identical bowls are stacked vertically to save space. In the figure below, the height of the first stack of 4 bowls is 16 cm. The height of the second stack of 7 bowls is 25 cm. Find the height of one such bowl.



Ans: \_\_\_\_\_ cm



- 28 The figure below shows two triangles, ABD and BDC. ADC is a straight line. DA is equal to DB.  $\angle DAB$  is  $59^\circ$  and  $\angle BCA$  is  $20^\circ$ . Find  $\angle DBC$ .

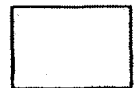


Ans: \_\_\_\_\_

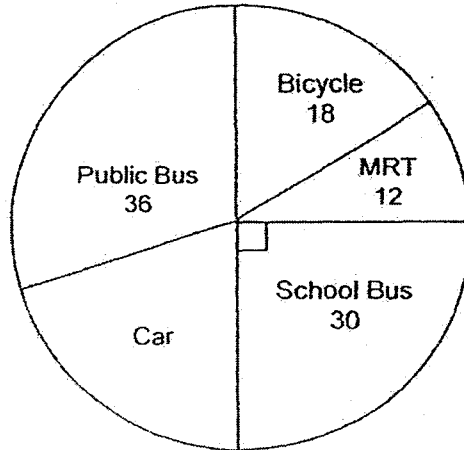


- 29 There were 60 children on board a bus at first. 4 boys and 2 girls alighted from the bus. The ratio of the number of boys to the number of girls then became 4 : 5. Find the number of boys on board the bus at first.

Ans: \_\_\_\_\_



- 30 The pie chart below shows the number of pupils travelling to school by various modes of transport.



What percentage of the pupils travel by car?

Ans: \_\_\_\_\_ %

END OF PAPER 1

**PRELIMINARY EXAMINATION**

**PRIMARY 6  
MATHEMATICS  
PAPER 2**

22 AUGUST 2017

Parent's signature

Name: \_\_\_\_\_

Form Class / Register No. : 6R \_\_\_\_\_ / \_\_\_\_\_

Banded Class / Register No. : 6M \_\_\_\_\_ / \_\_\_\_\_

Total time: 1h 40min

**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 :	<b>40</b>
Paper 2 :	<b>60</b>
Total Marks :	<b>100</b>

This booklet consists of 15 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 answer in the units stated. (10 marks)

Do not write in this space

- 1 Ali has \$840 more than Baba. If Ali gives  $\frac{7}{9}$  of his money to Baba, Ali will have  $\frac{1}{5}$  as much money as Baba. How much money does Ali have at first?

Ans: \$ \_\_\_\_\_

- 2 Gillian stood on a weighing machine with her school bag. The total mass is shown in Figure 1.

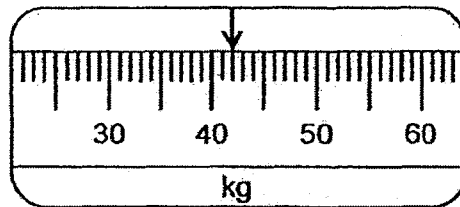


Figure 1

Gillian then put her bag on the floor. Her mass is shown in Figure 2.

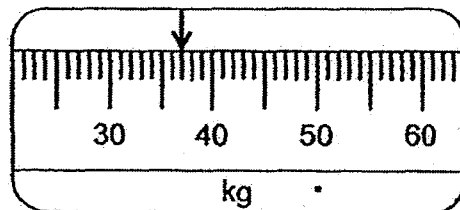


Figure 2

How heavy did Gillian's school bag weigh?

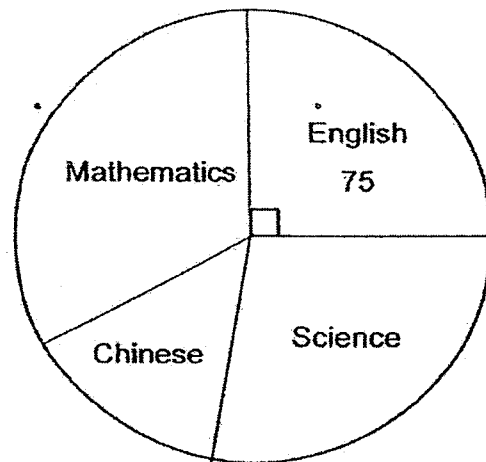
Ans: \_\_\_\_\_ kg

- 3 Mrs Fields used 20% of her flour to make some muffins and 60% of the remainder to bake some cookies. What percentage of the flour was left?

Do not write in this space

Ans: \_\_\_\_\_ %

- 4 Some pupils were asked to name their favourite subjects. The results were shown in the pie chart below.



33% of the pupils chose Science as their favourite subject. Find the total number of pupils who chose Chinese and Mathematics as their favourite subjects.

Ans: \_\_\_\_\_

- 5 In a candy store, sweets were packed in packets of 15 sweets each. Lynn bought  $3c$  packets of sweets and gave 20 sweets away. How many sweets had Lynn left? Give the answer in terms of  $c$  in the simplest form.

Do not write  
in this space

Ans: \_\_\_\_\_

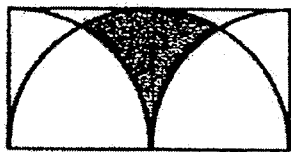
Questions 6 to 18 show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question. (50 marks)

Do not write in this space

- 6 The number of pupils in Team A is 4 more than the number of pupils in Team B. There are 46 boys in Team A and 18 boys in Team B. The number of girls in Team A is  $\frac{4}{5}$  of the number of girls in Team B. What fraction of the pupils in Team A are girls? Express your answer in the simplest form.

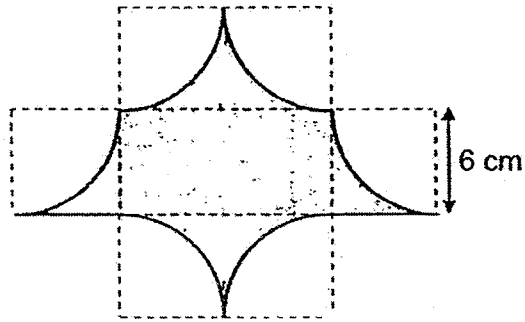
Ans: \_\_\_\_\_ [3]

- 7 The figure below consists of a rectangle, a semicircle and two identical quadrants. The diameter of the semicircle is 35 cm. Find the perimeter of the shaded region. (Take  $\pi = \frac{22}{7}$ )



Ans: \_\_\_\_\_ [3]

- 8 The figure below is made up of 6 identical quadrants. The radius of the quadrant is 6 cm. Find the area of the shaded part. Round off the answer to 2 decimal places. Do not write in this space

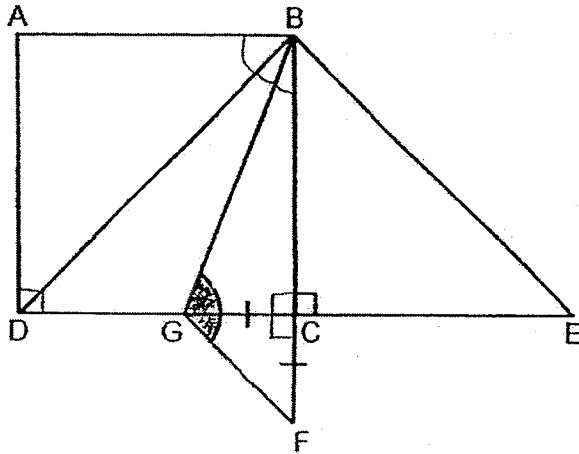


Ans: \_\_\_\_\_ [3]





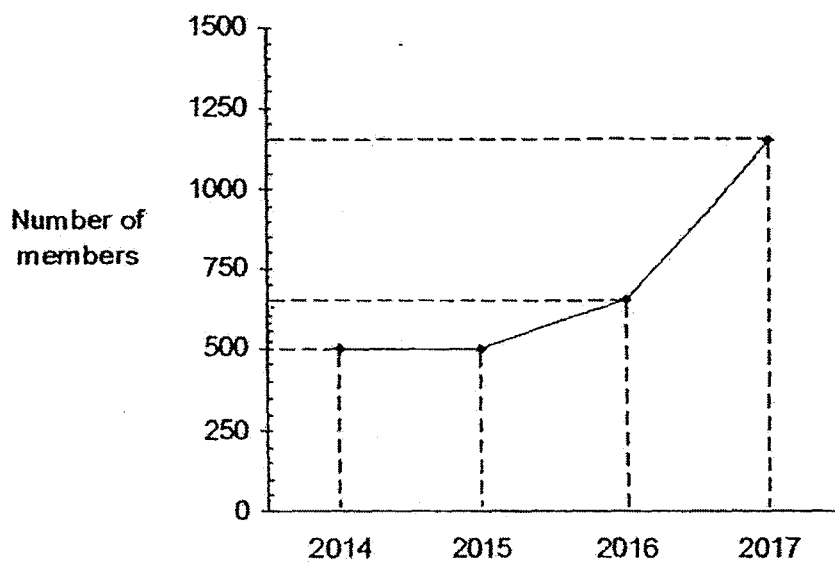
- 9 The figure below consists of a square  $ABCD$ , a right-angled triangle  $BCE$  and an isosceles triangle  $GCF$ .  $GC$  is equal to  $CF$ .  $DCE$  and  $BCF$  are straight lines.  $\angle DBG$  is equal to  $\angle GBC$ . Find  $\angle BGF$ .



Ans: \_\_\_\_\_ [3]



- 10 The line graph shows the number of members a football club had each year from 2014 to 2017. What was the percentage increase in the number of members from 2015 to 2017? Do not write in this space



Ans: \_\_\_\_\_ [3]

- 11 The total number of children at a National Day Parade was 3760. After 400 boys and  $\frac{2}{5}$  of the girls left the parade, the ratio of the number of boys to the number of girls became 3 : 1. How many more boys than girls were there at first?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]

12 Pails A, B and C contain 16 litres, 12 litres and 14 litres of water respectively.

$\frac{3}{8}$  of the water from Pail A was poured into Pail C.

Then,  $\frac{1}{3}$  of the water from Pail B was poured equally into Pail A and C

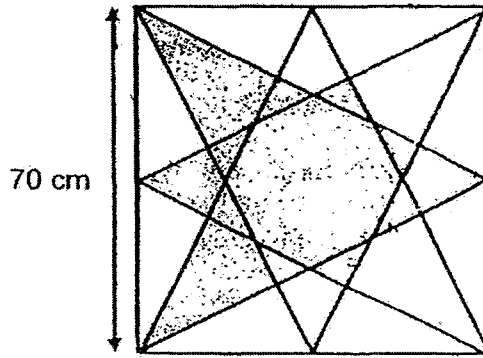
In the end,  $\frac{4}{11}$  of the water from Pail C was poured back into Pail A.

How many litres of water were in Pail C in the end?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]

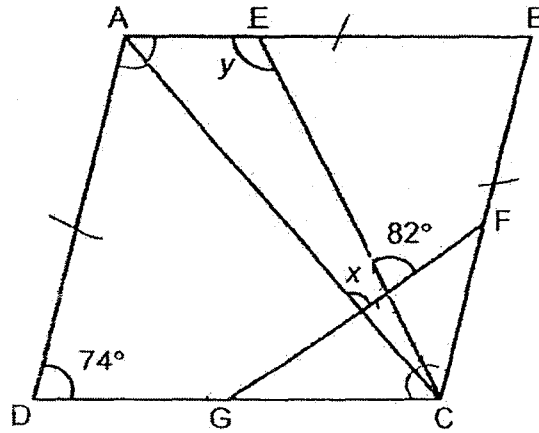
- 13 The figure below consists of a square and four identical isosceles triangles. Each side of the square is 70 cm. Find the area of the shaded region. Do not write in this space



Ans: \_\_\_\_\_ [4]



- 14 The figure below shows a rhombus, ABCD. The rhombus is divided into 6 parts using three straight lines, namely AC, EC and FG. Find the sum of  $\angle x$  and  $\angle y$ . Do not write in this space



Ans: \_\_\_\_\_ [4]



- 15 A lorry was travelling from Town X towards Town Y at a constant speed of 60 km/h. At the same time, a car was travelling from Town Y towards Town X at a constant speed of 98 km/h. The two vehicles passed each other at a point 57 km from the midpoint between Town X and Town Y. What is the distance between Town X and Town Y?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]

- 16 On the school's first fund-raising campaign, Class A raised 4 times as much money as Class B. On the second fund-raising campaign, Class A raised another \$480 while Class B raised another \$320. Class A raised three times as much money as Class B at the end of the two campaigns. What was the total amount of money raised by the two classes at the end of the two campaigns?

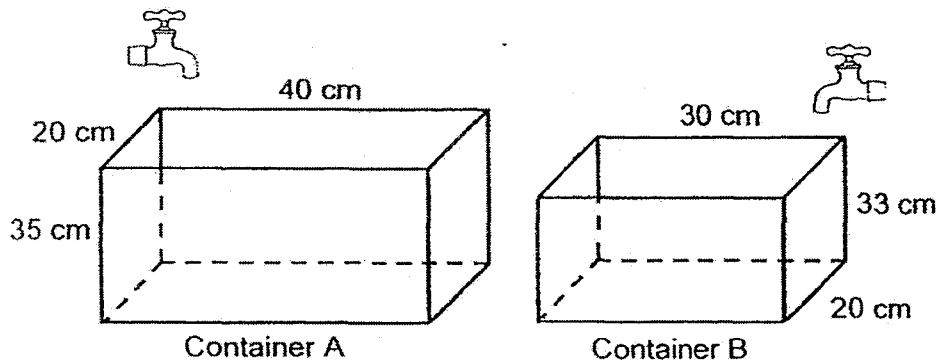
Do not write  
in this space

Ans: \_\_\_\_\_ [5]



- 17 The figure below shows 2 empty containers, A and B. Container A is filled with water flowing in at a rate of  $0.96 \text{ l/min}$ . Container B is filled with water flowing in at a rate of  $1.2 \text{ l/min}$ . The tap for Container A was turned on for 10 minutes before the tap for Container B was turned on. Both taps were turned off when the water levels in both containers are equal. Find the height of the water level when the taps were turned off.

Do not write  
in this space



Ans: \_\_\_\_\_ [5]



18 Muthu, Nora and Osman agreed to share the cost of a present for their friend. Muthu agreed to pay 35% of the cost of the present while Nora agreed to pay 20% of the remaining amount. The rest of the amount would be paid by Osman. However, when they went to buy the present, the price of the item had increased by 35%. As a result, Muthu paid \$94.50 for his share.

- (a) What was the original price of the present?
- (b) How much did Osman pay in the end?

Do not write  
in this space

Ans: (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]

– End of Paper 2 –

PRELIMINARY EXAM PAPER 2017

SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL  
 SUBJECT : PRIMARY 6 MATH PAPER ONE BOOKLET A & B  
 TERM : PRELIMINARY EXAMINATION 2017

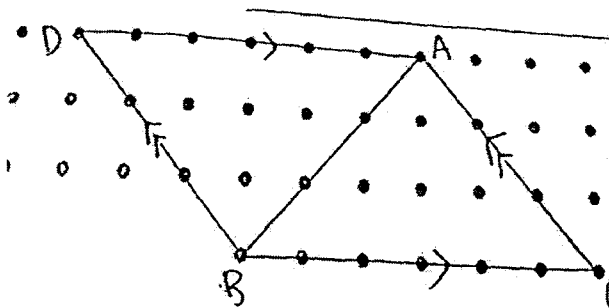
Booklet A:

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

Booklet B:

Answer:

- 16) 9.38 17) 30 18) 150 19) 60 080 ml 20) 4 cm 21) Point B is north east of Point A  
 22)



- 23) \$154 24) 15 25) 22 26) 26 27) 7cm 28) 42° 29) 28 30) 20%



PRELIMINARY EXAM PAPER 2017

SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL  
SUBJECT : PRIMARY 6 MATH PAPER 2  
TERM : PRELIMINARY EXAMINATION 2017

PAPER 2:

Answer:

1) After Before

A: B A: B-

1: 5 9: 3

2: 10

$6u \rightarrow 840$

$1u \rightarrow 840 \div 6 = 140$

$9u \rightarrow 140 \times 9 = 1260$

Answer: \$1260

2)  $42\text{kg} - 37\text{kg} = 5\text{kg}$

Answer: 5kg

$$3) 1 - \frac{1}{5} = \frac{4}{5}$$

$$\frac{4}{5} \times \frac{3}{5} = \frac{12}{25}$$

$$1 - \frac{1}{5} - \frac{12}{25} = \frac{8}{25}$$

$$\frac{8}{25} \times 100\% = 32\%$$

Answer: 32%

$$4) \frac{1}{4} \rightarrow 75$$

$$\frac{4}{4} \rightarrow 75 \times 4 = 300$$

$$4/4 = 100/100$$

$$1/100 = 3$$

$$33/100 \rightarrow 3 \times 33 = 99$$

Science: 99

$$C+M \rightarrow 300 - 99 - 75 = 126$$

Answer: 126

$$6) 5u + 18 + 4 = 4u + 46$$

$$1u \rightarrow 46 - 22 = 24$$

$$4u \rightarrow 24 \times 4 = 96$$

$$G/\text{total (A)} = 96/142 = 48/71$$

$$\text{Total (A)} \rightarrow 96 + 46 = 142$$

Check

$$\text{Girls in B} \rightarrow 120$$

$$96/120 = 4/5$$

Answer: 48/71

$$7) 35 \div 2 = 17.5$$

$$1/4 \times 22/7 \times 35 = 27.5$$

$$27.5 \times 2 = 55$$

Answer: 55cm

$$8) 12 \cdot 6 = 72$$

$$\text{Area of boomerang} \rightarrow (6 \times 6) - \frac{1}{4} \times \pi \times 6 \times 6 = 7.7257$$

$$\text{Area of boomerang} \rightarrow 7.7257 \times 6 = 46.3542$$

$$\text{Area of shaded part} \rightarrow (72 + 46.3542) = 118.35$$

Answer: 118.35cm<sup>2</sup>

$$5) 1 \text{ packet} \rightarrow 15 \text{ sweets}$$

$$\begin{aligned} \text{bought 30 packets} &\rightarrow 15 \times 30 \\ &= 450 \text{ sweets} \end{aligned}$$

$$\text{Lynn gave away 20 sweets}$$

$$\begin{aligned} \text{left} &\rightarrow 450 - 20 \\ &= 5(90 - 4) \text{ sweets} \end{aligned}$$

9)

$$\angle CGF \text{ or } \angle CFG \rightarrow (180^\circ - 90^\circ) \div 2 = 45^\circ$$

$$\angle ABD \rightarrow 90^\circ \div 2 = 45$$

$$\angle GBC \rightarrow 45^\circ \div 2 = 22.5$$

$$\angle BGC \rightarrow 180^\circ - 22.5^\circ - 90^\circ = 67.5^\circ$$

$$\angle BGF \rightarrow 45^\circ + 67.5^\circ = 112.5^\circ$$

Answer: 112.5°

10)

$$5 \text{ gaps} \rightarrow 750 - 500 = 250$$

$$1 \text{ gap} \rightarrow 250 \div 5 = 50$$

$$2016 \rightarrow 500 + 150 = 650$$

$$2017 \rightarrow 1000 + 150 = 1150$$

$$\text{Increase} \rightarrow 1150 - 500 = 650$$

$$\text{Increase}/2015 = 650/500$$

$$650/500 \times 100\% = 130\%$$

Answer: 130%

11)

First- B:G, ? : 5

End- B: G, 3:1, 9: 3

$$5 - 2u = 3u$$

$$9u + 400 + 5u = 3760$$

$$9u + 5u = 14u$$

$$14u \rightarrow 3760 - 400 = 3360$$

$$1u \rightarrow 3360 \div 14 = 240$$

$$5u \rightarrow 240 \times 5 = 1200 \text{ (no. of girls at first)}$$

$$9u \rightarrow 240 \times 9 = 2160$$

$$2160 + 400 = 2560 \text{ (no. of boys at first)}$$

$$2160 - 1200 = 1360 \text{ (Diff)}$$

Answer: 1360 more

12)

Step 1

$$\frac{3}{8} \times 16 = 6$$

$$A \rightarrow 16 - 6 = 10$$

$$C \rightarrow 14 + 6 = 20$$

Step 2

$$\frac{1}{3} \times 12 = 4$$

$$4 \div 2 = 2$$

$$B \rightarrow 12 - 4 = 8$$

$$A \rightarrow 10 + 2 = 12$$

$$C \rightarrow 20 + 2 = 22$$

Step 3

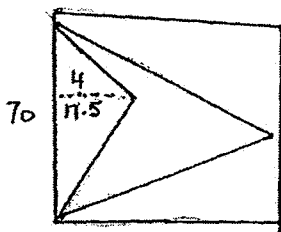
$$\frac{4}{11} \times 22 = 8$$

$$C \rightarrow 22 - 8 = 14$$

$$A \rightarrow 12 + 8 = 20$$

Answer: 14L

13)



$$\frac{1}{2} \times 70 \times 70 = 2450$$

$$70 \div 4 = 17.5$$

$$\frac{1}{2} \times 70 \times 17.5 = 1837.5$$

Answer: 1837.5 cm<sup>2</sup>



14)

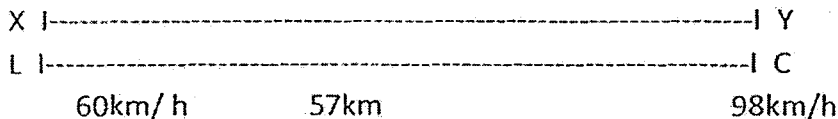
$$\angle DCA \text{ or } \angle DAC \rightarrow (180^\circ - 74^\circ) \div 2 = 53^\circ$$

$$\angle Z \rightarrow 180^\circ - 82^\circ = 98^\circ$$

$$\angle x + \angle y \rightarrow 360^\circ - 98^\circ - 53^\circ = 209^\circ$$

Answer: 209°

15)



Dist. Travelled by car more than lorry  $\rightarrow 57 \times 2 = 114$

Dist. Travelled by car more than lorry per hour  $\rightarrow 98 - 60 = 38$

$114 \div 38 = 3$  (time for car to travel extra dist.)

$$(98 + 60) \times 3 = 474$$

Answer: 474 km

16)

$$1p = 1u + 320$$

$$3p = 3u + 960$$

$$1u \rightarrow 960 - 480 = 480$$

$$1p \rightarrow 480 + 320 = 800 \text{ (B-end)}$$

$$3p \rightarrow 800 \times 3 = 2400 \text{ (A-end)}$$

$$\text{Total: (A + B)} \rightarrow 2400 + 800 = 3200$$

Answer: \$3200

17)

Water level in A after 10min

$$\rightarrow 0.96 \times 10 \times 1000 / 20 \times 40 = 12$$

$$960 / 20 \times 40 = 1.2 \text{ (rise in water level in A per min)}$$

$$1200 / 20 \times 20 = 2 \text{ (rise in water level in B per min)}$$

$$2 - 1.2 = 0.8 \text{ (Every min, B catches up by 0.8cm)}$$

$$12 \div 0.8 = 15 \text{ (no. of min for Tap B to turn on to catch up)}$$

$$1200 \times 15 / 30 \times 20 = 30$$

Answer: 30cm

18a)

$$1u \times 13 = 13u$$

$$7u \times 5 = 35u$$

$$13u \times 5 = 65u$$

$$20u \times 5 = 100u$$

$$47.25u \rightarrow 94.5$$

$$1u \rightarrow 94.5 \div 47.25 = 2$$

$$100u \rightarrow 100 \times 2 = 200$$

Answer (a): \$200

18b)

Answer (b):  $70.2u \rightarrow 2 \times 70.2 = 140.40$

END

197



**RAFFLES GIRLS' PRIMARY SCHOOL  
PRELIMINARY EXAMINATION  
MATHEMATICS (PAPER 1)  
PRIMARY 6**

Name: \_\_\_\_\_ ( )

Form Class: P6 \_\_\_\_\_

Math Teacher: \_\_\_\_\_

Date: 24 Aug 2017

Duration: 50 min

<b>Your Score</b>	
<b>Paper 1 (Out of 40 marks)</b>	
<b>Paper 2 (Out of 60 marks)</b>	
<b>Overall (Out of 100 marks)</b>	
<b>Parent's Signature</b>	

**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.

**SECTION A (20 marks)**

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. The value of the digit 4 in 364 798 is \_\_\_\_\_.

- (1) 40 ones
- (2) 40 tens
- (3) 40 hundreds
- (4) 40 thousands

2. Round off 72 590 to the nearest hundred.

- (1) 72 000
- (2) 72 500
- (3) 72 600
- (4) 73 000

3. Which of the following fractions is equal to  $4\frac{5}{8}$ ?

- (1)  $\frac{28}{8}$
- (2)  $\frac{32}{8}$
- (3)  $\frac{37}{8}$
- (4)  $\frac{45}{8}$

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

$$\frac{5}{3}, 1\frac{5}{6}, \frac{11}{9}$$

(1)  $\frac{5}{3}, \frac{11}{9}, 1\frac{5}{6}$

(2)  $\frac{11}{9}, \frac{5}{3}, 1\frac{5}{6}$

(3)  $\frac{11}{9}, 1\frac{5}{6}, \frac{5}{3}$

(4)  $1\frac{5}{6}, \frac{5}{3}, \frac{11}{9}$

5. 6 hundreds, 2 tenths and 4 thousandths is \_\_\_\_\_.

(1) 620.004

(2) 600.240

(3) 600.204

(4) 600.024

6. Which of the following fractions is nearest to  $\frac{1}{7}$ ?

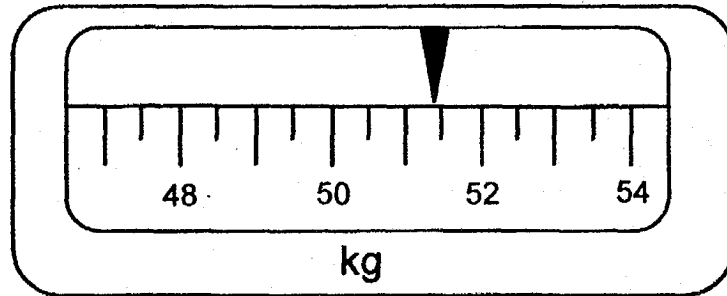
(1)  $\frac{1}{4}$

(2)  $\frac{1}{10}$

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

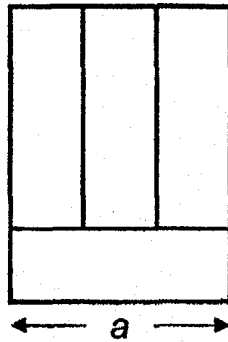
(4)  $\frac{7}{50}$

7. Which of the following is closest to the reading shown on the weighing scale below?

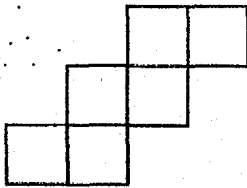


- (1) 50.75 kg  
(2) 51.25 kg  
(3) 51.45 kg  
(4) 51.75 kg
8. Which of the following is the same as 7090 m?
- (1) 7 km 9 m  
(2) 7 km 90 m  
(3) 70 km 9 m  
(4) 70 km 90 m

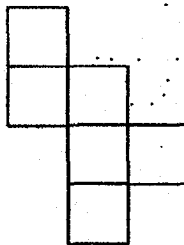
9. The figure below is made up of 4 identical rectangles. The perimeter of the figure is 28 cm. What is the length of  $a$ ?



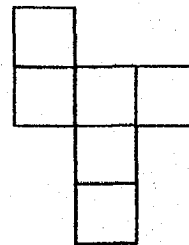
- (1) 6 cm
  - (2) 2 cm
  - (3) 7 cm
  - (4) 8 cm
10. Which of the following is not a net of a cube?



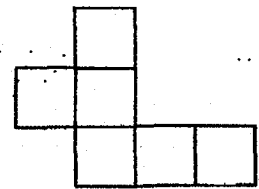
(1)



(2)

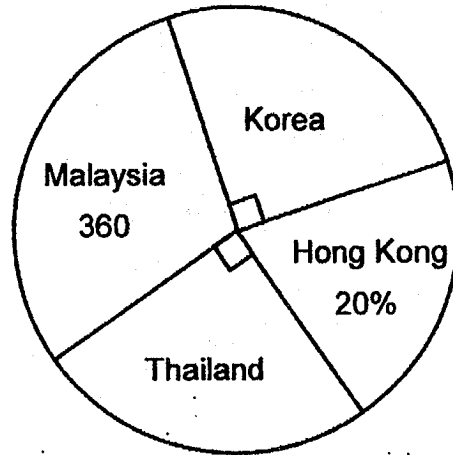


(3)



(4)

11. The pie chart represents the countries visited by a group of children during their school holiday. 20% of the children visited Hong Kong and 360 children visited Malaysia.

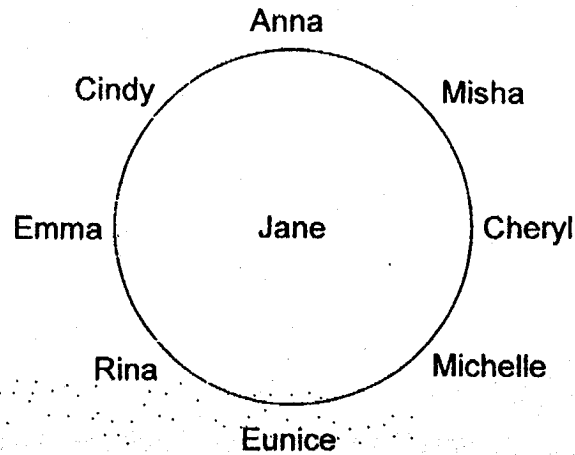


How many children visited Thailand?

- (1) 190
- (2) 200
- (3) 300
- (4) 450



12. Jane stood at the centre of a circle. Her 8 friends stood around her and spaced themselves out equally as shown below. Jane made a  $90^\circ$  anticlockwise turn followed by a  $135^\circ$  clockwise turn. In the end, Jane was facing Emma. Who was Jane facing at first?



- (1) Rina  
(2) Cindy  
(3) Anna  
(4) Misha
13. Jimmy is baking some cookies. In 30 minutes, he can bake 10% of the cookies. After every 2 hours of baking, he stops to rest for 1 hour. How long will Jimmy take to bake 80% of the cookies?

- (1) 5 h  
(2) 2 h  
(3) 7 h  
(4) 4 h

14. Mary had 1360 yellow beads and some green beads at first. After buying 170 red beads, 20% of her beads were green and red. What percentage of the beads were red beads in the end?

- (1) 7.5%
- (2) 10%
- (3) 12.5%
- (4) 25%

15. Jenny bought a bag and a wallet during a sale. Each item was given a 10% discount. She paid \$450 for the two items. Her savings for the bag was four times the savings on the wallet. What was the price of the bag before the sale?

- (1) \$40
- (2) \$50
- (3) \$100
- (4) \$400

**SECTION B (20 marks)**

Questions 16 to 25 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. Answers in fractions or ratio must be expressed in the simplest form.

16. Arrange the following numbers from the largest to the smallest.

796 800 , 789 604 , 798 600 , 789 406

Ans : \_\_\_\_\_

17.  $\frac{5}{7}$  of a number is 60. What is  $\frac{1}{2}$  of the number?

Ans : \_\_\_\_\_

18.  $6.2 = 5.91 - 4.28 + \boxed{?}$

What is the number in the box?

Ans : \_\_\_\_\_

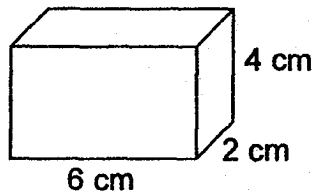
19. Find the value of  $26.25 \div 300$ . Express your answer as a decimal.

Ans : \_\_\_\_\_

20. A movie started screening at 11.15 p.m. It lasted 2 h 20 min.  
What time did the movie end?

Ans : \_\_\_\_\_ a.m.

21. What is the volume of the cuboid shown below?

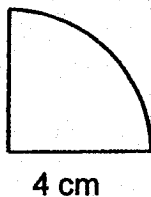


Ans : \_\_\_\_\_  $\text{cm}^3$

22. The average age of three pupils is 12 years old. The youngest pupil is 7 years old. What is the average age of the other 2 pupils?

Ans : \_\_\_\_\_

23. Find the area of the quarter circle below. Take  $\pi = 3.14$ .



Ans : \_\_\_\_\_ cm<sup>2</sup>

24. Mr Tan spent  $\frac{2}{5}$  of his salary on food. He spent  $\frac{1}{2}$  of his remaining salary on transport. Find the ratio of the amount Mr Tan spent on food to the amount he spent on transport.

Ans : \_\_\_\_\_

25. Kevin bought a burger set for lunch and paid \$0.91 for 7% GST.  
What was the cost of the burger set before GST?

Ans : \$ \_\_\_\_\_

Questions 26 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. Answers in fractions or ratio must be expressed in the simplest form.

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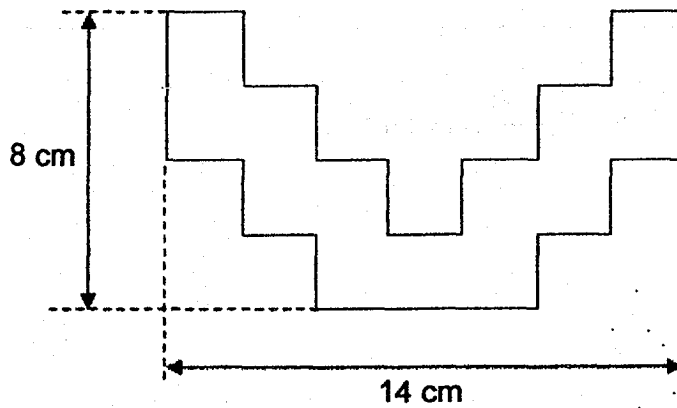
26. Find the value of  $\frac{50 + 2a}{9} \div \frac{14a - 3}{5}$  when  $a = 2$ .

Ans : \_\_\_\_\_

27. Hamid went shopping with a sum of money. After spending  $\frac{1}{3}$  of his money on a watch and \$56 on a tie, he was left with  $\frac{3}{8}$  of the sum of money he had at first. How much did Hamid spend altogether?

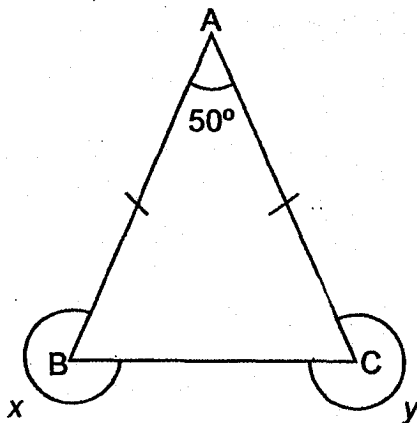
Ans : \$ \_\_\_\_\_

28. Thirteen square cards of identical size were placed without overlapping to form the composite figure shown below. Find the perimeter of the composite figure.



Ans : \_\_\_\_\_ cm

29. The figure below, ABC is an isosceles triangle. Find the sum of  $\angle x$  and  $\angle y$ .



Ans : \_\_\_\_\_ °

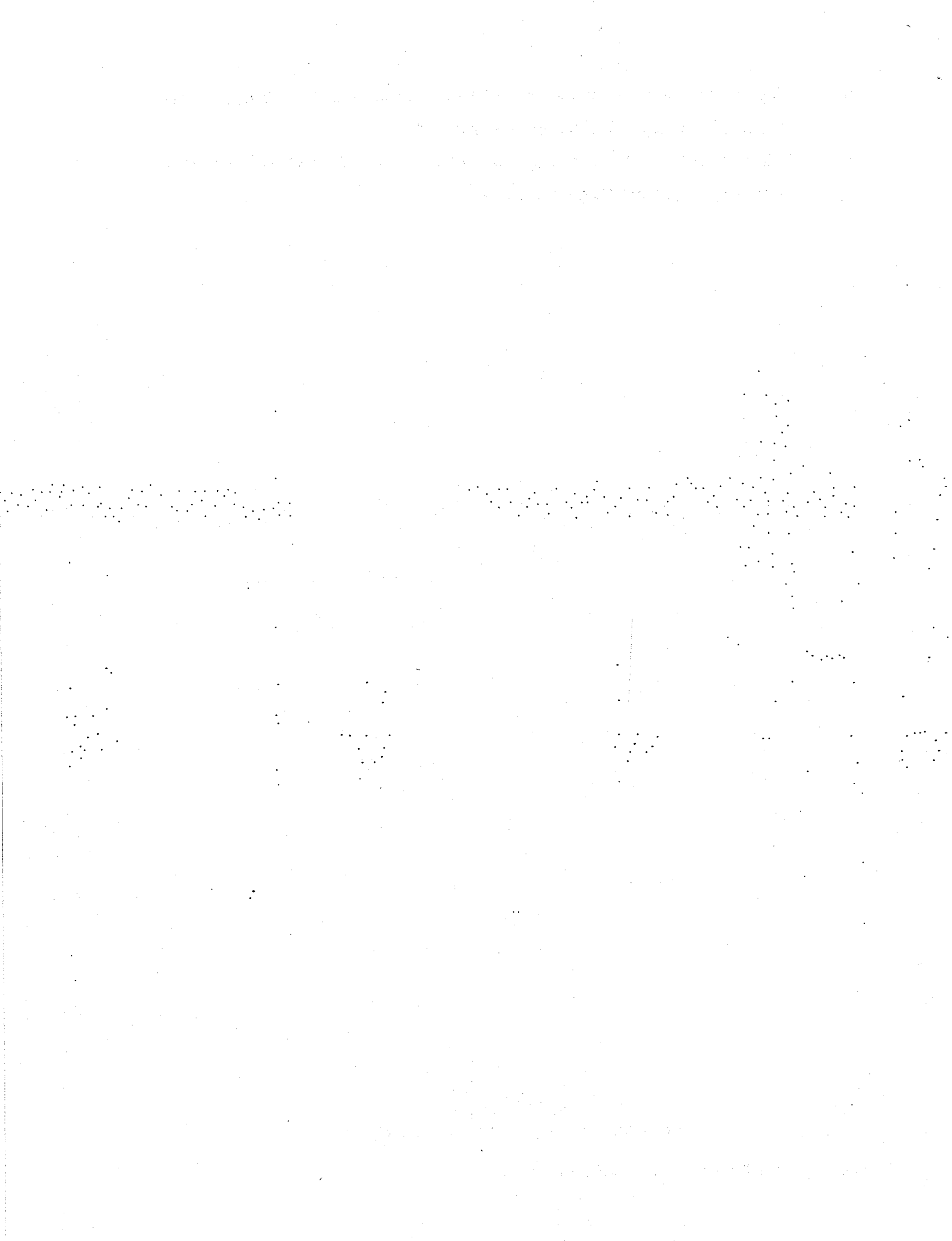


30. Steph and Angie went on a vacation with the same amount of money. Each day, Steph spent \$230 while Angie spent \$190. At the end of their vacation, Steph had \$240 left while Angie had \$720 left. How many days were they on vacation?

Ans : \_\_\_\_\_

**End of Paper-**  
**☺ Please check your work carefully ☺**

Setters : Lim Li Shan, Jacqueline Seto, Seah Nam Sin





**RAFFLES GIRLS' PRIMARY SCHOOL  
PRELIMINARY EXAMINATION  
MATHEMATICS (PAPER 2)  
PRIMARY 6**

Name: \_\_\_\_\_ ( )

Form class: P6 \_\_\_\_\_

Math Teacher: \_\_\_\_\_

Date: 24 August 2017

Duration: 1 h 40 min

<b>Your Paper 2 Score (Out of 60 marks)</b>	
---	--

**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.

For questions which require units, give your answers in the units stated.

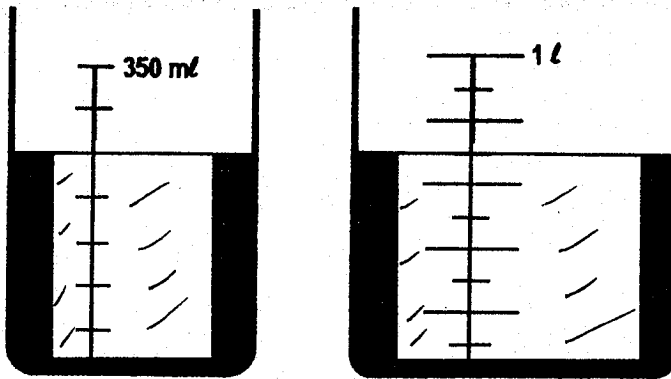
All diagrams are not drawn to scale.

(10 marks)

- 
1. Chloe bought  $5n$  pens. She packed 8 pens into one box.  
After giving away 3 boxes, how many boxes of pens had she left?  
Give your answer in terms of  $n$ .

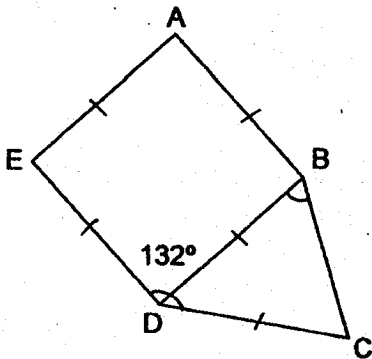
Ans : \_\_\_\_\_

2. Two containers with some water are shown below. Find the total volume of water in the two containers.



Ans : \_\_\_\_\_ ml

3. In the figure below, ABDE is a square and BCD is an isosceles triangle. Given that  $\angle EDC = 132^\circ$ , find  $\angle DBC$ .

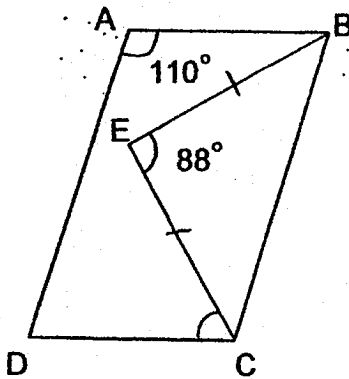


Ans : \_\_\_\_\_ °

4. Sally had some bottled drinks. 60% of the bottled drinks were coffee while the rest were tea. She bought more bottles of tea. In the end, 40% of the bottled drinks were coffee. What was the percentage increase in the number of bottles of tea when more bottles of tea were added to the bottled drinks?

Ans : \_\_\_\_\_ %

5. ABCD is a parallelogram,  $\angle BAD = 110^\circ$  and  $EB = EC$ . Find  $\angle ECD$  when  $\angle BEC = 88^\circ$ .



Ans : \_\_\_\_\_ °

For questions 6 to 18, 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. (50 marks)

---

6. Three friends are folding paper butterflies to decorate the class noticeboard. To fold one paper butterfly, Carol takes 9 min, Diane takes 6 min and Edna takes only 4 min. They start folding at the same time. How many minutes will they take to fold 285 paper butterflies altogether?

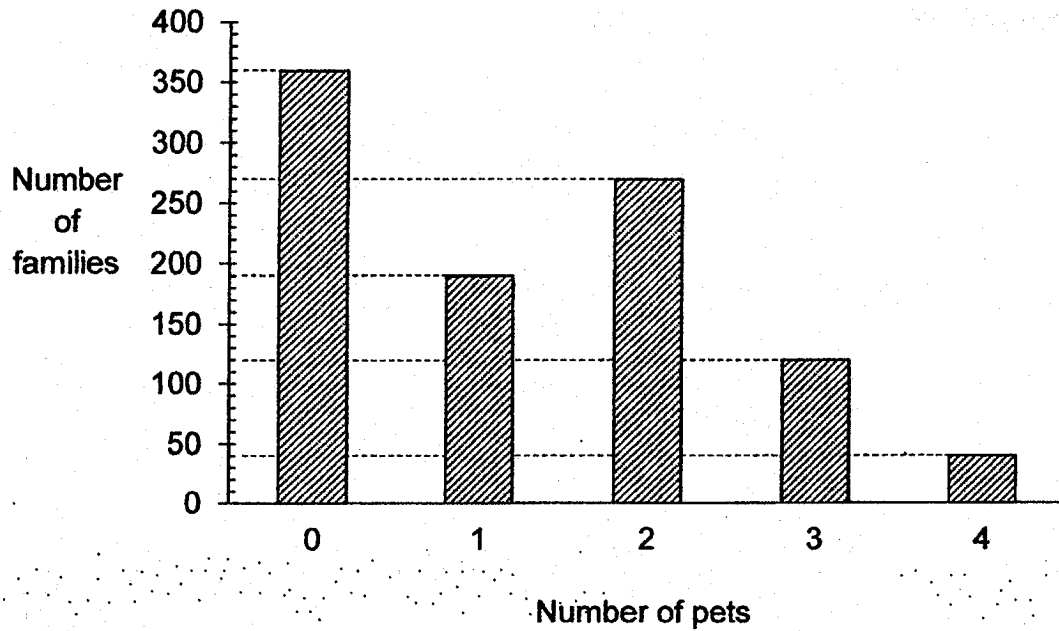
Ans : \_\_\_\_\_ [3]

7. At a bakery, 70 more beef pies than chicken pies were baked for the day. After 450 beef pies and 121 chicken pies were sold, there were  $\frac{5}{12}$  as many beef pies as chicken pies left. How many pies were baked altogether?

Ans : \_\_\_\_\_ [3]



8. The bar graph shows the number of pets owned by families in a neighbourhood.



- (a) How many pets are there in the neighbourhood altogether?
- (b) What fraction of the families who own pets, have at least 3 pets?  
Give your answer in the simplest form.

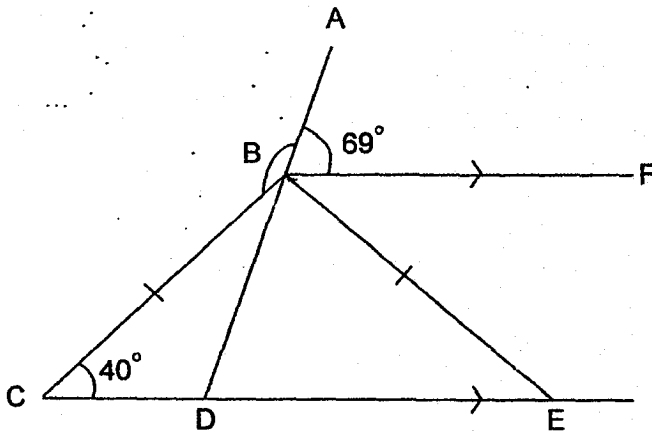
Ans : (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

9. Adam had 110 more marbles than Ben. After Adam lost 129 marbles to Ben in a game, Ben had 5 times as many marbles as Adam. How many marbles did Ben have at first?

Ans : \_\_\_\_\_ [3]

10. In the figure below,  $BF$  is parallel to  $CE$ .  $ABD$  is a straight line and  $BCE$  is an isosceles triangle. Find  $\angle ABC$ .



Ans : \_\_\_\_\_ [3]

11. Mrs Lee baked some cookies. She gave  $\frac{1}{5}$  of them to her neighbours and packed  $\frac{1}{3}$  of the remaining for her son's class party. When she baked another 594 cookies, she found that she now had twice the number of cookies she had baked at first. How many cookies did Mrs Lee give to her neighbours?

Ans : \_\_\_\_\_ [4]

12. At a funfair, the ratio of the number of adults to the number of children was 3 : 2. Among the children, the ratio of the number of girls to the number of boys was 4 : 5. Each adult ticket cost \$10 and each child ticket cost \$6. A total of \$21 168 was collected from the ticket sale.

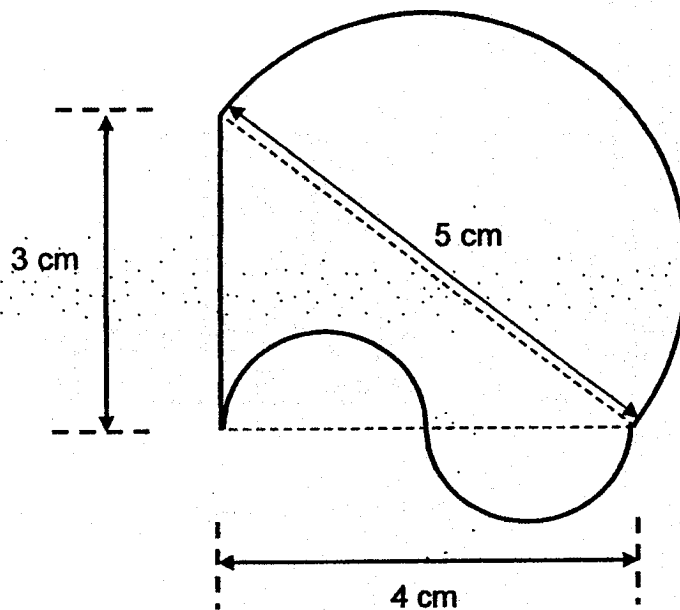
- (a) What percentage of the people visiting the funfair were girls?  
Leave your answer as a fraction in its simplest form.
- (b) How many boys visited the funfair?

Ans : (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

13. The figure below is formed by 1 large semicircle, 2 small identical semicircles and a straight line. The semicircles are formed along the edges of a right-angled triangle. The dimensions of the triangle are 3 cm, 4 cm and 5 cm.

- (a) Find the perimeter of the figure.  
 (b) Find the area of the figure, correct to 2 decimal places.  
 (Take  $\pi = 3.14$ )



Ans : (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

14. Figure A below shows a container of height 40 cm. It is made up of two portions. The top portion is a cuboid which has a square base of 4 cm and a height of 28 cm. The bottom portion is a cuboid with a rectangular base, measuring 25 cm by 8 cm. There are 2.656 litres of water inside the container.
- (a) How much more water is needed to fill the container?
- (b) The container, containing 2.656 litres of water, is toppled as shown in Figure B. Find the height of the water level in Figure B.

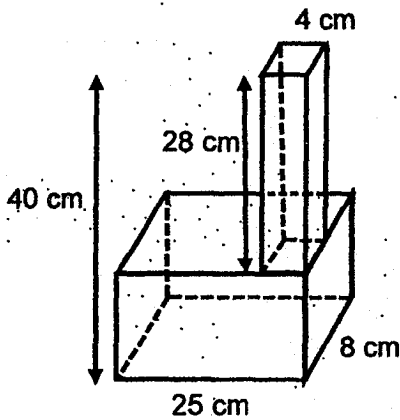


Figure A

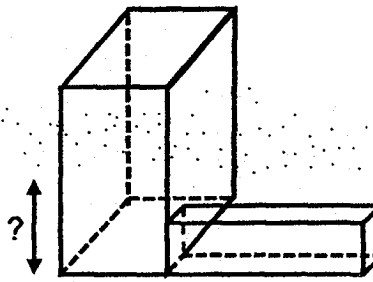


Figure B

Ans : (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

15. Tim and Ravi had \$6894. Tim gave 20% of his money to Ravi. Ravi then spent 40% of his money. They had \$5518 left in the end. How much money did Ravi have at first?

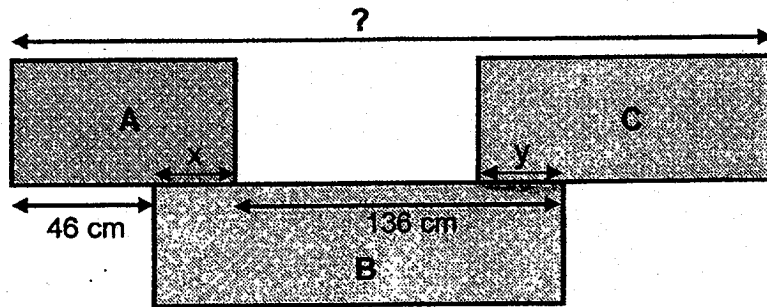
Ans : \_\_\_\_\_ [5]

16. Meena bought some pens, pencils, erasers and rulers with \$1718.45. The amount of money spent on pens was twice the amount spent on pencils. The amount of money spent on erasers was 3 times the amount spent on rulers. The amount of money spent on pens was \$213.20 more than the amount spent on rulers. How much money did Meena spend on rulers and erasers?

Ans : \_\_\_\_\_ [4]



17. Sammy drew a figure made up of 3 different rectangles with identical breadth as shown below. The length of rectangle A is  $\frac{5}{11}$  the length of rectangle B. The length of rectangle C is  $\frac{1}{2}$  of the total length of rectangle A and rectangle B. Length x is equal to length y. Find the length of the figure.



Ans : \_\_\_\_\_ [4]

18. A car was travelling from Town A to Town B. At the same time, a van was travelling from Town B towards Town A. After travelling for 120 km, the car went past Gem Market at 08 30. At 10 00, the van passed by the car at the midpoint between Gem Market and Town B. The van reached Gem Market at 12 30. Both the van and the car did not change their speeds for the entire journey. What was the difference between the speed of the car and the van?

Ans : \_\_\_\_\_ [4]

**End of Paper-**

**Please check your work carefully ☺**

Setters : Jacqueline Seto, Lim Li Shan, Seah Nam Sin

YEAR : 2017  
LEVEL : PRIMARY 6  
SCHOOL : RAFFLES GIRLS' PRIMARY  
SUBJECT : MATHEMATICS  
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 798 600 , 796 800 , 789 604 , 789 406

Q17 42

Q18 4.57

Q19 0.0875

Q20 1:35 am

Q21 48 cm<sup>3</sup>

Q22 14.5

Q23 12.56 cm<sup>2</sup>

Q24 4 : 3

Q25 \$13

Q26  $\frac{6}{5}$

Q27 \$120

Q28 56 cm

Q29  $590^\circ$

Q30 12 days

Paper 2

Q1 No. of boxes at first  $\rightarrow \frac{5n}{8}$

No. of boxes left  $\rightarrow \frac{5n}{8} - 3$

$$\Rightarrow \frac{5n - 24}{8}$$

Q2 Total vol.  $\rightarrow 250 \text{ ml} + 700 \text{ ml}$   
 $\Rightarrow \underline{950 \text{ ml}}$

Q3  $\angle BDC = 132^\circ - 90^\circ \rightarrow 42^\circ$   
 $\angle DBC = (180^\circ - 42^\circ) \div 2 \Rightarrow \underline{69^\circ}$

Q4 125 %

Q5  $\angle BAD = \angle BCD \rightarrow 110^\circ$   
 $\angle BCE = (180^\circ - 88^\circ) \div 2 \rightarrow 46^\circ$   
 $\angle ECD = 110^\circ - 46^\circ \Rightarrow \underline{64^\circ}$

Q6 Total folded in 36 min  $= (36 \div 4) + (36 \div 6) + (36 \div 9)$   
 $= 9 + 6 + 4$   
 $= 19$

No. of sets of 36 min  $= 285 \div 19$   
 $= 15$

Total mins  $= 15 \times 36$   
 $\Rightarrow \underline{540 \text{ min}}$

RAFFLES PRELIM

Q7

$$\begin{array}{r}
 1u + 70 - 450 = 5p \\
 1u - 380 = 5p \\
 1u - 121 = 12p \\
 12u - 4560 = 60p \\
 5u - 605 = 60p
 \end{array}$$

$\left. \begin{array}{l} \curvearrowright \\ \curvearrowleft \end{array} \right\} \times 12$ 

 $\left. \begin{array}{l} \curvearrowright \\ \curvearrowleft \end{array} \right\} \times 5$

$$12u - 4560 = 5u - 605$$

$$12u - 5u = 4560 - 605$$

$$7u \rightarrow 3955$$

$$1u \rightarrow \frac{3955}{7}$$

$$= 565$$

$$\begin{aligned}
 \text{At first} &\rightarrow 2u + 70 \\
 &= (2 \times 565) + 70 \\
 &\Rightarrow \underline{1200 \text{ pies}}
 \end{aligned}$$

Q8 (a) Total pets =  $(1 \times 190) + (2 \times 270) + (3 \times 120) + (40 \times 4)$   
 $\Rightarrow \underline{1250 \text{ pets}}$

(b) Total families with pets =  $190 + 270 + 120 + 40 \rightarrow 620$

Families with 3 or more =  $120 + 40 \rightarrow 160$

Fractions  $\rightarrow \frac{160}{620} \Rightarrow \frac{8}{31}$

Q9  $5u - 129 + 110 = 1u + 129$

$$5u - 19 = 1u + 129$$

$$5u - 1u = 129 + 19$$

$$4u \rightarrow 148$$

$$1u \rightarrow \frac{148}{4} = 37$$

$$(5u) \rightarrow 37 \times 5 = 185$$

$$\text{Ben at first} \rightarrow 185 - 129 \Rightarrow \underline{56 \text{ marbles}}$$

Q10  $\angle BCD = \angle BED = \angle EBF \rightarrow 40^\circ$   
 $\angle DBE = 180^\circ - (69^\circ + 40^\circ) \rightarrow 71^\circ$   
 $\angle CBE = 180^\circ - (40^\circ \times 2) \rightarrow 100^\circ$   
 $\angle CBD = 100^\circ - 71^\circ \rightarrow 29^\circ$   
 $\angle ABC = 180^\circ - 29^\circ \Rightarrow \underline{151^\circ}$

Q11 Neighbours  $\rightarrow \frac{1}{5}$  of total

Remaining  $\rightarrow 1 - \frac{1}{5}$

$= \frac{4}{5}$  of total

Son's class party  $\rightarrow \frac{1}{3}$  of R

Left  $\rightarrow \frac{2}{3}$  of R

$= \frac{2}{3} \times \frac{4}{5}$

$= \frac{8}{15}$  (of total)

At first  $\rightarrow \frac{15}{15}$

After baking more  $\rightarrow \frac{15}{15} \times 2 = \frac{30}{15}$

$\frac{30}{15} - \frac{8}{15} = \frac{22}{15}$

$\frac{22}{15} \rightarrow 594$

$\frac{1}{5} = \frac{3}{15}$

$\frac{3}{15} \rightarrow \frac{594}{22} \times 3 \Rightarrow \underline{81 \text{ cookies}}$

Q12 (a)

$$\begin{array}{rcl} & \frac{A}{3} & : \quad \frac{C}{2} \\ \times 9 \curvearrowright & & \\ & 27 & : \quad 18 \end{array}$$

Total (u)  $\rightarrow 27u + 18u = 45u$

% Girls  $\rightarrow \frac{8}{45} \times 100\% \Rightarrow 17\frac{7}{9}\%$

(b) (u) \$ collected from A  $\rightarrow 27u \times 10 = 270u$

(u) \$ collected from C  $\rightarrow 8u \times 6 = 48u$

(u) \$ collected from B  $\rightarrow 10u \times 6 = 60u$

Total  $\rightarrow 270u + 48u + 60u = 378u$

$378u \rightarrow 21168$

$1u \rightarrow \frac{21168}{378} = 56$

B (10u)  $\rightarrow 56 \times 10 \Rightarrow \underline{560 \text{ boys}}$

Q13 (a) Diameter of small semi  $\rightarrow 2$

Perimeter of 2 small semi  $\rightarrow \pi \times d$   
 $= 3.14 \times 2$   
 $= 6.28$

Perimeter of 1 big semi  $\rightarrow \pi \times d \times \frac{1}{2}$   
 $= 3.14 \times 5 \times \frac{1}{2}$   
 $= 7.85$

Perimeter of figure  $\rightarrow 7.85 + 6.28 + 3$   
 $\Rightarrow \underline{17.13 \text{ cm}}$

$$(b) \quad \Delta \rightarrow \frac{1}{2} \times 3 \times 4 = 6$$

$$5 \div 2 = 2.5$$

$$\text{Semi} \rightarrow \pi \times r \times r \times \frac{1}{2}$$

$$= 3.14 \times 2.5 \times 2.5 \times \frac{1}{2} = 9.8125$$

$$\approx 9.81$$

$$\text{Total area} \rightarrow 6 + 9.81 \Rightarrow \underline{15.81 \text{ cm}^2}$$

Q14 (a)

Height of bottom cuboid	$\rightarrow 40 - 28 = 12$
Water in bottom cuboid	$\rightarrow 12 \times 25 \times 8 = 2400 \text{ cm}^3$
Capacity of top	$\rightarrow 28 \times 4 \times 4 = 448 \text{ cm}^3$
Total capacity	$\rightarrow 2400 + 448 = 2848 \text{ cm}^3$
	$2.656 \ell = 2656 \text{ m}\ell$
Water to be filled	$\rightarrow 2848 - 2656 \Rightarrow \underline{192 \text{ cm}^3}$

(b)

$$2656 - 448 = 2208 \text{ (in bottom cuboid)}$$
$$\text{Base of bottom} \rightarrow 8 \times 12 = 96$$
$$2208 \div 96 \Rightarrow \underline{23 \text{ cm}}$$



RAFFLES PRELIM

Q15	T at first	→ 100u	
	R at first	→ 100p	
	100u + 100p	→ 6894	
	T gave	→ 20u	
	T left	→ 80u	
	R now	→ 100p + 20u	
	R spent	→ 40p + 8u	
	R left	→ 60p + 12u	
		80u + 60p + 12u = 5518	
		92u + 60p = 5518	
		<u>100u + 100p = 6894</u>	
x 5		460u + 300p = 27590	
		<u>300u + 300p = 20682</u>	x 3
		160u → 6908	

$$100u \rightarrow \frac{6908}{160} \times 100$$

$$= 4317.50$$

$$R \text{ at first (100p)} \rightarrow 6894 - 4317.50 \Rightarrow \underline{\underline{\$2576.50}}$$

Q16

R → 2u

E → 6u

Pen → 2u + 213.20

Pencil → 1u + 106.60

$$2u + 6u + 2u + 213.20 + 1u + 106.60 = 1718.45$$

$$11u + 319.80 = 1718.45$$

$$11u \rightarrow 1398.65$$

$$1u \rightarrow 127.15$$

$$2u + 6u = 8u$$

$$8u \rightarrow 127.15 \times 8 \Rightarrow \underline{\underline{\$1017.20}}$$

Q17  $11u - 5u = 6u$   
 $6u \rightarrow 136 - 46 = 90$

$1u \rightarrow \frac{90}{6} = 15$

Overlapped  $\rightarrow (15 \times 5) - 46 = 29$

A B C  $\rightarrow 24 \times 15 = 360$

Length  $\rightarrow 360 - 29 - 29 \Rightarrow \underline{302 \text{ cm}}$

Q18

	<u>Car</u>	:	<u>Van</u>
Time	3	:	5
Speed	5	:	3
Distance	5	:	3

$2u$  of distances  $\rightarrow 120 \text{ km}$

$3u \rightarrow \frac{120}{2} \times 3 = 180$

Van speed  $\rightarrow 180 \div 2\frac{1}{2} = 72 \text{ km/h}$

Difference  $\rightarrow (72 \div 3) \times 2 \Rightarrow \underline{48 \text{ km/h}}$

End



# RED SWASTIKA SCHOOL

## 2017 PRELIMINARY ASSESSMENT

### MATHEMATICS PAPER 1

Name : \_\_\_\_\_ (     )

Class : Primary 6 / \_\_\_\_\_

Date : 23 August 2017

### BOOKLET A

15 Questions

20 Marks

Duration of Paper 1 (Booklets A & B): 50 minutes

**Note:**

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
  - (a) Page 1 to Page 6
  - (b) Questions 1 to 15
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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

---

1 Round off 367.199 to the nearest hundredth.

- (1) 367.19
- (2) 367.20
- (3) 370.199
- (4) 400.199

2 Find the value of  $30 - 3 \times 4 + 42 \div 6$ .

- (1) 11
- (2) 25
- (3) 26
- (4) 35

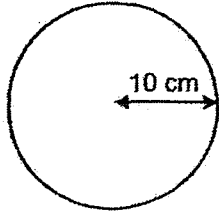
3 There are 30 marbles in Box A and 120 marbles in Box B. What is the ratio of the number of marbles in Box B to the total number of marbles in both boxes?

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

4 Which of the following is the same as 6.05 kg?

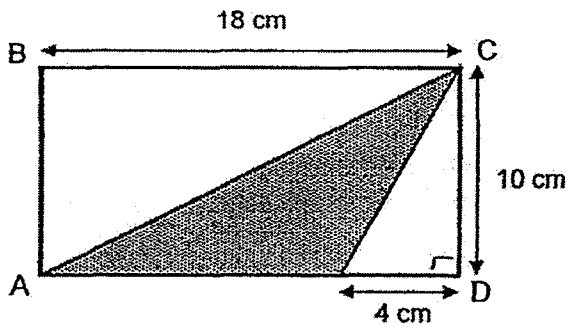
- (1) 605 g
- (2) 6005 g
- (3) 6050 g
- (4) 6500 g

- 5 The circle below has a radius of 10 cm. What is the circumference of the circle? (Take  $\pi = 3.14$ )



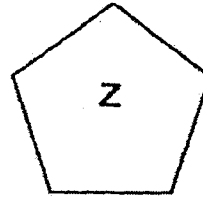
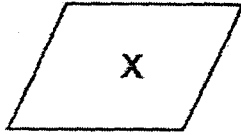
- (1) 31.4 cm
- (2) 62.8 cm
- (3) 314 cm
- (4) 1256 cm

- 6 In the figure below, ABCD is a rectangle. What is the area of the shaded part?



- (1) 20 cm<sup>2</sup>
- (2) 40 cm<sup>2</sup>
- (3) 70 cm<sup>2</sup>
- (4) 90 cm<sup>2</sup>

7 Which of the following shapes can be tessellated?



- (1) X and Y
- (2) X and Z
- (3) Y and Z
- (4) X, Y and Z

8 The table below shows the marks obtained by five students for their Mathematics test.

Name of students	Marks obtained
Ali	35
Brian	31
Chen Xi	42
Devi	45
Emma	27

How many student(s) obtained more than the average mark for the group?

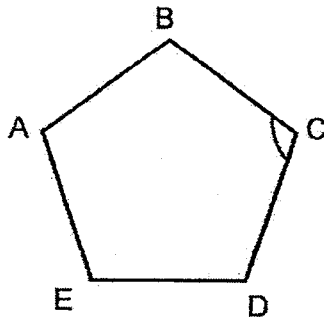
- (1) 1
- (2) 2
- (3) 3
- (4) 4

9  $\frac{9}{100} + 1\frac{2}{5} - \frac{7}{20} = \underline{\hspace{2cm}}$

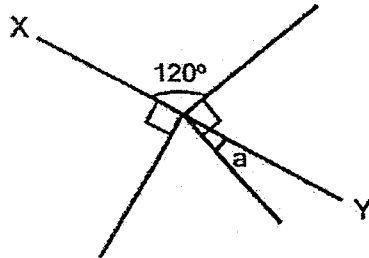
(Express your answer as a decimal.)

- (1) 0.78
- (2) 0.99
- (3) 1.14
- (4) 1.42

- 10 Figure ABCDE is a 5-sided figure which has all equal sides and angles. Find  $\angle BCD$ .



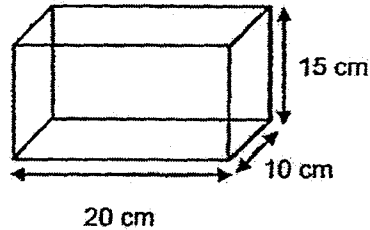
- (1)  $36^\circ$   
(2)  $72^\circ$   
(3)  $108^\circ$   
(4)  $144^\circ$
- 11 In the figure below, XY is a straight line. Find  $\angle a$ .



- (1)  $15^\circ$   
(2)  $30^\circ$   
(3)  $60^\circ$   
(4)  $90^\circ$
- 12 John drove from Town K to Town L at an average speed of 90 km/h. He left Town K at 8.45 a.m. and reached Town L at 9.15 a.m. Find the distance driven by John.
- (1) 45 km  
(2) 90 km  
(3) 135 km  
(4) 180 km

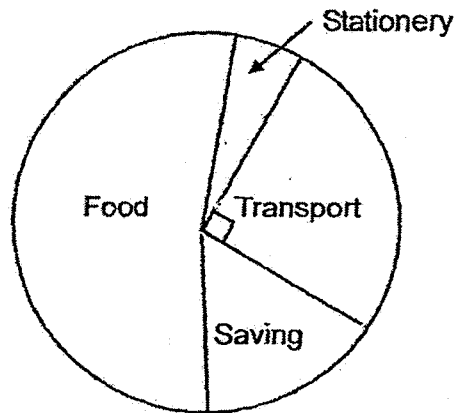


- 13 Tom used a piece of wire to form the outline of a cuboid 20 cm by 10 cm by 15 cm. What was the length of wire used by Tom?



- (1) 45 cm
- (2) 90 cm
- (3) 135 cm
- (4) 180 cm

- 14 The pie chart below shows how Jane spent her monthly allowance.



The amount she spent on transport was twice as much as the amount she saved. The amount she spent on stationery was half of the amount she saved. If she spent \$180 on food, how much did she save?

- (1) \$20
- (2) \$40
- (3) \$60
- (4) \$90

- 15 In a class,  $\frac{1}{2}$  of the students wear spectacles.  $\frac{1}{3}$  of those who wear spectacles are boys and  $\frac{1}{4}$  of those who do not wear spectacles are girls. What fraction of the students are girls?

- (1)  $\frac{11}{24}$   
(2)  $\frac{17}{24}$   
(3)  $\frac{19}{40}$   
(4)  $\frac{31}{40}$

# 2017 PRELIMINARY ASSESSMENT

## MATHEMATICS PAPER 1

Name : \_\_\_\_\_ ( )

Class : Primary 6 / \_\_\_\_\_

Date : 23 August 2017

### BOOKLET B

15 Questions  
20 Marks

In this booklet, you should have the following:

- (a) Page 7 to Page 12
- (b) Questions 16 to 30

### MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		20
TOTAL		40

Parent's Signature : \_\_\_\_\_



Questions 16 to 25 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)

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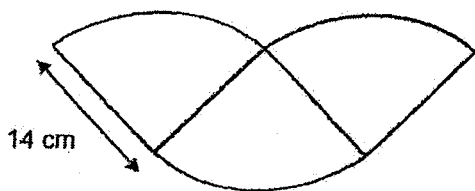
16 Evaluate  $4\frac{1}{4} - 1\frac{5}{6}$ .

(Express your answer as a mixed number in its simplest form.)

Ans: \_\_\_\_\_

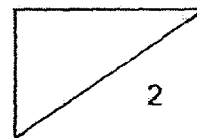
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- 17 The figure below is made up of 3 identical quadrants with radius of 14 cm. Find the area of the figure. (Take  $\pi = \frac{22}{7}$ )



Ans: \_\_\_\_\_ cm<sup>2</sup>

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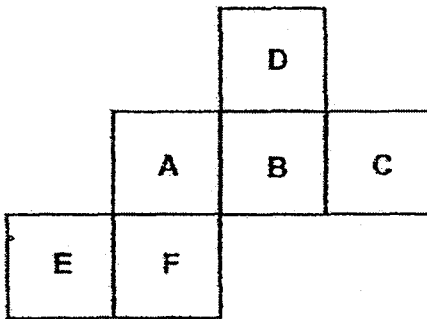


18 The area of each face of a cube is  $49 \text{ cm}^2$ . What is the volume of the cube?

Ans: \_\_\_\_\_  $\text{cm}^3$

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19 The figure below shows the net of a cube. The net is folded to make a cube. Which letter is opposite of the letter "F"?



Ans: \_\_\_\_\_

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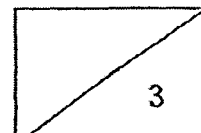
20 The table below shows the time taken by four girls in a swimming competition.

Name of girls	Time taken in seconds
Wendy	63
Jia Ling	66
Yoges	70
Zarina	68

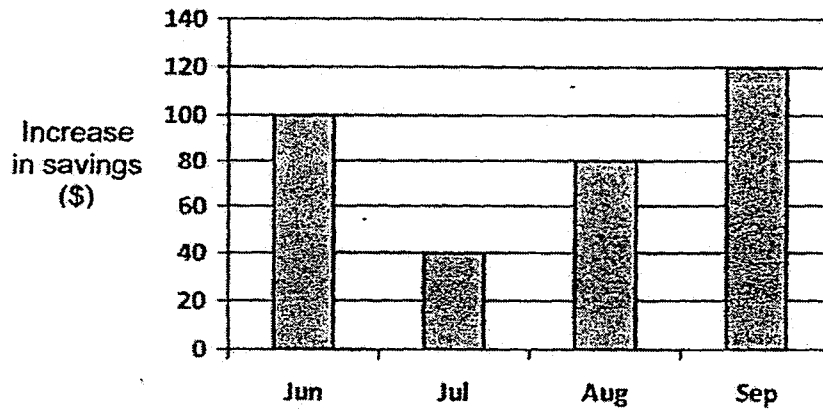
Who is the fastest swimmer?

Ans: \_\_\_\_\_

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Sarah records the increase in her savings at the end of every month. The bar graph below shows her records from June to September. She saved \$400 at the end of September. Use the information to answer Questions 21 and 22.



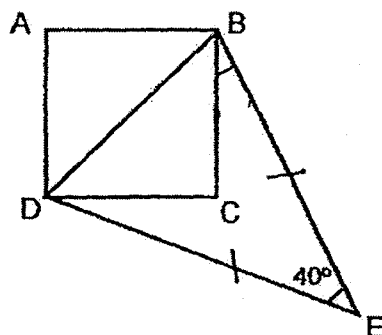
21 In which month was the least increase in savings recorded?

Ans: \_\_\_\_\_

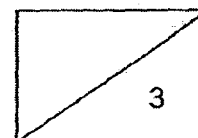
22 Find the amount of her savings at the end of August.

Ans: \$ \_\_\_\_\_

23 In the figure below, ABCD is a square and BE = DE. Find  $\angle CBE$ .



Ans: \_\_\_\_\_<sup>o</sup>



- 24 Town A and Town B were 360 km apart. At 7 a.m., a car started travelling from Town A to Town B at a constant speed of 80 km/h. At the same time, a lorry started travelling from Town B to Town A at a constant speed of 70 km/h. At what time did the car pass the lorry?

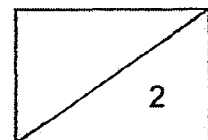
Ans: \_\_\_\_\_ a.m.

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- 25 Peter and Siti took part in a race. When Peter had completed the race in 20 minutes, Siti had only run  $\frac{5}{8}$  of the distance. Peter's average speed for the race was 60 m/min faster than Siti. What was the distance of the race?

Ans: \_\_\_\_\_ m

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Questions 26 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. (10 marks)

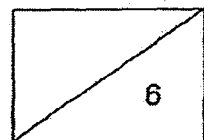
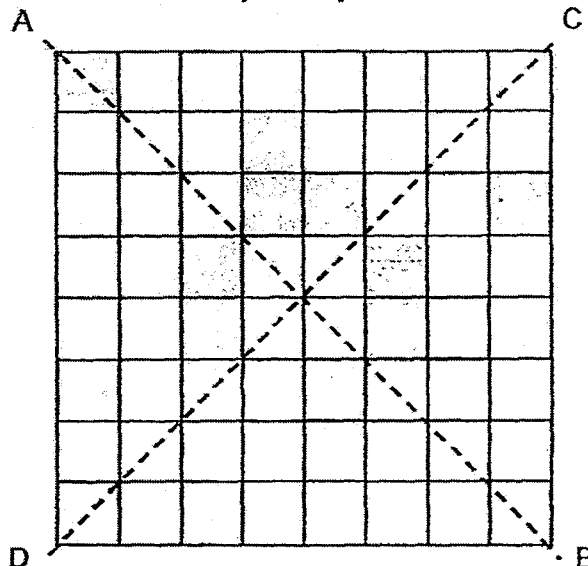
- 26 The digits 7, 2, 3, 9, 6 are arranged to form the greatest odd number. What is the difference between the values of the digit '9' and digit '2'?

Ans: \_\_\_\_\_

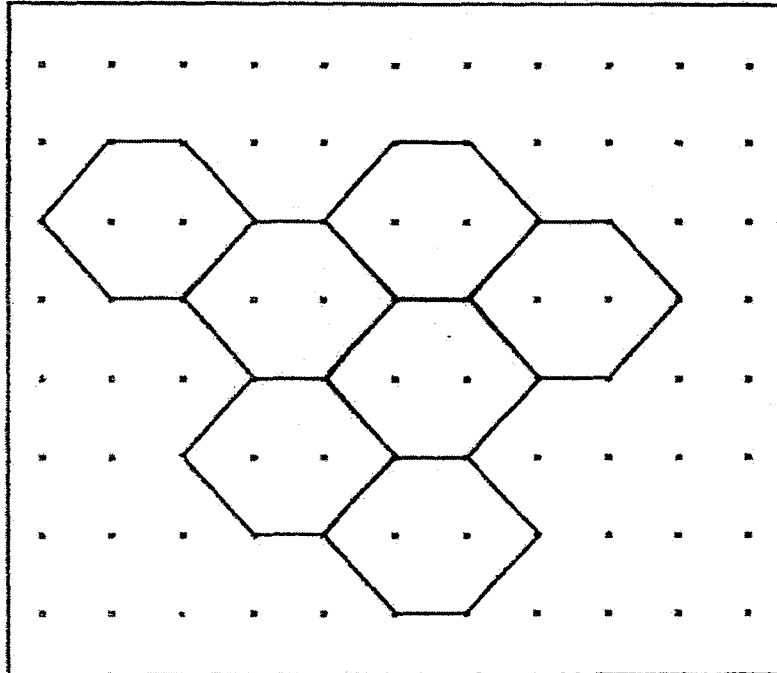
- 27 The mass of sugar in a bag is  $\frac{5}{6}$  kg. It is repacked into packets of  $\frac{2}{9}$  kg each. What is the maximum number of packets of sugar repacked?

Ans: \_\_\_\_\_

- 28 The figure below is made up of squares. Shade three more squares so that the figure has two lines of symmetry, AB and CD.



- 29 The pattern in the box below shows part of a tessellation. Extend the tessellation by drawing as many unit shapes as possible in the space provided within the box.

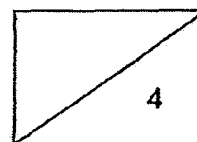


- 
- 30 Max had  $\$8y$  and Nick had  $\$6y$ . Max spent twice as much as Nick. If they had  $\$54$  left, how much did Nick spend in terms of  $y$ ?

Ans: \$ \_\_\_\_\_

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END OF PAPER



**2017 PRELIMINARY ASSESSMENT**  
**MATHEMATICS**  
**PAPER 2**

Name : \_\_\_\_\_ (      )

Class : Primary 6 /

Date : 23 August 2017

18 Questions

60 Marks

Duration of Paper 2: 1 hour 40 minutes

**Note:**

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this paper, you should have the following:  
(a) Page 1 to Page 14  
(b) Questions 1 to 18
6. You are allowed to use a calculator.

**MARKS**

	OBTAINED	POSSIBLE
PAPER 1		40
PAPER 2		60
TOTAL		100

Parent's Signature : \_\_\_\_\_

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. (10 marks)

---

- 1 Gopal had 40 more cards than Wen Jie at first. Wen Jie gave 10 of his cards to Gopal. Gopal now has 4 times as many cards as Wen Jie. How many cards did Wen Jie have in the end?

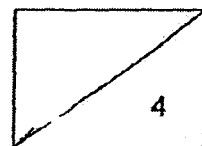
Ans : \_\_\_\_\_

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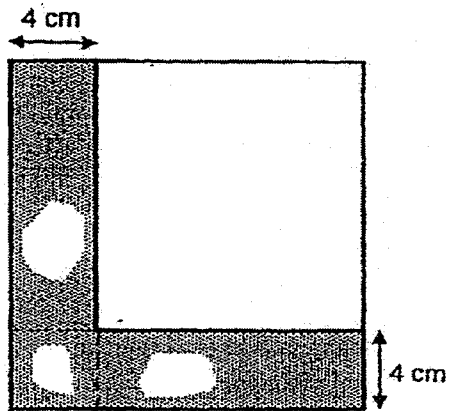
- 2 Anne wants to paste some square stickers of equal size onto a board measuring 32 cm by 24 cm. The board is to be completely covered with no overlapping or gaps between the stickers. What is the largest possible length of each side of the square sticker?

Ans : \_\_\_\_\_ cm

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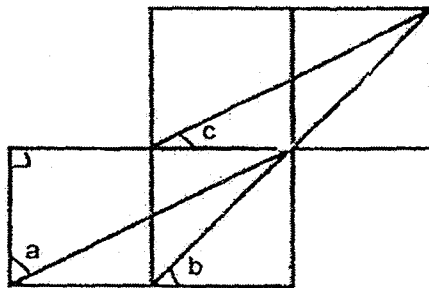


- 3 The figure below is made up of 2 overlapping squares. The area of the shaded part is  $112 \text{ cm}^2$ . What is the length of the smaller square?

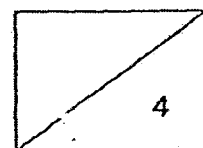


Ans : \_\_\_\_\_ cm

- 4 The figure below is made up of 4 identical squares. Find the sum of  $\angle a$ ,  $\angle b$  and  $\angle c$ .



Ans : \_\_\_\_\_ °



5 Keith, Lucy and Mandy shared to buy a Father's Day gift. Keith paid  $\$2n$ . Lucy paid twice as much as Keith and  $\$8$  more than Mandy.

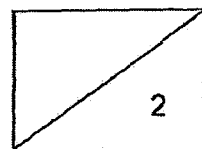
(a) Find the cost of the gift in terms of  $n$ .

(b) If  $n = 5$ , find the amount paid by Mandy.

Ans : (a) \$ \_\_\_\_\_ [1]

(b) \$ \_\_\_\_\_ [1]

---



For Questions 6 to 18, show your working 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. (50 marks)

---

- 6 At a candy shop, lollipops are sold at \$0.40 each or 4 lollipops for \$1.50. What is the most number of lollipops that Miss Chan can buy with \$13?

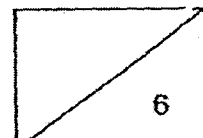
Ans : \_\_\_\_\_ [3]

---

- 7 Farah bought 144 red, green and blue beads to make a necklace. The number of green beads was twice the number of blue beads.  $\frac{1}{3}$  of the red beads was 18 more than the total number of green beads. How many green beads did Farah buy?

Ans : \_\_\_\_\_ [3]

---



- 8 In an event, the adults are divided equally into two groups. In Group A, the ratio of the number of men to the number of women is 4 : 1. In Group B, the ratio of the number of men to the number of women is 1 : 3. What is the ratio of the number of men in Group A to the number of women in Group B?

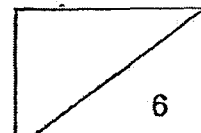
Ans : \_\_\_\_\_ [3]

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- 9 In 2016, 40% of the students in the school were girls and the rest were boys. There were 124 more boys than girls. In 2017, some boys transferred to another school, reducing the number of boys by 25%. What is the total number of students at the end of 2017?

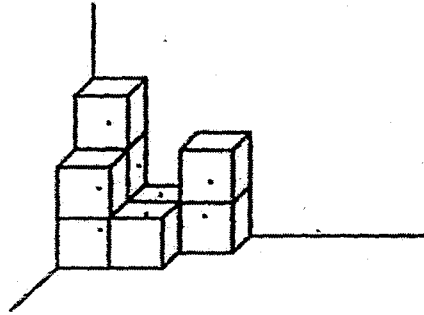
Ans : \_\_\_\_\_ [3]

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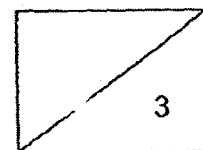


- 10 Susan arranges some 3-cm cubes as shown below. How many more such cubes will she need if she wants to form a bigger cube with a volume of  $3375 \text{ cm}^3$ ?

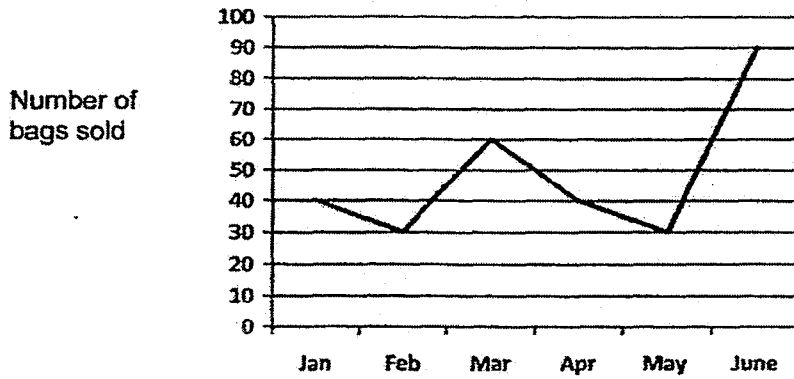


Ans : \_\_\_\_\_ [3]

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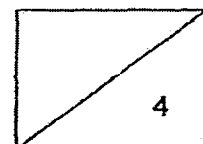
- 11 The line graph below shows the number of bags sold in a shop from January to June.



- (a) What was the percentage increase in the number of bags sold from May to June?
- (b) In order to meet the sales target of 700 bags per year, how many more bags must be sold in the second half of the year?

Ans : (a) \_\_\_\_\_ [2]

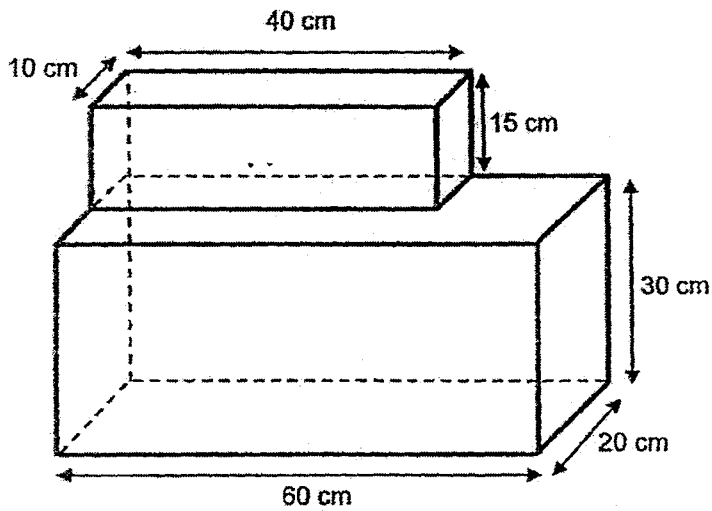
(b) \_\_\_\_\_ [2]



12 Miss Lim filled the container shown below with water to a height of 25 cm at first.

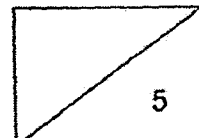
(a) What was the volume of water in the container at first?

(b) How much more water must Miss Lim add so that the amount of water in the end is  $\frac{3}{4}$  of the capacity of the container?

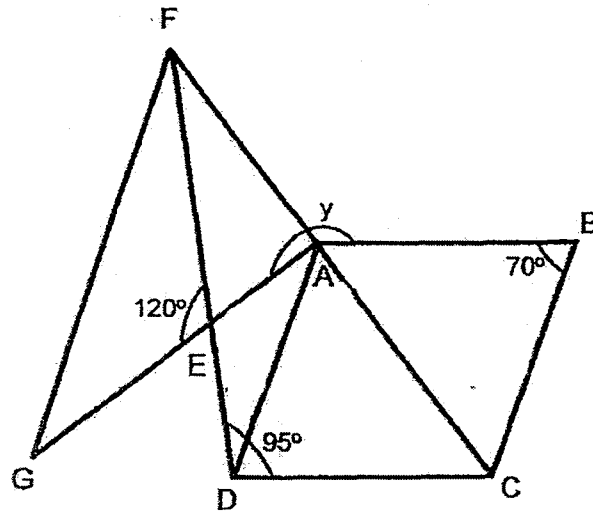


Ans : (a) \_\_\_\_\_ [2]

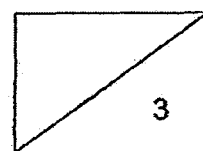
(b) \_\_\_\_\_ [3]



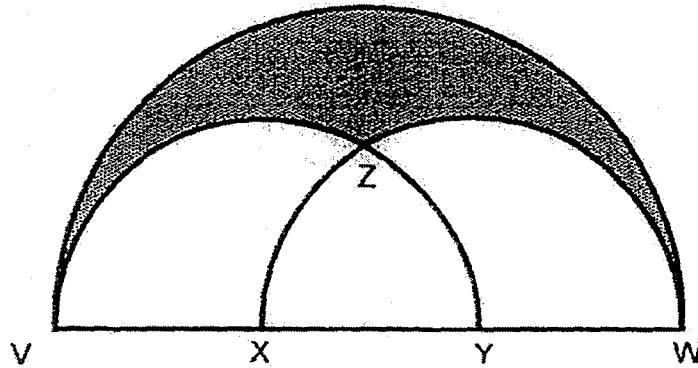
- 13 In the figure below, ABCD is a rhombus and CAF, AEG and DEF are straight lines. Find  $\angle y$ .



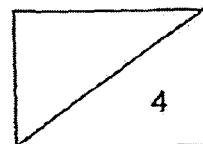
Ans : \_\_\_\_\_ [3]



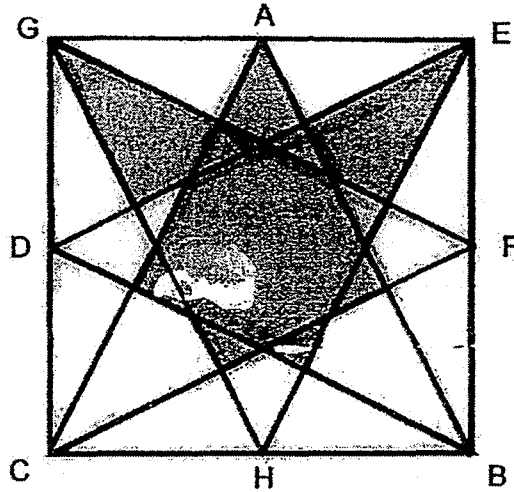
- 14 The figure below is made up of a big semi-circle and 2 identical smaller semi-circles. The length of  $VW$  is 18 cm and  $VX = XY = YW$ . The overlapping part of the 2 smaller semi-circles, Part  $XYZ$ , has a perimeter of 18.56 cm. Find the perimeter of the shaded part. (Take  $\pi = 3.14$ )



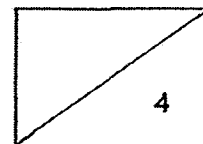
Ans : \_\_\_\_\_ [4]



- 15 The figure below is formed by drawing 4 identical isosceles triangles ABC, BDE, CFG and EGH inside a square of side 20 cm. A, D, F and H are mid-points of the sides of the square. Find the total area of the shaded parts.



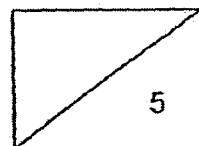
Ans : \_\_\_\_\_ [4]



- 16 Tom had 60 more stamps than Jerry at first. Tom gave  $\frac{1}{4}$  of his stamps to Jerry. Then Jerry gave  $\frac{2}{5}$  of his stamps to Tom. Tom's uncle also gave 87 stamps to Tom. In the end the number of stamps Tom had was twice the number of stamps he had at first.
- (a) Find the number of stamps Jerry gave to Tom.
- (b) Find the number of stamps Tom had in the end.

Ans : (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]



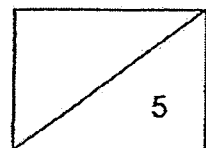
17 Daisy brought some money for shopping. She bought 3 dresses and 2 skirts for \$425 and had some money left. She wanted to buy another dress but she was short of \$50. If she decided to buy another skirt instead, she would still be short of \$15.

(a) How much did one dress cost?

(b) How much did Daisy bring for shopping?

Ans (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]



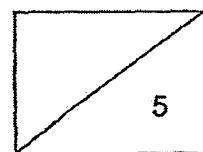


- 18 Mr Ong bought 120 sets of laptop. He sold 20% of them at the price he had paid for them. He sold  $\frac{3}{4}$  of the remaining laptops at \$850 each and the rest at a 12% discount off the selling price of \$850. In the end, Mr Ong earned \$3792. How much did Mr Ong pay for one laptop?

Ans : \_\_\_\_\_ [5]

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END OF PAPER





# ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : RED SWASTIKA

SUBJECT : MATHEMATICS

TERM : PRELIM

ORDER CALL :

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

16)  $25/12$

17)  $462 \text{ cm}^2$

26) 89980

18)  $343 \text{ cm}^3$

27) 3

19) D

20) Wendy

21) July

22) \$280

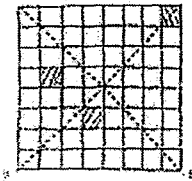
23)  $25^\circ$

24) 9:24 am

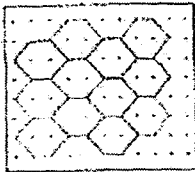
25) 3200m



Q28



Q29



Q30  $(\frac{14y-54}{3})$

Paper 2

Q1  $3u \rightarrow 40 + 10 + 10 = 60$   
 $1u \rightarrow 60 \div 3 \Rightarrow 20$

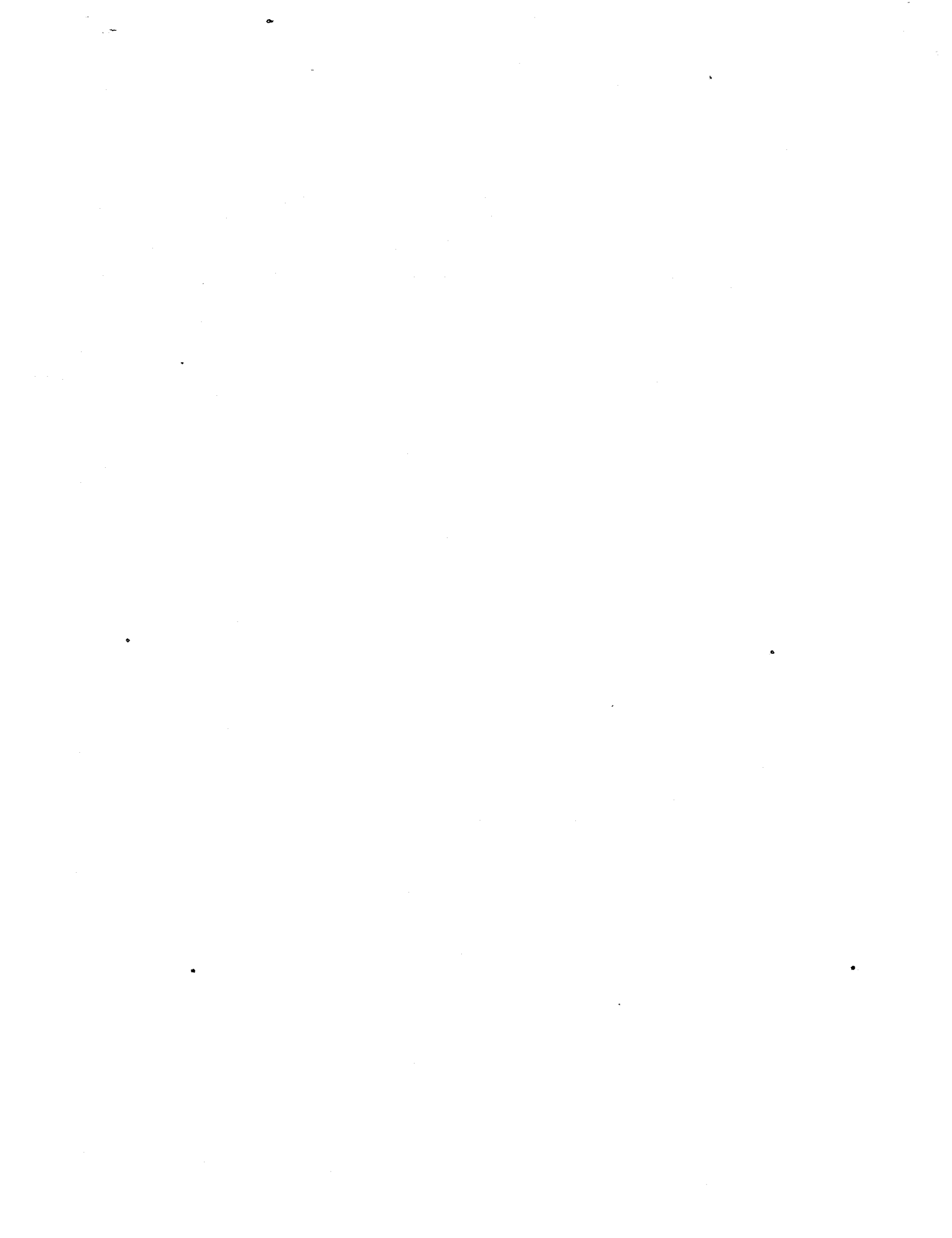
Q2  $32 \div 8 \rightarrow 4$   
 $32 \div 8 \rightarrow 3$   
Ans  $\Rightarrow$  8 cm

Q3  $A \rightarrow 4 \times 4 = 16$   
 $112 - 16 = 96$   
 $A/B \rightarrow 96 \div 2 = 48$   
Length  $\rightarrow 48 \div 4 \rightarrow$  12cm

Q4  $\angle b \rightarrow 45^\circ$   
 $\angle a + \angle c \rightarrow 90^\circ$   
Sum  $\rightarrow 90^\circ + 45^\circ \Rightarrow$  135°

Q5 (a) Lucy  $\rightarrow 4n$   
Mandy  $\rightarrow 4n - 8$   
Total  $\rightarrow 2n + 4n + 4n - 8 \Rightarrow$   $\$(10n-8)$

(b)  $4 \times 5 - 8 \Rightarrow$   $\$12$



Q6 Grps of 4  $\rightarrow 13 \div 1.50 \approx 8$   
 $8 \times 1.50 = 12$   
 $13 - 12 = 1$   
 $1 \div 0.40 \approx 2$   
 $8 \times 4 = 32$   
 Most no.  $\rightarrow 2 + 32 \Rightarrow$  34 lollipops

Q7  $9u \rightarrow 144 - (18 \times 3) = 90$   
 $1u \rightarrow 90 \div 9 = 10$   
 $G \rightarrow 2u \rightarrow 2 \times 10 = 20$  green beads

Q8  $M : W$        $M : W$   
 $(4 : 1) \times 4$      $(1 : 5) \times 5$   
 $= 16 : 4$          $= 5 : 15$

Ratio  $\Rightarrow$  16 : 15

Q9 2016 Diff  $\rightarrow (60 - 40)\% = 20\%$   
 $20\% \rightarrow 124$   
 $1\% \rightarrow 124 \div 20 = 6.2$   
 Girls  $\rightarrow 40\% \rightarrow 6.2 \times 40 = 248$   
 Boys  $\rightarrow 60\% \rightarrow 6.2 \times 60 = 372$   
 boys  $\rightarrow 75/100 \times 375 = 279$   
 $\rightarrow 279 + 248 \Rightarrow 527$  students

Q10 1 cube  $\rightarrow 3 \times 3 \times 3 = 27$   
 No. cubes needed  $\rightarrow 3375 \div 27 = 125$   
 More  $\rightarrow 125 - 9 \Rightarrow 116$  cubes

Q11 (a) Increase  $\rightarrow 90 - 30 = 60$   
 $\%$  increase  $\rightarrow \frac{60}{30} \times 100\% = 200\%$

(b)  $700 - 290 \Rightarrow 410$  bags





Q12 (a) Vol  $\rightarrow 60 \times 20 \times 25 \Rightarrow \underline{30\,000\text{ cm}^3}$

(b) Capacity  $\rightarrow (60 \times 20 \times 30) + (10 \times 40 \times 15) = 42\,000$

Vol. end  $\rightarrow \frac{3}{4} \times 42\,000 = 31\,500$

Diff  $\rightarrow 31\,500 - 30\,000 \Rightarrow \underline{1500\text{ ml}}$

Q13  $\angle EDA \rightarrow 95 - 70 = 25$

$\angle EAD \rightarrow 180 - 120 - 25 = 35$

$\angle DAB \rightarrow (360 - 70 - 70) \div 2 = 110$

$\angle y \rightarrow 360 - 110 - 35 \Rightarrow \underline{215^\circ}$

Q14  $VX \rightarrow 18 \div 3 = 6$

$ZX = ZY \rightarrow (18.56 - 6) \div 2 = 6.28$

$ZV = ZW \rightarrow (\frac{1}{2} \times 3.14 \times 12) - 6.28 = 12.56$

$VW \rightarrow \frac{1}{2} \times 3.14 \times 18 = 28.26$

$P \rightarrow 28.26 + 12.56 \rightarrow 53.38\text{ cm}$

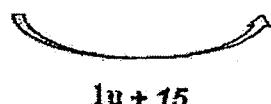
Q15 1 tri  $\rightarrow \frac{1}{2} \times 20 \times 20 = 200$

$20 \div 4 = 5$

$\frac{1}{2} \times 20 \times 5 = 50$

Shaded  $\rightarrow 200 - 50 \Rightarrow \underline{150\text{cm}^2}$

Q16 (a)  $\frac{\text{Tom}}{4u + 60}$        $\frac{\text{Jerry}}{4u}$



$1u + 15$

$\frac{1}{4} \times 60 = 15$

$60 - 15 \times 45$



<u>Tom</u>	<u>Jerry</u>
$3u + 45$	$5u + 15$



$$2u + 6$$

$$\frac{2}{5} \times 5u = 2u$$

$$\frac{2}{5} \times 15 = 6$$

End  $5u + 51 + 87$      $3u + 9$

So  $(4u + 60) \times 2 = 5u + 51 + 87$

$$8u + 120 = 5u + 138$$

$$8u - 5u = 138 - 120$$

$$3u = 18$$

$$1u \rightarrow 18 \div 3 = 6$$

$$2u + 6 = 2 \times 6 + 6 \rightarrow 18 \text{ stamps}$$

(b)  $5u + 51 + 87 = 5 \times 6 + 51 + 87 = 168 \text{ stamps}$

Q17 (a)  $50 - 15 = 35$

$$1D \rightarrow 1u + 35$$

$$1S \rightarrow 1u$$

$$35 \times 3 = 105$$

$$5u \rightarrow 425 - 105 = 320$$

$$1u \rightarrow 320 \div 5 = 64$$

$$\text{Cost of dress} \rightarrow 64 + 35 = \$99$$

(b)  $99 - 50 \rightarrow 49$

$$425 + 99 - 50 = \$474$$

Q18 Remaining laptops  $\rightarrow \frac{80}{100} \times 120 = 96$

$$\text{No. sold at } \$850 \rightarrow \frac{3}{4} \times 96 = 72$$

$$\text{No. sold (discount)} \rightarrow 96 - 72 = 24$$

$$\text{Discounted price} \rightarrow \frac{88}{100} \times 850 = 748$$

$$\text{Amt } (\$850 \text{ each}) \rightarrow 72 \times 850 = 61200$$

$$\text{Amt } (\$748) \rightarrow 24 \times 748 = 17925$$

$$\text{Total collected} \rightarrow 61200 + 17925 = 79125$$

$$\text{Cost of 96 laptops} \rightarrow 79125 - 3792 = 75360$$

$$1 \text{ laptop} \rightarrow 75360 \div 96 \Rightarrow \underline{\$785}$$





**Rosyth School  
Preliminary Examination 2017  
Primary 6 Mathematics**

Name: \_\_\_\_\_ Register No. \_\_\_\_\_

Class: Pr 6 - \_\_\_\_\_

Date: 22<sup>nd</sup> August 2017 Parent's Signature: \_\_\_\_\_

Total Time for Booklets A and B : 50 minutes

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**PAPER 1  
(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 printed 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 813.094 to the nearest hundredth.

- (1) 813.09
- (2) 810 10
- (3) 800
- (4) 813

2. Which of the following is eight hundred and eight thousand and eighteen in figures?

- (1) 808 018
- (2) 818 080
- (3) 880 018
- (4) 880 080

3. Find the value of  $11y - 5 + 7y$  when  $y = 4$ .

- (1) 11
- (2) 21
- (3) 67
- (4) 70

4. Which one of the following fractions is equal to  $4\frac{6}{7}$ ?

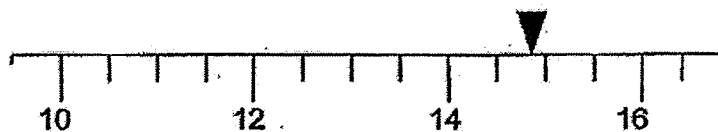
(1)  $\frac{17}{7}$

(2)  $\frac{24}{7}$

(3)  $\frac{34}{7}$

(4)  $\frac{46}{7}$

5. Which one of the following is the closest to the reading shown on the weighing scale below?



(1) 14.3 kg

(2) 14.8 kg

(3) 15.4 kg

(4) 15.7 kg

6. Six dollars was exchanged for 10¢ coins and 20¢ coins. There were equal number of 10¢ coins and 20¢ coins. How many 10¢ coins were there in the change?

(1) 10

(2) 15

(3) 20

(4) 30

7. Which one of the following fractions is smaller than  $\frac{1}{5}$  ?

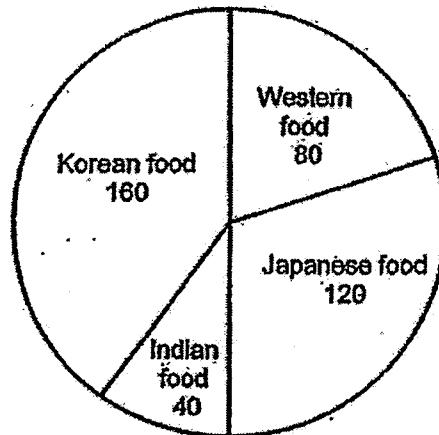
(1)  $\frac{4}{20}$

(2)  $\frac{5}{26}$

(3)  $\frac{6}{27}$

(4)  $\frac{7}{33}$

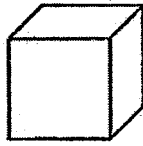
8. A group of 400 children was asked what their favourite food was. The pie chart shows their choices and the number of children who chose each type of food. Which type of food was chosen by 30% of the children?



- (1) Indian food
- (2) Western food
- (3) Japanese food
- (4) Korean food

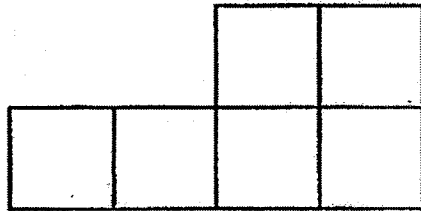


9.



Which of the following is a net of a cube?

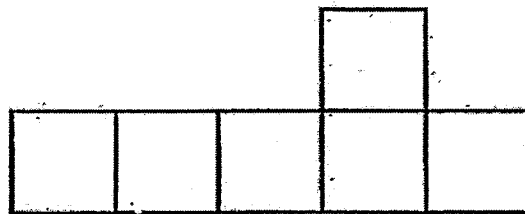
(1)



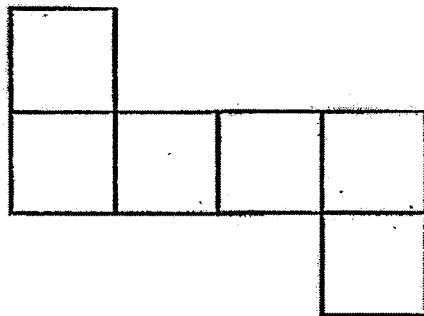
(2)



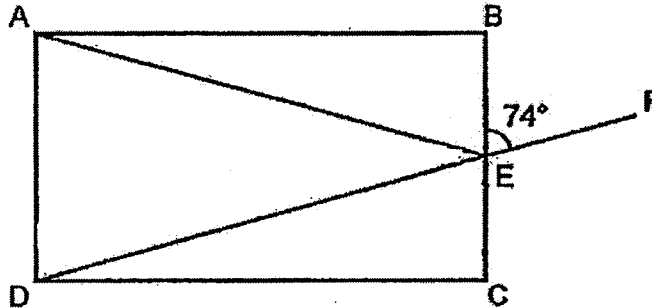
(3)



(4)

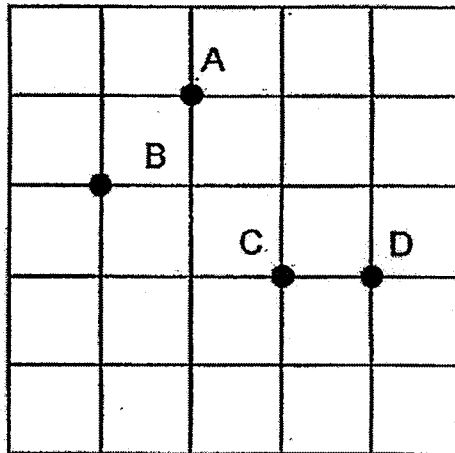


10. The figure below shows a rectangle ABCD. E is the mid-point of BC. DEF is a straight line. Find  $\angle AED$ .



- (1)  $16^\circ$   
(2)  $32^\circ$   
(3)  $74^\circ$   
(4)  $106^\circ$
11. There were 200 erasers in a box. Tom gave some erasers to his friend and had 182 erasers left. What was the percentage decrease in the number of erasers?
- (1) 9%  
(2) 18%  
(3) 36%  
(4) 91%
12. John could type 150 words every 3 minutes. How long will he take to type an article of 2000 words?
- (1)  $13\frac{1}{3}$  minutes  
(2) 40 minutes  
(3)  $133\frac{1}{3}$  minutes  
(4) 400 minutes

13. Which of the following statements is TRUE of the diagram shown below?

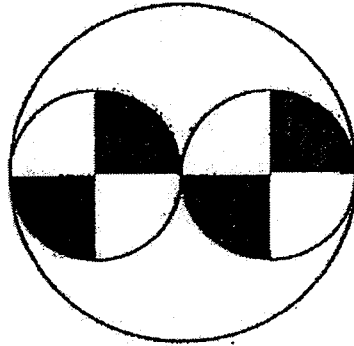


- (1) Town A is north-west of Town B.
- (2) Town C is north-east of Town B.
- (3) Town D is south-west of Town A.
- (4) Town A is north-west of Town D.

14. At first, Kenny had 20 more postcards than Shan. Then, Shan gave 14 of his postcards to Kenny. Now, Kenny has 3 times as many postcards as Shan. How many postcards did Shan have at first?

- (1) 17
- (2) 24
- (3) 31
- (4) 38

15. The figure below is made up of 2 small identical circles and a big circle. The radius of the big circle is twice the radius of one small circle. Each small circle is divided into 4 quadrants. What fraction of the big circle is shaded?



- (1)  $\frac{1}{16}$   
(2)  $\frac{1}{8}$   
(3)  $\frac{1}{4}$   
(4)  $\frac{1}{2}$

**Preliminary Examination 2017  
Primary 6 Mathematics**

Name: \_\_\_\_\_ Register No. \_\_\_\_\_

Class: Pr 6 - \_\_\_\_\_

Date: 22<sup>nd</sup> August 2017 Parent's Signature: \_\_\_\_\_

Total Time for Booklets A and B : 50 minutes

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**PAPER 1  
(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. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)		



\* This booklet consists of 9 printed pages (including this cover page)

This paper is not to be reproduced in part or whole without the permission of the Principal.

Questions 16 to 25 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. (10 marks)

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Do not write  
in this space

16. Find the smallest common multiple of 4 and 6.

Ans: \_\_\_\_\_

17. Find the value of  $22.59 + 30$ .

Ans: \_\_\_\_\_

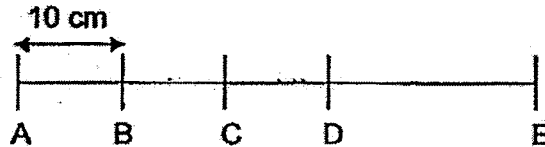
18. Express 9.014 as a mixed number in its simplest form.

Ans: \_\_\_\_\_

19. There were 300 people at a park. 45% of the people were women. There were 120 children and the rest were men. How many men were there at the park?

Ans: \_\_\_\_\_

20. In the figure below, AB is 10 cm. B is the midpoint of AC, C is the midpoint of BD and D is the midpoint of BE. What is the length of AE?



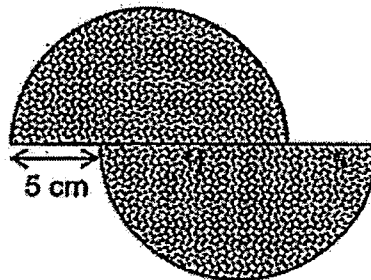
Ans: \_\_\_\_\_ cm

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in this space

21. Philip was born on 9 August 1986. Oliver was born on 9 August 2000. In which year would Philip be twice as old as Oliver?

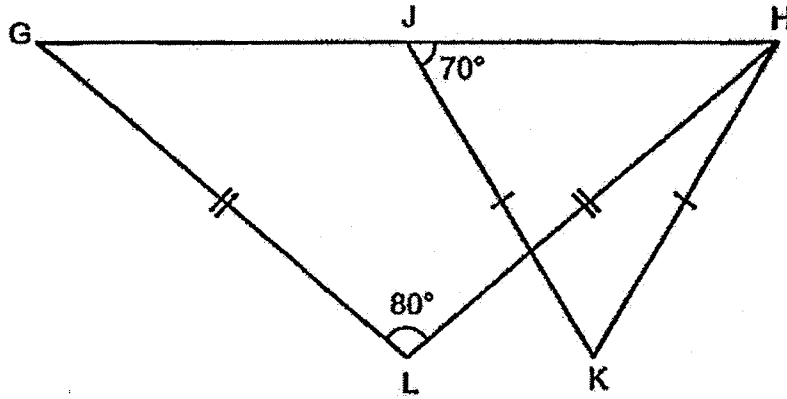
Ans: \_\_\_\_\_

22. The figure below is made up of two identical semicircles. The radius of the semicircle is 7 cm. Find the perimeter of the figure. (Take  $\pi = \frac{22}{7}$ ).



Ans: \_\_\_\_\_ cm

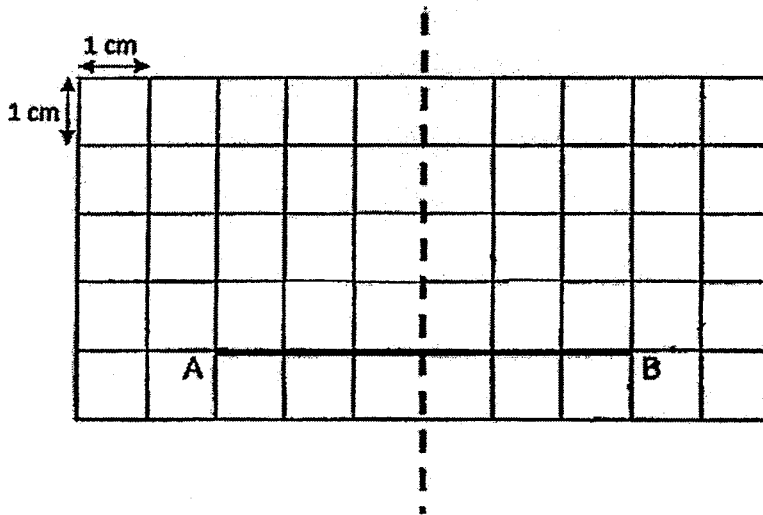
23. The figure below is made up of two triangles  $GHL$  and  $JHK$  where  $GL = HL$  and  $JK = HK$ . Given that  $\angle GLH = 80^\circ$  and  $\angle HJK = 70^\circ$ , find  $\angle LHK$ .



Ans: \_\_\_\_\_

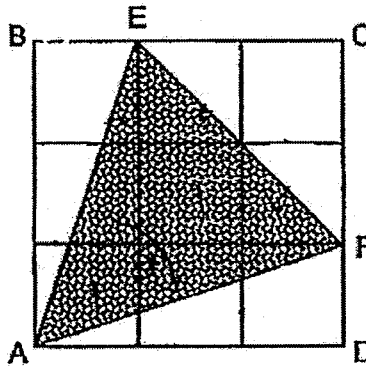
Do not write  
in this space

24. The grid shown below is made up of 1-cm squares. Draw a symmetrical triangle  $ABC$  that has an area of  $6 \text{ cm}^2$  using the given line of symmetry.





25. ABCD is a square whose area is  $27 \text{ cm}^2$ . The square is divided into 9 smaller squares of equal area. What is the area of triangle AEF?



Do not write  
in this space

Ans: \_\_\_\_\_  $\text{cm}^2$

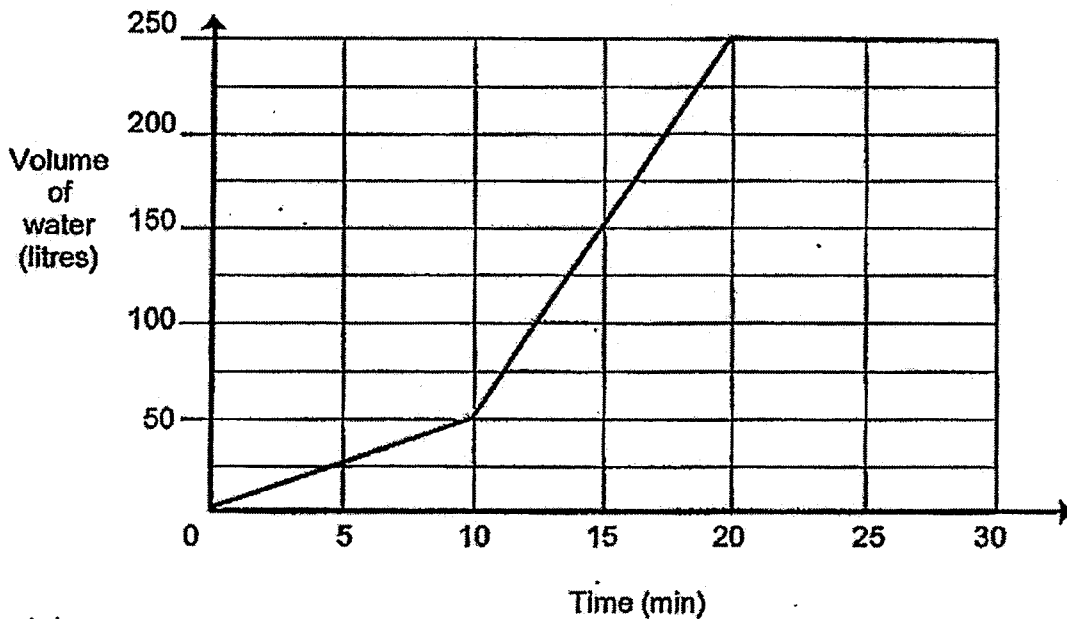


Questions 26 to 30 carry 2 marks each. Show your workings clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. *All diagrams in this paper are not drawn to scale unless stated otherwise.* (10 marks)

Do not write  
in this space

26. Annie filled a tank with water using two taps. First, she turned on Tap A. After 10 minutes, she also turned on Tap B. Both taps were turned off when the volume of water in the tank was 250 litres.

The graph below shows the amount of water in the tank during 30 minutes.



In one minute, how many litres of water flowed from Tap B?

Ans: \_\_\_\_\_ l



27. Erasers are sold in packets of  $m$  erasers. Each packet is sold at \$4. Jon has \$39. How many erasers can he buy at most?

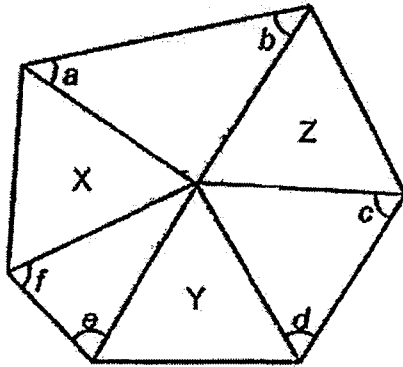
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in this space

Ans: \_\_\_\_\_

28. After a discount of 20%, a shop is selling a toaster for \$64. A further \$10 discount is given when it is bought online. What was the total percentage discount given when the toaster is bought online?

Ans: \_\_\_\_\_ %

29.



The hexagon (6-sided) figure above is made up of 3 identical equilateral triangles X, Y and Z. Find the sum of  $\angle a$ ,  $\angle b$ ,  $\angle c$ ,  $\angle d$ ,  $\angle e$  and  $\angle f$ .

Do not write  
in this space

Ans: \_\_\_\_\_ °



30. A total of 90 red and yellow flags are lined along a jogging track. There are at least 4 red flags between any 2 yellow flags. What is the largest possible number of yellow flags along the jogging track?

Do not write  
in this space

Ans: \_\_\_\_\_

End of paper. Have you checked your work?



**Preliminary Examination 2017  
Primary 6 Mathematics**

Name: \_\_\_\_\_ Register No. \_\_\_\_\_

Class: Pr 6 - \_\_\_\_\_

Date: 22<sup>nd</sup> August 2017 Parent's Signature: \_\_\_\_\_

Time: 1 hour 40 minutes

**PAPER 2**

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 18	50	



Section	Maximum Mark	Marks Obtained
Paper 1	40	
Paper 2	60	
Total	100	



**\* This booklet consists of 18 printed pages (including this cover page)**

This paper is not to be reproduced in part or whole without the permission of the Principal.

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)

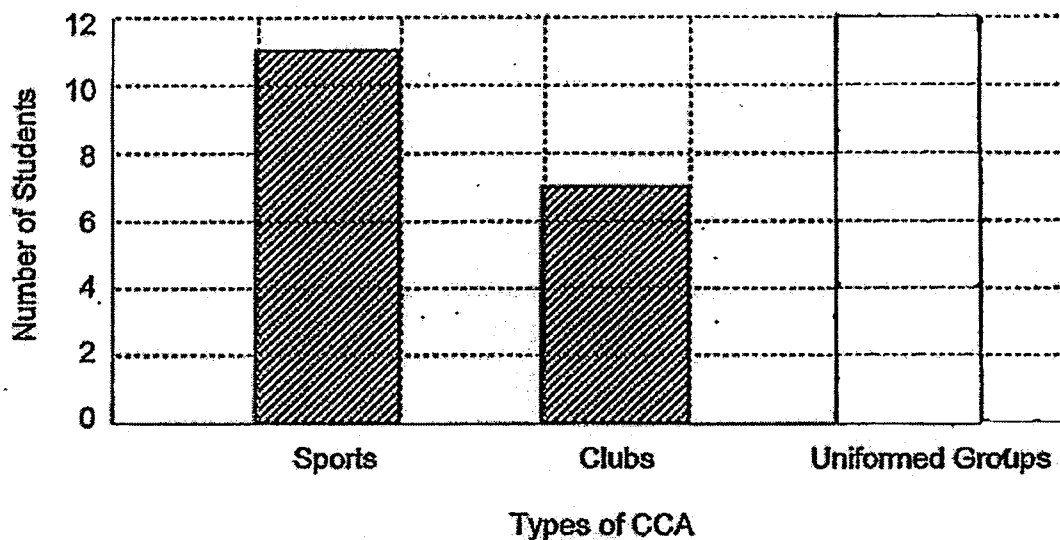
Do not write in this space

*All diagrams in this paper are not drawn to scale unless stated otherwise.*

1. Students in a class were grouped according to the types of CCA they had enrolled in.

Types of CCA	Sports	Clubs	Uniformed Groups
Number of students	11	7	?

Given that the number of students who enrolled in uniformed groups was 40% of the students in the class, complete the bar graph for Uniformed Groups.





**Preliminary Examination 2017  
Primary 6 Mathematics**

Name: \_\_\_\_\_ Register No. \_\_\_\_\_

Class: Pr 6 - \_\_\_\_\_

Date: 22<sup>nd</sup> August 2017 Parent's Signature: \_\_\_\_\_

Time: 1 hour 40 minutes

**PAPER 2**

Instructions to Pupils:

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Do not write in this space

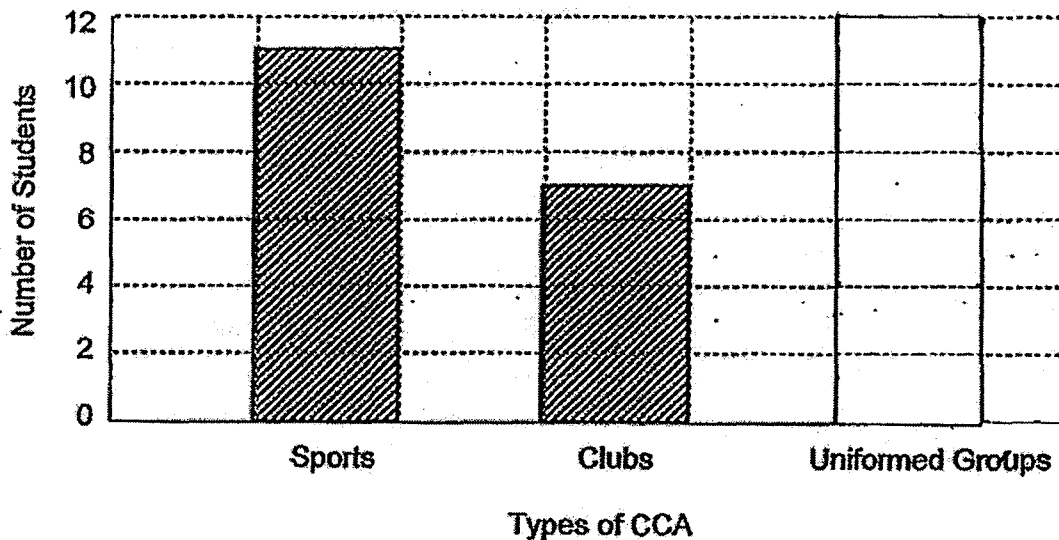
(10 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

1. Students in a class were grouped according to the types of CCA they had enrolled in.

Types of CCA	Sports	Clubs	Uniformed Groups
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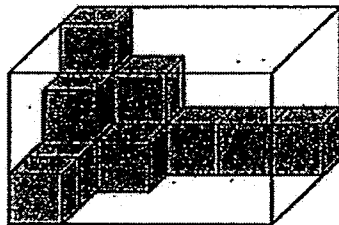


2. The ratio of the number of watches to the number of caps at a stall was 8 : 11. When 88 caps were sold, the ratio of the number of watches to the number of caps became 12 : 11. What was the number of watches at the stall?

Do not write  
in this space

Ans: \_\_\_\_\_

3. The figure below shows a rectangular glass box filled partly with unit cubes. How many more cubes are needed to fill this box completely with unit cubes?



Ans: \_\_\_\_\_

4. A class of 30 students were playing badminton in school. There were 4 badminton courts and the students took turns to play. They played from 8.00 a.m. to 9.30 a.m. At any time, 4 of them played at each court while the rest watched. If each student in the class had the same amount of playing time, how many minutes did each of them play?

Do not write  
in this space

Ans: \_\_\_\_\_ min



5. Wei Kang wrote his test scores for English, Chinese, Math and Science on a piece of paper. The maximum score for each test was 100. His average score for the 4 tests was 80. He accidentally tore part of the paper. What could be the largest difference between his Math and Science test scores?

Do not write  
in this space

English	Chinese	Math	Science
80	72	9	8

Ans: \_\_\_\_\_



For Questions 6 to 18, 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.

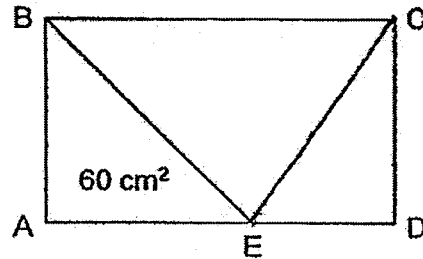
Do not write  
in this space

*All diagrams in this paper are not drawn to scale unless stated otherwise.*  
(50 marks)

- 
6. The average of 26 numbers is 45. When 14 more numbers are added, the average becomes 52. What is the average of the 14 new numbers?

Ans: \_\_\_\_\_ [3]

7. The figure below is a rectangle ABCD. The ratio of  $AE : ED = 3 : 2$ . The area of triangle ABE is  $60 \text{ cm}^2$ . Find the area of rectangle ABCD.



Do not write  
in this space

Ans: \_\_\_\_\_ [3]



8. Molly and Alan had a total of \$160 on Monday. After Alan received \$5 from his mother and Molly spent \$20 on a book, Molly had \$38 more than Alan. How much did Molly have at first?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]





9. Efron is 30 years younger than Danny. The ratio of Danny's age to Efron's age now is  $8 : 3$ . In how many years' time will the ratio of Danny's age to Efron's age be  $5 : 3$ ?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]



10. There were 64 more buttons in box A than box B at first. Ken then added some more buttons in box A. For every 1 button he added to box A, he removed 2 buttons from box B. The number of buttons in box B became 28 fewer than before. In the end, the ratio of the total number of buttons in both boxes to the number of buttons left in box B was 4 : 1. How many buttons were in box A at first?

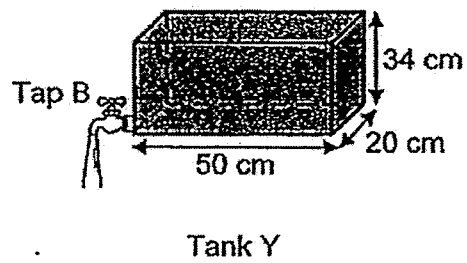
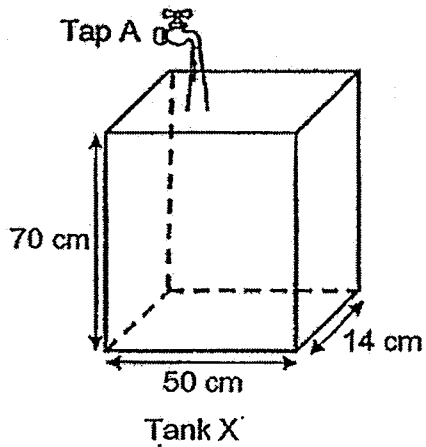
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Ans: \_\_\_\_\_ [3]

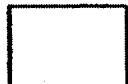


11. Tank X was empty. Tank Y was filled with water to the brim. Then, Tap A was turned on to fill Tank X and Tap B was turned on to drain water from Tank Y. Both taps were turned on at the same time with water flowing at the same rate of 2.8 litres per minute. How long did it take for the height of water to be the same in both tanks?

Do not write  
in this space



Ans: \_\_\_\_\_ [4]



12. Mrs Lee had used some dark and white chocolate chips for baking cookies. She used an equal amount of dark and white chocolate chips. She had  $\frac{2}{7}$

of the dark chocolate chips and  $\frac{3}{5}$  of the white chocolate chips left.

- (a) What fraction of the chocolate chips was used?  
(b) If there were 304 g of the chocolate chips left, what was the mass of chocolate chips at first?

Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]

Ans: (b) \_\_\_\_\_ [2]



13. There was a total of 748 oranges and apples at a fruit stall in the morning. By afternoon, the number of oranges sold was thrice the number of apples sold. The number of apples left was twice the number of oranges left. There were 22 more apples left than the apples sold.

(a) How many apples were sold?

(b) How many oranges were there in the morning?

Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]

Ans: (b) \_\_\_\_\_ [2]



14. Cheryl and Milton left for the park from their respective homes at the same time. Milton travelled 120 km at an average speed of 90 km/h and reached the park first. Cheryl travelled at an average speed of 80 km/h and reached the park 55 minutes later than Milton. If Cheryl wanted to reach the park the same time as Milton, what would be her new speed?

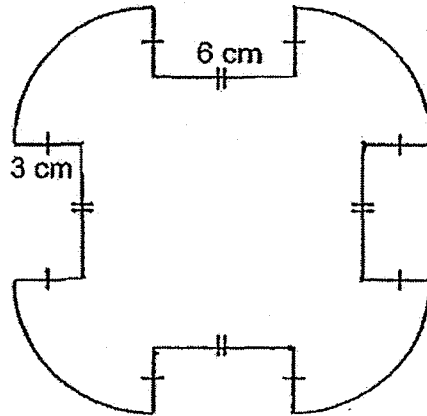
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in this space

Ans: \_\_\_\_\_ [4]



15. The figure below is made up of four quarter circles and straight lines. All corner angles are at right angles. Each number represents the length of the straight line in centimetres. The radius of each quarter circle is 6 cm.
- (a) What is the area of the figure? Leave your answer in terms of  $\pi$ .
- (b) What is the perimeter of the figure? Leave your answer in terms of  $\pi$ .

Do not write  
in this space



Ans: (a) \_\_\_\_\_ [3]

Ans: (b) \_\_\_\_\_ [2]



16. There were some pens in boxes A, B and C. Box A had 25% more pens than Box B. Box C had 45 more pens than Box A. 40% of pens from each box were taken to pack into 73 packets. All the packets had an equal number of pens. A total of 288 pens from Boxes B and C were taken for the packing. How many pens were there in each packet?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]





17. A bakery made some buns for charity.  $\frac{3}{5}$  of them were chicken buns and the rest were tuna buns.  $\frac{7}{8}$  of the chicken buns and 600 of the tuna buns were eaten.  $\frac{7}{40}$  of all the buns were left.
- (a) How many buns were made?  
(b) How many tuna buns were left?

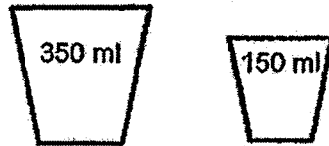
Do not write  
in this space.

Ans: (a) \_\_\_\_\_ [3]

Ans: (b) \_\_\_\_\_ [2]



18. Mrs Gopal prepared some juice for a party. She poured half the amount of juice in big cups and the other half of the amount of juice in small cups as shown in the diagram below.



After filling the big cups and small cups to the brim with the juice, she counted that there were 48 more small cups than big cups. How much juice did Mrs Gopal prepare for the party? Give your answer in litres.

Do not write  
in this space

Ans: \_\_\_\_\_ [5]



End of Paper

# ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : ROSYTH

SUBJECT : MATHEMATICS

TERM : PRELIM

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

16)12

17)0.753

18) $97/500$

19)45

20)50cm

21)2014

22)54cm

23) $20^\circ$

24)

25)12cm<sup>2</sup>

26)15L

27)9m

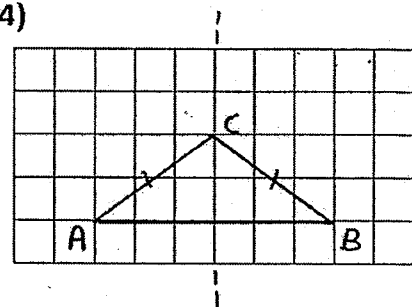
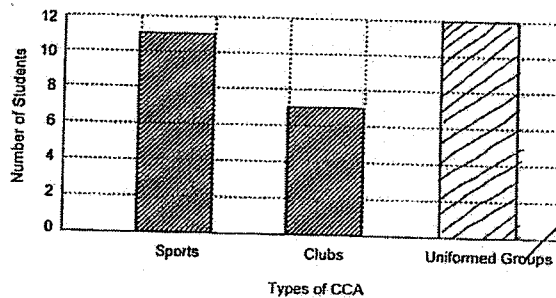
28)32.5%

29) $360^\circ$

30)18

## PAPER 2

1)



$$2) 8 : 11 = 24u : 33u$$

$$12 : 11 = 24u : 22u$$

$$33u - 22u = 11u \rightarrow 88$$

$$1u \rightarrow 8$$

$$24u \rightarrow 192$$

$$3) 5 \times 4 \times 3 = 60$$

$$60 - 13 = 47$$

4) time each student could play

$$= 90 \times 16 \div 30$$

$$= 1440 \div 30$$

$$= 48 \text{ minutes}$$

$$5) 80 + 72 + 90 + 8 = 250$$

$$80 \times 4 = 320$$

$$320 - 250 = 70 \rightarrow 7 \text{ tens ones}$$

$$\text{Math} \rightarrow 90$$

$$\text{Sci} \rightarrow 78$$

$$90 - 78 = 12$$

$$6) 26 \times 45 = 1170$$

$$26 + 14 = 40$$

$$40 \times 52 = 2080$$

$$2080 - 1170 = 910$$

$$910 \div 14 = 65$$

7) Add a new point F such that  $BF : FC = 3 : 2$

$$\triangle BFE \rightarrow 60\text{cm}^2$$

$$\triangle FCE \rightarrow 60 \div 3 \times 2 = 40\text{cm}^2 = \triangle CED$$

$$\text{Area of ABCD} \rightarrow (60+40) \times 2 = 200\text{cm}^2$$

8)  $\$M + \$A = \$160$

$$\$u + \$38 + \$u = \$160 - \$20 + \$5 = \$145$$

$$\$2u + \$38 = \$145$$

$$\$2u \rightarrow \$107$$

$$\$1u \rightarrow \$53.50$$

$$\$53.50 + \$38 = \$91.50$$

$$\$M \rightarrow \$91.50 + \$20 = \$111.50$$

9) Present

$$D : E$$

$$8u \quad 3u$$

$$8u - 3u = 5u \rightarrow 30$$

$$1u \rightarrow 6$$

$$3u \rightarrow 18$$

$$8u \rightarrow 48$$

X years later,

$$D : E$$

$$5p \quad 3p$$

$$5p - 3p = 2p \rightarrow 30$$

$$1p \rightarrow 15$$

$$3p \rightarrow 45$$

$$5p \rightarrow 75$$

$$X \rightarrow 45 - 18 = 27$$

$$10)(u-28) \times 3 = 1u + 64 + 14$$

$$3u - 84 = 1u + 78$$

$$2u \rightarrow 84 + 78 = 162$$

$$1u \rightarrow 81$$

$$81 + 64 = 145$$

11) Every min

$$2800 \div 50 \div 14 = 4$$

Tank X gains a height of 4cm

$$2800 \div 50 \div 20 = 2.8$$

Tank Y loses a height of 2.8cm

$$4 + 2.8 = 6.8$$

$$34 \div 6.8 = 5 \text{ min}$$

12)a)  $5u = 2p$

$$5p = 12.5u$$

$$12.5u + 7u = 19.5u$$

$$\text{Fraction of chocolate chips used} \rightarrow 10u/19.5u = 20u/39u = 20/39$$

b)  $9.5u \rightarrow 304g$

$$1u \rightarrow 32g$$

$$19.5u \rightarrow 624g$$

13)a)  $6u + 2u + 1u + 11 + 2u + 22 = 11u + 33 \rightarrow 748$

$$11u \rightarrow 715$$

$$1u \rightarrow 65$$

$$2u \rightarrow 130$$

b)  $6u + 1u + 11 = 7u + 11 \rightarrow 7 \times 65 + 11 = 466$

14) Time Milton took  $\rightarrow 120 \div 90 = 1\text{h } 20\text{min}$

Time Cheryl took  $\rightarrow 1\text{h } 20\text{min} + 55\text{min} = 2\text{h } 15\text{min}$

Distance Cheryl travelled  $\rightarrow 2\frac{1}{4}\text{h} \times 80 = 180\text{km}$

Cheryl's new speed  $\rightarrow 180 \div 1\frac{1}{3}\text{h} = 135\text{km/h}$

15)a) Area  $\rightarrow 12 \times 12 + 6 \times 6 \times \Pi - 3 \times 3 \times 4 = 108 + 36\Pi = (36\Pi + 108)\text{cm}^2$

b) Perimeter  $\rightarrow 12 \times \Pi + 48 = (12\Pi + 48)\text{cm}$

16)  $40u + (50u + 18) = 90u + 18 \rightarrow 288$

$90u \rightarrow 270$

$1u \rightarrow 3$

$40u + 50u + (50u + 18) = 140u + 18 \rightarrow 438$

$438 \div 73 = 6$

17)a)  $16u - 600 + 3u = 19u - 600$

$19u - 600/40u = 7/40$

$19u - 600 = 7u$

$12u \rightarrow 600$

$1u \rightarrow 50$

$40u \rightarrow 2000$

b)  $16u - 600 \rightarrow 16 \times 50 - 600 = 200$

18) Number of big cups : Number of small cups =  $150 : 350 = 15 : 35 = 3u : 7u$

$7u - 3u = 4u$

$1u \rightarrow 12$

$3u \rightarrow 36$

$7u \rightarrow 84$

$36 \times 350\text{ml} + 84 \times 150\text{ml} = 25200\text{ml} = 25.2\text{L}$





WSW / GAL / AS / AT / CC

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No

**SINGAPORE CHINESE GIRLS' SCHOOL**

**PRELIMINARY EXAMINATION 2017**

**PRIMARY 6**

**MATHEMATICS  
PAPER 1**

**BOOKLET A**

Name : \_\_\_\_\_ ( )

Class : Primary 6 SY/C/G/SE/P

23 August 2017

		Marks attained	Max Mark	Parent's Signature
Paper 1	Booklet A		20	
	Booklet B		20	
Paper 2			60	
Total Marks			100	

**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. Which of the following is likely to be the mass of this Examination Booklet A you are using now?

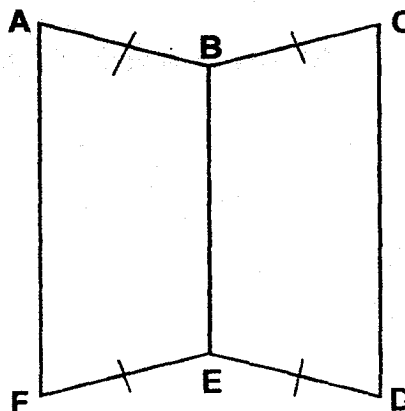
- (1) 2 g
- (2) 20 g
- (3) 200 g
- (4) 2000 g

2. Round off 37.952 to the nearest tenth.

- (1) 37.0
- (2) 37.9
- (3) 38.0
- (4) 40.0

3. The figure is made up of two identical trapeziums, ABEF and BCDE.  
 $AB = BC = FE = ED$ . Which of the following pairs of lines are parallel?

- (1)  $AB \parallel FE$
- (2)  $BC \parallel FE$
- (3)  $AF \parallel BC$
- (4)  $AB \parallel CD$



4. Express 5080 cm in m.

(1) 5.08 m

(2) 5.8 m

(3) 50.8 m

(4) 508 m

5.  $6 : 10 = \square : 35$ . What is the missing number in the box?

(1) 15

(2) 21

(3) 24

(4) 31

6. What is the value of  $50 \div 2000$ ?

(1) 40

(2) 0.40

(3) 0.25

(4) 0.025

7. Mabel paid \$4 for 20 packets of stickers. How much did each packet of stickers cost?

(1) 50¢

(2) 20¢

(3) 5¢

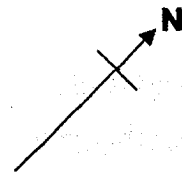
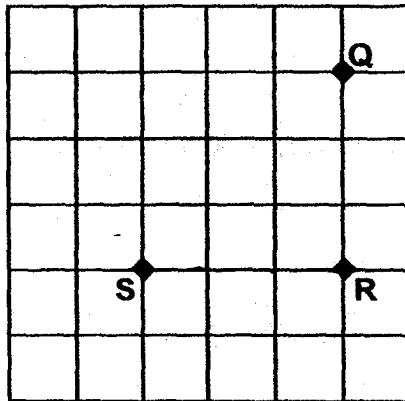
(4) 2¢

8. What is the value of  $m + \frac{9m}{20} - 2$  when  $m = 4$ ?

- (1) 0
- (2) 1.9
- (3) 3.8
- (4) 5.8

9. In the square grid below, Q, R and S represent three landmarks in a town. In which direction is R from S?

- (1) E
- (2) SW
- (3) NW
- (4) NE

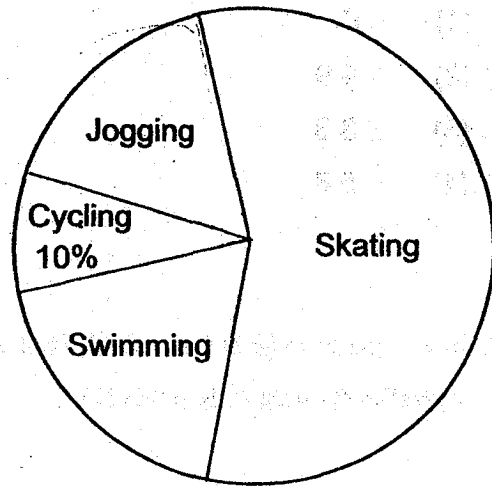


10. Which one of the following decimals is closest to 1%?

- (1) 0.006
- (2) 0.012
- (3) 0.5
- (4) 1.1

11. The pie chart shows the favourite activities of a group of children. 70 children indicated cycling as their favourite activity. How many children like jogging most?

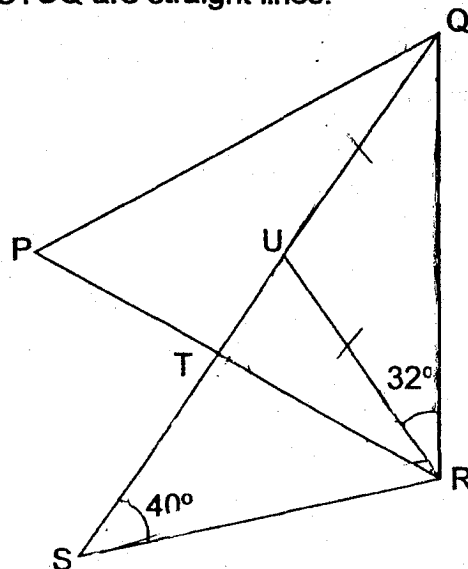
- (1) 105
- (2) 175
- (3) 280
- (4) 560



12. Stanley is  $(5p + 12)$  years old. His sister is 9 years younger than him. Find their total age 3 years ago.

- (1)  $(5p + 3)$  years
- (2)  $(5p + 9)$  years
- (3)  $(10p + 9)$  years
- (4)  $(10p + 12)$  years

13. In the figure below, PQR and RSU are triangles. PQR is an equilateral triangle,  $UQ = UR$  and  $\angle URQ = 32^\circ$ . PTR and STUQ are straight lines. Find  $\angle TRS$ .



- (1)  $32^\circ$
- (2)  $40^\circ$
- (3)  $48^\circ$
- (4)  $68^\circ$

14. The table below shows the test scores of 150 students.

Score	Number of students
35 - 44	24
45 - 54	36
55 - 64	26
65 - 74	42
Above 75	22

60% of the students passed the test. What is the lowest score that a student must obtain in order to pass the test?

- (1) 35
- (2) 45
- (3) 55
- (4) 65

15. A tank contains 5 litres of water. 40% of the water in the tank is poured into a 24-litre container which is already 25% filled with water. What fraction of the container is filled with water at the end?

- (1)  $\frac{1}{12}$
- (2)  $\frac{1}{6}$
- (3)  $\frac{1}{4}$
- (4)  $\frac{1}{3}$

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No \_\_\_\_\_

**SINGAPORE CHINESE GIRLS' SCHOOL**

**PRELIMINARY EXAMINATION 2017**

**PRIMARY 6**

**MATHEMATICS  
PAPER 1**

**BOOKLET B**

Name : \_\_\_\_\_ ( )

Class : Primary 6 SY/C/G/SE/P

23 August 2017

Paper 1	Mark attained	Max Mark
<b>Booklet B</b>		<b>20</b>

**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



Name: \_\_\_\_\_ ( ) Class: P6 SY / C / G / SE / P

Do not write in  
this column

Questions 16 to 25 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)

---

16. Express 207% as a decimal.

Ans: \_\_\_\_\_

---

17. What is the quotient of  $4056 \div 8$ ?

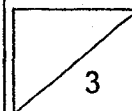
Ans: \_\_\_\_\_

---

18. Find the value of  $66 \div \frac{1}{6}$ .

Ans: \_\_\_\_\_

---



19. Each of the following shapes was folded using a piece of identical square paper. Which two figures are likely to have the same perimeter as the original piece of square paper?

Do not write in this column

Original square piece of paper

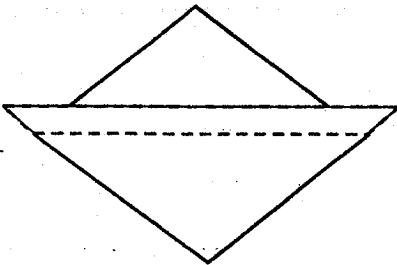
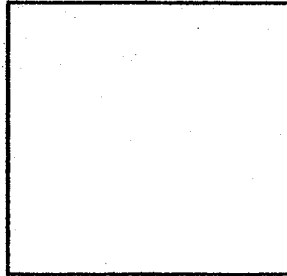


Figure A

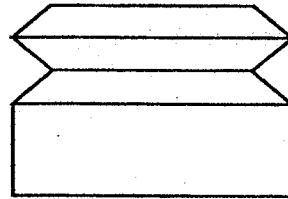


Figure B

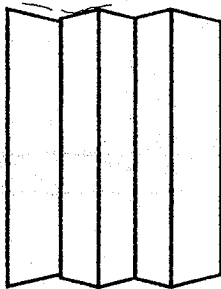


Figure C

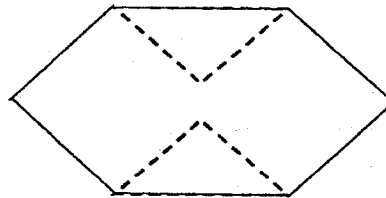


Figure D

Ans: Figures \_\_\_\_\_ and \_\_\_\_\_

20. Use all the digits 2, 3, 4, 8 to form a number closest to 4000.

Ans: \_\_\_\_\_

---

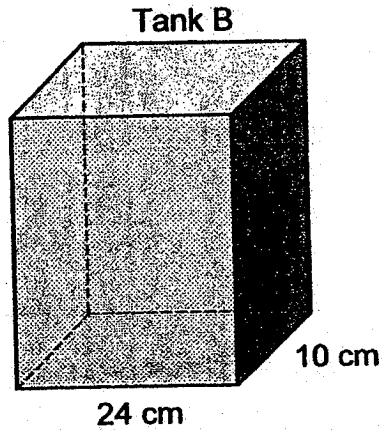
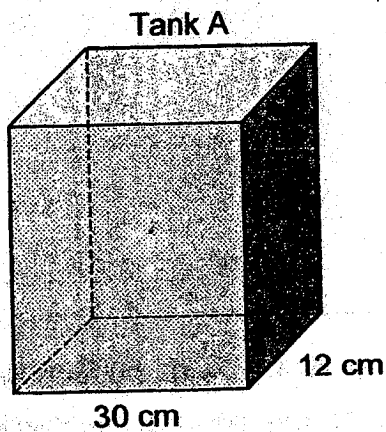
21. A train left Town J on Sunday and reached Town K at 4.10 a.m. on Monday. It took 6 h 45 min to travel from Town J to Town K. At what time did the train leave Town J on Sunday?

Ans: \_\_\_\_\_ p.m.

---

22. Both tanks are empty at first. Lydia then poured water into Tank A and Tank B until both tanks are filled to their brim. If both tanks have the same height, how much more water did Lydia pour into Tank A than Tank B? (Express your answer in percentage)

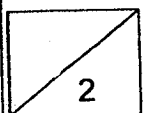
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Ans: \_\_\_\_\_ %

23. James walked at a speed of 70 m/min. How far did he walk in  $\frac{1}{3}$  h?

Ans: \_\_\_\_\_ m

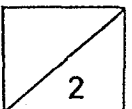


24. A car uses 8 litres of petrol to travel a distance of 104 km. How far can the car travel on 30 litres of petrol?

Ans: \_\_\_\_\_ km

25. Four different odd numbers add up to 24 and none of them is greater than 13. The 2 smallest odd numbers add up to 6. What are the four odd numbers?

Ans: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



Questions 26 to 30 carry 2 marks each. Show your working clearly in the space 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)

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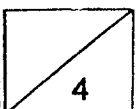
26. - Mrs Goh had some rice. She stored  $\frac{3}{5}$  of the rice in a container and packed half of the remaining rice into 3 bags. Each bag of rice weighed 4 kg. How much rice did Mrs Goh have at first?

Ans: \_\_\_\_\_ kg

---

27. Last week, Ah Seng sold a total of  $(8d + 90)$  kg of durians during the weekdays. He sold a total of  $(6d - 43)$  kg of durians during the weekend. What is the average mass of durians sold last week?

Ans: \_\_\_\_\_ kg



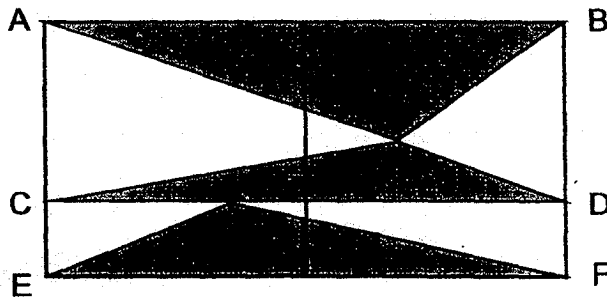
28. The following shows a sequence of numbers starting with 8. What is the value of the 80<sup>th</sup> number of the sequence?

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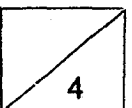
8, 11, 14, 17, 20, .....

Ans: \_\_\_\_\_

29. The rectangle is made up of two 12-cm squares.  $AB \parallel CD \parallel EF$ . Find the area of the shaded parts of the rectangle.



Ans: \_\_\_\_\_ cm<sup>2</sup>



30. Mr Yap has 65 bicycles and tricycles in his shop. The wheels of all the bicycles and tricycles add up to 174.  
How many tricycles are there in Mr Yap's shop?

Ans:

---

**End of Paper 1**

**Please check your work thoroughly.**



WSW / GAL / AS / AT / CC

Index  
No

**SINGAPORE CHINESE GIRLS' SCHOOL**

**PRELIMINARY EXAMINATION 2017**

**PRIMARY 6**

**MATHEMATICS**

**PAPER 2**

Name : \_\_\_\_\_ (     )

Class : Primary 6 SY/C/G/SE/P

23 August 2017

	Mark	Max Mark
<b>Paper 2</b>		<b>60</b>

Parent's Signature

**18 Questions**  
**60 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

CONFIDENTIAL - SECURITY INFORMATION

SECRET

DECLASSIFICATION AUTHORITY: 25X

DATE OF REVIEW: 10/15/2010

BY: [Redacted]

REASON: [Redacted]

10/15/2010

CONFIDENTIAL

CONFIDENTIAL - SECURITY INFORMATION

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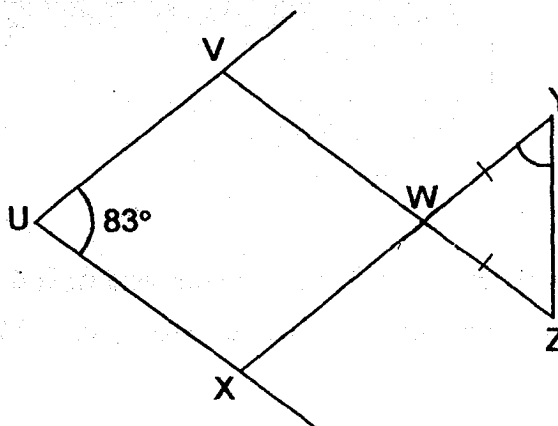
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(10 marks)**

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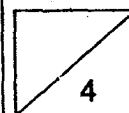
- 1 Eleven workers are needed to sew 176 pieces of garments. When the number of pieces of garments is increased by 96, how many more workers are needed to sew all the garments within the same time, presuming the rate of sewing by each worker remains the same?

Ans: \_\_\_\_\_

- 2 In the figure, XY and VZ are straight lines. UVWX is a rhombus and WYZ is an isosceles triangle.  $\angle XUV = 83^\circ$ . Find  $\angle WYZ$ .



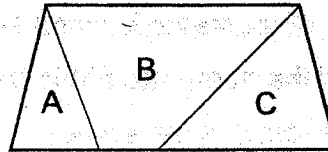
Ans: \_\_\_\_\_ °



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3. The figure below shows a trapezium divided into three parts A, B and C. The ratio of A to B is 2 : 5 and the ratio of B to C is 3 : 2.

What is the ratio of A to B to C? (Give your answer in the simplest form)



Ans: \_\_\_\_\_

4. The table below shows the rate of water charges for homes. Part of the table was accidentally torn off.

Water Charges Rate for Homes	
First 40 m <sup>3</sup>	\$1.19 per m <sup>3</sup>
Above 40 m <sup>3</sup>	

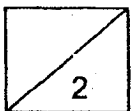
Mrs Chan used 73 m<sup>3</sup> of water and paid \$95.78 last month. What is the water charges rate for the use of water above 40 m<sup>3</sup>?

Ans: \$ \_\_\_\_\_

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this column

5. If Zoe adds another 65 stalks of carnations to a basket of flowers, the fraction of carnations in the basket will increase from  $\frac{1}{4}$  to  $\frac{3}{7}$ . How many stalks of carnations did Zoe have at first?

Ans: \_\_\_\_\_



For questions 6 to 18, 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)

6. Pete, Mark and Jim were given some funfair tickets to sell. Each ticket cost \$5.

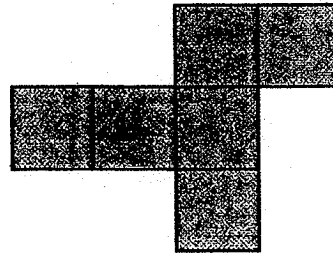
Pete sold  $\frac{2}{5}$  of the tickets. Mark and Jim sold the remaining tickets in the ratio 1:3.

Pete sold 115 tickets more than Mark. How much money did they collect altogether?

Ans:

[3]

7. The net of the cube shown below has a perimeter of 98 cm. Find the volume of the cube.



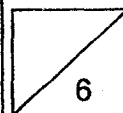
Ans: \_\_\_\_\_ [3]

8. Hamzah drove from Town A to Town B. He took  $1\frac{1}{3}$  hours to drive  $\frac{4}{5}$  of the distance at a speed of 96 km/h. At what speed must he continue to drive in order to cover the remaining distance in  $\frac{2}{5}$  hour? (Leave your answer in mixed number)

Ans: \_\_\_\_\_ [3]

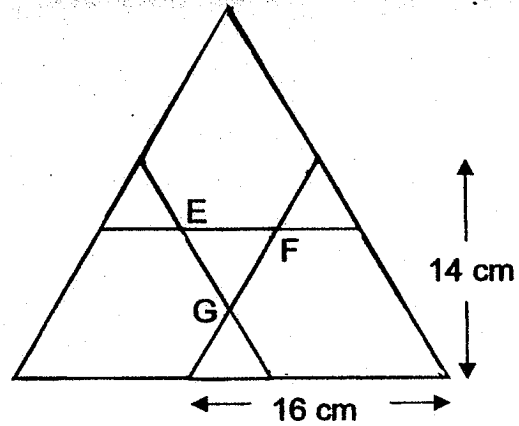
9. Gopal packed 10 identical vases into Box A. He packed 8 such vases into Box B, in addition to 5 jugs, each weighing 1.2 kg. The total mass of the vases and jugs in Box B was 3.8 kg less than the mass of the vases in Box A. What was the total mass of all the vases and jugs?

Ans: \_\_\_\_\_ [3]

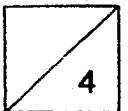


10. The figure below, not drawn to scale, shows 3 overlapping identical triangles, with three overlapped areas of the same size, as indicated by the shaded portions. The area of triangle EFG is  $11 \text{ cm}^2$  and the area of the whole figure is  $323 \text{ cm}^2$ , what is the area of each shaded part?

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Ans: \_\_\_\_\_ [4]





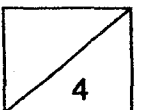
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11. Tank X and Tank Y each contain some water. If Tank X drains water at a rate of 102 litres per hour, and Tank Y drains water at a rate of 34 litres per hour, Tank X would be left with 420 litres of water by the time Tank Y is fully drained.

If Tank X drains water at a rate of 34 litres per hour, and Tank Y drains water at a rate of 102 litres per hour, Tank X would be left with 1176 litres of water by the time Tank Y is fully drained.

How much more water is there in Tank X than in Tank Y?

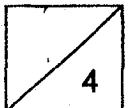
Ans: \_\_\_\_\_ [4]



12. A packet of sugar weighs 1.5 kg. A packet of rice weighs 1.7 kg more than a packet of sugar. A shopkeeper has 22 more packets of sugar than rice in his shop. The total mass of sugar and rice in his shop is 225.7 kg. How many packets of sugar does the shopkeeper have?

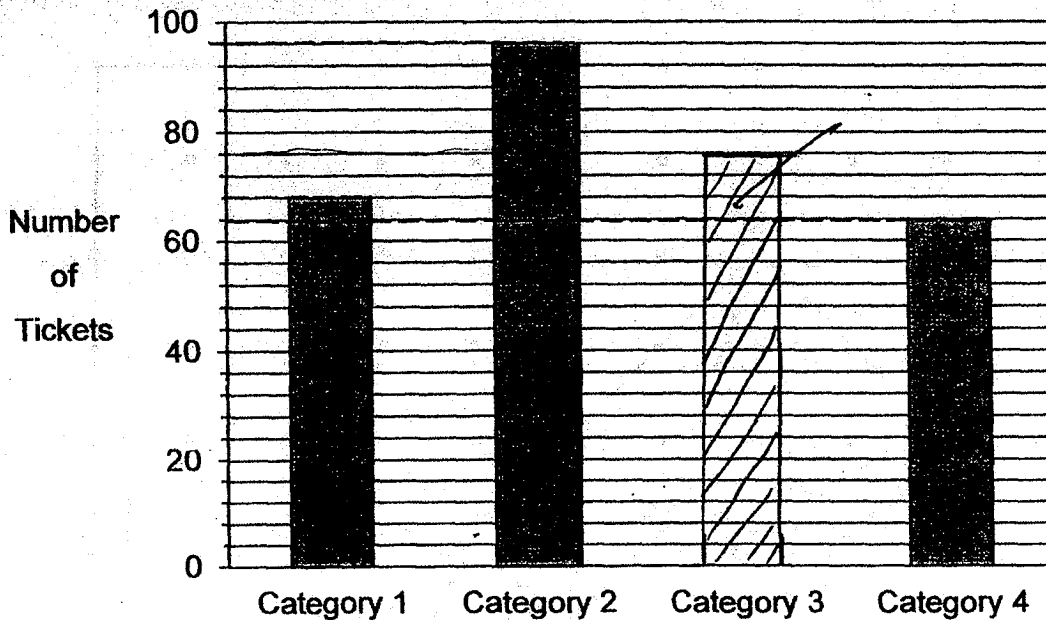
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Ans: \_\_\_\_\_ {4}



13. The bar graph shows the number of concert tickets sold for the various seat categories, except Category 3.

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The table shows the prices of the tickets.

Type of Ticket	Price per Ticket
Category 1	\$88
Category 2	\$68
Category 3	\$48
Category 4	\$38

- (a) The number of Category 3 tickets sold is equal to the average number of tickets sold for the other categories. Complete the bar graph by drawing the bar to show the number of Category 3 tickets sold. [1]
- (b) Among the 4 categories, from which category was the most money collected? How much was collected from this category?

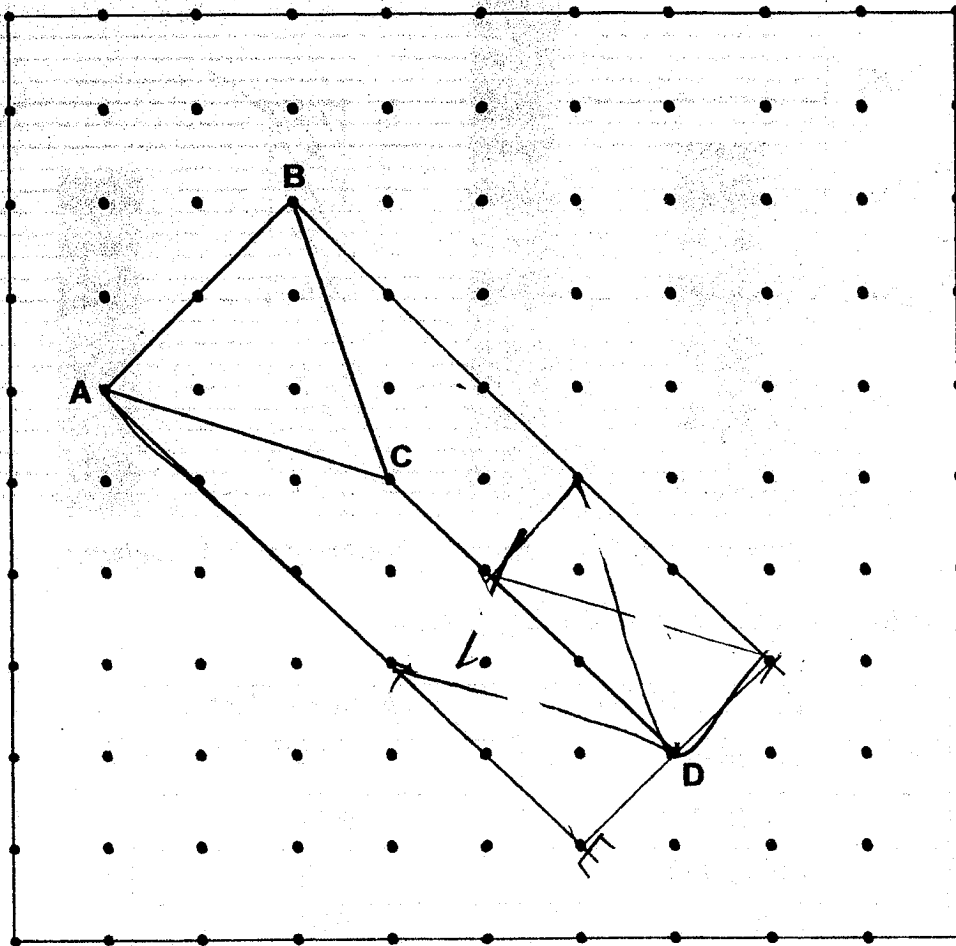
Ans: a) Category: \_\_\_\_\_ [1]

b) Amount: \_\_\_\_\_ [1]

14.

The diagram in the grid is part of a solid figure. E and F are two dots in the grid. Complete the figure according to the instructions below.

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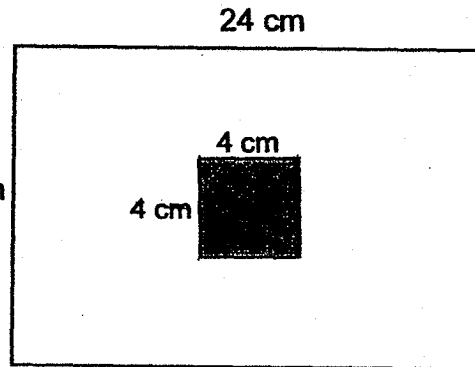
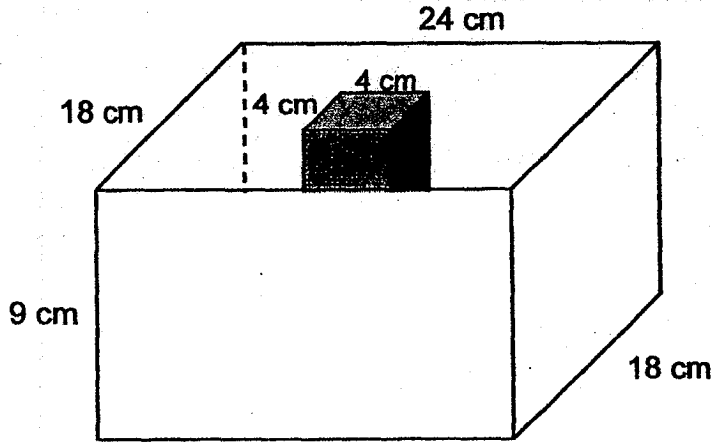
- (a) Draw two lines, AE and BF, such that they are both parallel to CD. [1]
- (b) Clearly label and join the points D, E and F to form a triangle DEF that is identical to triangle ABC. [2]
- (c) Write down the name of the completed solid figure.

Ans: (c) \_\_\_\_\_ [1]

15. Meredith tried to fit some 3-cm cubes into the container below. The container has a dimension of 24 cm by 18 cm by 9 cm. A cuboid solid measuring 4 cm by 4 cm by 9 cm has been fixed to the exact centre of the container.

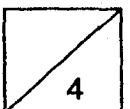
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What is the maximum number of cubes Meredith was able to fit into the container?



Top View of Container

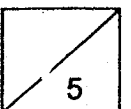
Ans: \_\_\_\_\_ [4]



16. There were 1600 blue and yellow marbles in a container. When the number of blue marbles decreased by 90 and the number of yellow marbles increased by 15%, the total number of marbles in the container increased by 4.5%.  
How many blue marbles were there in the container at first?

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this column

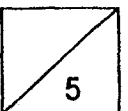
Ans: \_\_\_\_\_ [5]



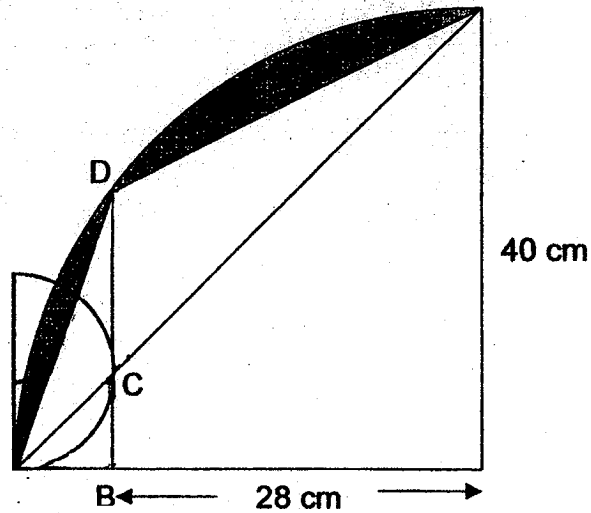
17. Mrs Othman has some butter cookies and chocolate cookies. If she bakes another 20 butter cookies, 40% of her cookies are butter cookies. However, if she bakes another 33 chocolate cookies, 75% of her cookies are chocolate cookies. How many cookies does she have?

Do not write in this column

Ans: \_\_\_\_\_ [5]



18. The figure is made up of a quadrant and a semi-circle. C is the mid-point of the arc of the semi-circle. The ratio of the length of BC to the length of CD is 2 : 3. Using the  $\pi$  value of the calculator, find the area of the shaded parts of the figure. (Leave your answer correct to two decimal places)



Ans: \_\_\_\_\_ [5]



YEAR : 2017  
 LEVEL : PRIMARY 6  
 SCHOOL : SINGAPORE CHINESE GIRLS'  
 SUBJECT : MATHEMATICS  
 TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 2.07

Q17 507

Q18 396

Q19 Figures B and C

Q20 3842

Q21 9:25 pm

Q22 50%

Q23 1400 m

Q24 390 km

Q25 1, 5, 7, 11

Q26 60 kg

Q27  $\left(\frac{14d + 47}{7}\right)$

Q28 245

Q29 144 cm<sup>2</sup>

Q30 44 tricycles

Paper 2

Q1 11 workers  $\rightarrow$  176 pieces of garments

$$176 + 96 = 272$$

$$176 \div 11 = 16$$

$$272 \div 16 = 17$$

$$17 - 11 \Rightarrow \underline{6 \text{ workers}}$$

Q2  $\frac{180^\circ + 83^\circ}{2} \Rightarrow \underline{48.5^\circ}$

Q3 A: B : C  
6 : 15 : 10

Q4  $73 - 40 = 33$   
 $1.19 \times 40 = 47.6$   
 $95.78 - 47.6 = 48.18$   
 $48.18 \div 33 \Rightarrow \underline{\$1.46}$

Q5  $5u \rightarrow 65$   
 $1u \rightarrow 65 \div 5 = 13$   
 $13 \times 4 \Rightarrow \underline{52 \text{ stalks}}$

Q6  $8 - 3 = 5$   
 $5u \rightarrow 115$   
 $1u \rightarrow 115 \div 5 = 23$   
 $20u \rightarrow 23 \times 20 = 460$   
 $460 \times 5 \Rightarrow \underline{\$2300}$

Q7  $98 \div 14 = 7$   
 $7 \times 7 \times 7 \Rightarrow \underline{343 \text{ cm}^3}$

Q8 Distance  $\rightarrow \frac{4}{5} = 128$

$\therefore \frac{1}{5} = 128 \div 4 \rightarrow 32$

$\therefore 32 \div \frac{2}{5} \Rightarrow \underline{80 \text{ km/h}}$

SCGS PRELIM

Q9  $1.2 \times 5 = 6$   
 $3.8 + 6 = 9.8$   
 $10c - 8v = 2v$   
 $2v \rightarrow 9.8$   
 $1u \rightarrow 9.8 \div 2 = 4.9$   
 $18v \rightarrow 4.9 \times 18 = 88.2$   
 $88.2 + 6 \Rightarrow \underline{94.2 \text{ kg}}$

Q10  $323 - 11 = 312$   
 $312 \rightarrow 3u + 3p$   
 $112 \rightarrow 1u + 2p$   
 $336 \rightarrow 3u + 6p$   
 $336 - 312 = 24$   
 $3p \rightarrow 24$   
 $1p \rightarrow 24 \div 3 \Rightarrow \underline{8 \text{ cm}^2}$

Q11  $8u \rightarrow 1176 - 420 = 756$   
 $1u \rightarrow 756 \div 8 = 94.5$   
 $X \rightarrow 94.5 + 1176 = 1270.5$   
 $Y \rightarrow 94.5 \times 3 = 283.5$   
 $1270.5 - 283.5 \Rightarrow \underline{987 \text{ litres}}$

Q12 Sugar  $\rightarrow 1.5 \text{ kg}$   
Rice  $\rightarrow 1.7 + 1.5 = 3.2 \text{ kg}$   
 $22 \times 1.5 = 33 \text{ kg}$   
No. of packets (S + R)  $\rightarrow 225.7 \text{ kg}$   
Mass of equal packets of S + R  $\rightarrow 225.7 - 33 = 192.7 \text{ kg}$   
 $1S + 1R \rightarrow 1.5 + 3.2 = 4.7$   
 $192.7 \div 4.7 = 41$   
Sugar  $\rightarrow 41 + 22 \Rightarrow \underline{63 \text{ packets}}$

Q13 (a)  $68 + 96 + 64 = 228$   
 $228 \div 3 \Rightarrow \underline{76}$

Draw bar graph to show 76 no. of tickets

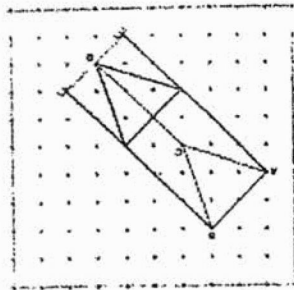


Category 3

(b)  $68 \times 88 = 5984$  (Cat 1)  
 $68 \times 96 = 6528$  (Cat 2)  
 $48 \times 76 = 3648$  (Cat 3)  
 $64 \times 38 = 2432$  (Cat 4)

Category : 2  
Amount : \$6528

Q14 (a & b)



(c) Prism

Q15  $7 - 6 = 1$   
 $4 - 3 = 1$   
 $1 + 1 + 1 = 3$   
 $2 \times 3 = 6$   
 $6 \times 2 = 12$   
1 layer  $\rightarrow 16 + 16 + 12 = 44$   
3 layers  $\rightarrow 44 \times 3 \Rightarrow \underline{132 \text{ cubes}}$

ELGS PRELIM

Q16 ↓ 90B

$$T \rightarrow 1600 - 90 = 1510$$

↑ 15% Y

$$T \rightarrow 1672$$

$$15\% \rightarrow 1672 - 1510 = 162$$

$$1\% \rightarrow 162 \div 10.8$$

$$100\% \rightarrow 1080$$

$$1600 - 1080 \Rightarrow \underline{520 \text{ marbles}}$$

Q17 BC →  $1p + 20 = 2u$

CC →  $3u + 33 = 3p$

$$2u - 20 = 1p \rightarrow \times 3$$

$$6u - 60 = 3p$$

$$3u + 33 = 6u - 60$$

$$6u - 3u = 3u$$

$$3u \rightarrow 60 + 33 = 93$$

$$1u \rightarrow 93 \div 3 = 31$$

$$\text{Total} \rightarrow 31 \times 5 - 20 \Rightarrow \underline{135 \text{ cookies}}$$

Q18  $2u \rightarrow 12$

$$3u \rightarrow \frac{12}{2} \times 3 = 18$$

$$\frac{1}{4} \times \pi \times 40 \times 140 = 400 \pi$$

$$400 \pi - 800 = \text{half left}$$

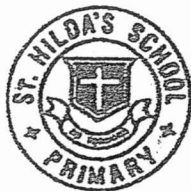
$$B \rightarrow \frac{1}{2} \times 18 \times 28 = 252$$

$$C \rightarrow \frac{1}{2} \times 18 \times 12 = 108$$

$$400 \pi - 800 - 108 - 152 \Rightarrow \underline{96.64 \text{ cm}^2}$$

End





ST. HILDA'S PRIMARY SCHOOL  
PRELIMINARY EXAMINATION 2017

Booklet A

0008/1(A)

MATHEMATICS  
PAPER 1  
(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS)

Total Time for Booklets A and B : 50 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 the questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. You are not allowed to use a calculator.

Name	:	_____	
Index No.:	_____	Class :P6 / _____	Date: <u>2 August 2017</u>
Parent's Signature:	_____		

This booklet consists of 6 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)**

**1** Which one of the following would most likely be the length of our school canteen table?

- (1) 1.8 cm
- (2) 18 cm
- (3) 1.8 m
- (4) 18 m

**2** By rounding each of the numbers to the nearest whole number, estimate the value of:

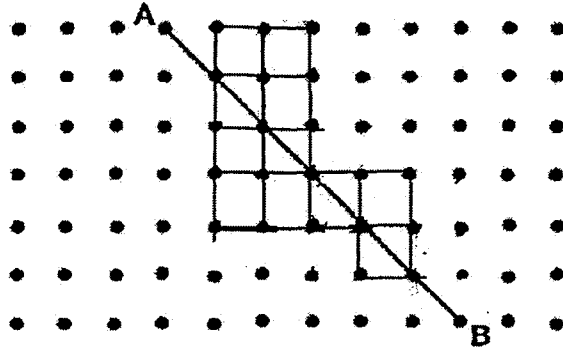
$$18.5 + 63.2 \times 9.54$$

- (1) 595
- (2) 648
- (3) 649
- (4) 820

**3** There were 200 people in an auditorium.  
60 of them were children and the rest were adults.  
What percentage of the people were adults?

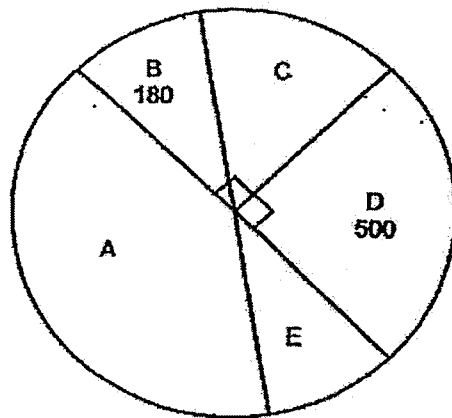
- (1) 30%
- (2) 40%
- (3) 70%
- (4) 140%

- 4 The figure below shows 11 identical squares.  
How many squares must be added so that the line AB becomes a line of symmetry?



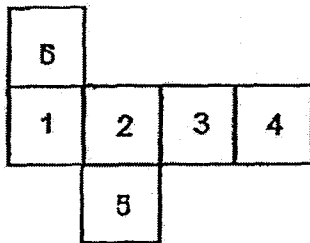
- (1) 5  
(2) 2  
(3) 3  
(4) 4

- 5 The pie chart below shows the brands of mobile phones A, B, C, D and E sold in a year.  
How many Brand C mobile phones were sold?

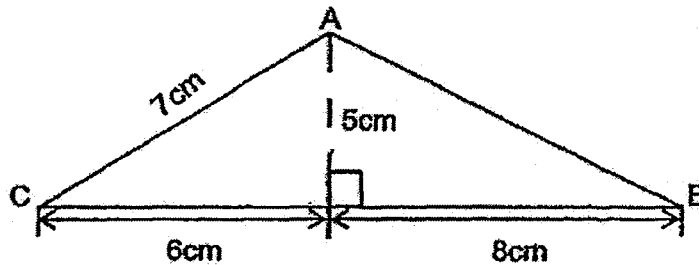


- (1) 180  
(2) 320  
(3) 360  
(4) 680

- 6 The figure below shows the net of a cube.  
The faces are numbered 1 to 6.  
Which number is opposite 3 when the net is folded to make a cube?

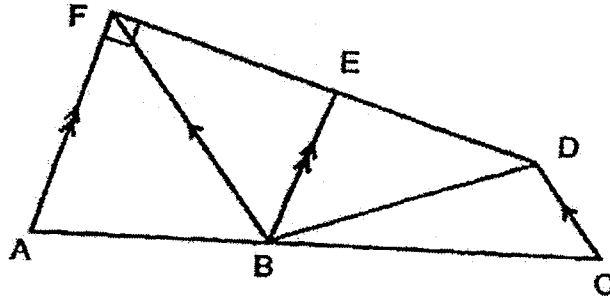


- (1) 1  
(2) 2  
(3) 6  
(4) 4
- 7 Find the area of triangle ABC.



- (1)  $20 \text{ cm}^2$   
(2)  $28 \text{ cm}^2$   
(3)  $35 \text{ cm}^2$   
(4)  $49 \text{ cm}^2$
- 8 Lydia cycles at an average speed of 16 km/h.  
How long does she take to cycle 20 km?
- (1) 48 min  
(2) 1 h 4 min  
(3) 1 h 15 min  
(4) 1 h 20 min

- 9 In the figure below, AC and DF are straight lines.



Which of the following is a trapezium?

- (1) BCDE
  - (2) BCDF
  - (3) ABDF
  - (4) ACDF
- 10 Min Ho bought  $k$  pens at a bookshop.  
He bought 6 more rulers than pens.  
How many pens and rulers did he buy in total?

- (1)  $k - 6$
- (2)  $k + 6$
- (3)  $2k - 6$
- (4)  $2k + 6$

- 11 Acer, Beth and Candy sold a number of funfair tickets.

Acer sold  $\frac{2}{5}$  of the tickets.

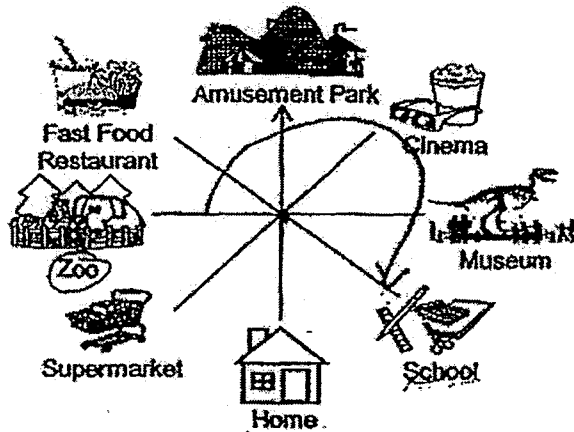
Beth sold 4 more tickets than Acer.

Candy sold 15 tickets.

How many tickets did Beth sell?

- (1) 18
- (2) 22
- (3) 38
- (4) 42

- 12 Anson will face the zoo if he makes a  $225^\circ$  anti-clockwise turn. Where will Anson face if he makes a  $270^\circ$  clockwise turn, from his starting position?



- (1) Home
- (2) Cinema
- (3) Supermarket
- (4) Amusement Park

- 13 Figure 1 and Figure 2 below are not drawn to scale. Figure 1 is a rectangle with a perimeter of 28 cm. Figure 2 is made up of 4 such rectangles. The perimeter of Figure 2 is 64 cm. Find the length of the side AB in Figure 2.



Figure 1

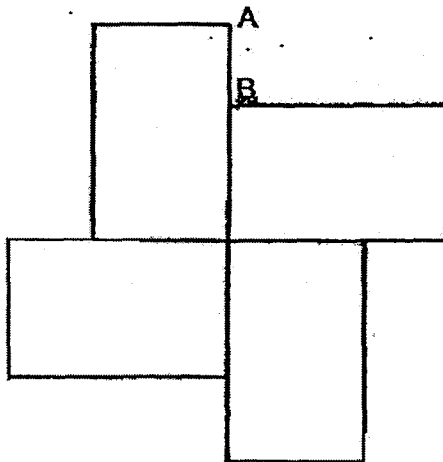


Figure 2

- (1) 6 cm
- (2) 2 cm
- (3) 9 cm
- (4) 12 cm

- 14 A student has to complete a total of four quizzes in Round 1 of a Math competition. The scores for Kate's first three quizzes are shown below.

Round 1	
Quiz	Score
1 <sup>st</sup>	18
2 <sup>nd</sup>	13
3 <sup>rd</sup>	20
4 <sup>th</sup>	?

Kate will qualify for Round 2 if her average score for three of the four quizzes is 20 or more.

What is the lowest score Kate must get in the 4<sup>th</sup> quiz to qualify for Round 2?

- (1) 17
- (2) 22
- (3) 27
- (4) 29

- 15 A repeated pattern is formed using the numbers 0, 1 and 2. The first 16 numbers are shown below.

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>	16 <sup>th</sup>
0	2	2	1	2	0	2	2	1	2	0	2	2	1	2	0

What is the sum of the first 59 numbers?

- (1) 56
- (2) 63
- (3) 77
- (4) 82

PRELIMINARY EXAMINATION 2017

Booklet B

0008/1(B)

MATHEMATICS  
PAPER 1  
(BOOKLET B)

Additional materials: Optical Answer Sheet (OAS)

Total Time for Booklets A and B : 50 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 the questions.
4. Write your answers in this booklet.
5. You are not allowed to use a calculator.

Name	:	_____
Index No.:	Class : P6 /	Date: 2 August 2017
Parent's Signature:	_____	

This booklet consists of 7 printed pages.

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Questions 16 to 25 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

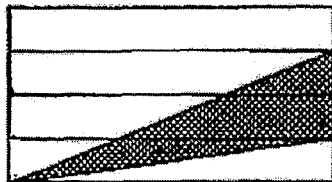
16 What is the value of  $40 - 2 \times (8 + 10) \div 2$ ?

Ans: \_\_\_\_\_

17 Evaluate 56 tens +  $\frac{15}{100}$  + 6 hundredths.

Ans: \_\_\_\_\_

18 The figure below is made up of 4 identical rectangles and 1 shaded triangle.  
What fraction of the figure is shaded?

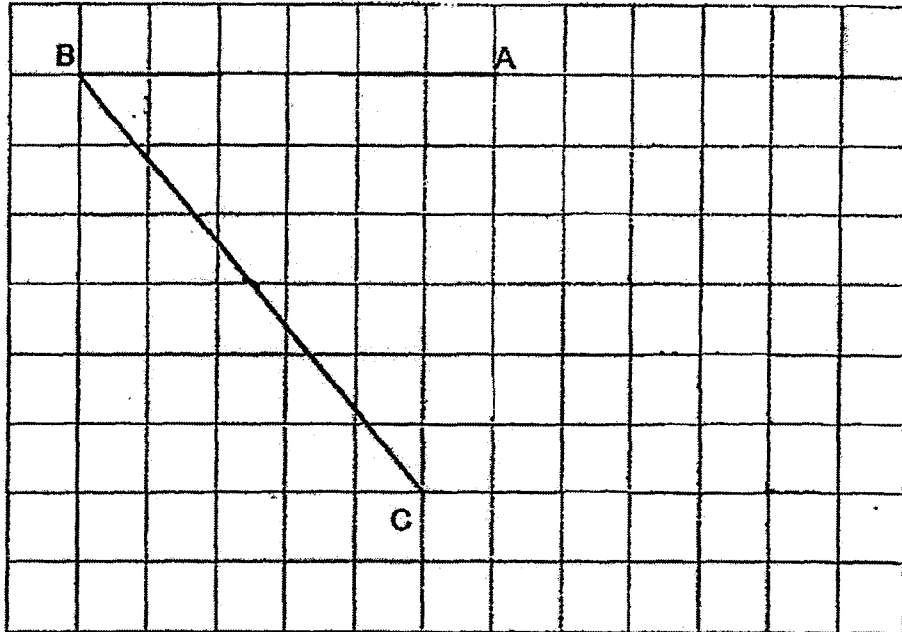


Ans: \_\_\_\_\_

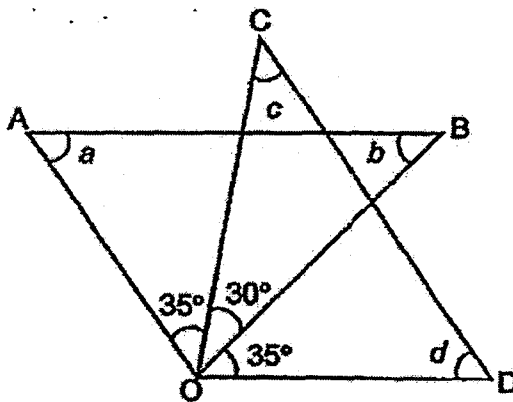


- 19 In the grid below, lines AB and BC form two sides of a parallelogram. Complete the parallelogram by drawing the other two sides in the grid below.

Do not write in this space



- 20 The figure below is made up of triangles OAB and OCD. Find  $\angle a + \angle b + \angle c + \angle d$ .



Ans: \_\_\_\_\_ °

21 Express 4.16 as a mixed number in the simplest form.

Do not write  
in this space

Ans: \_\_\_\_\_

---

22 Express 0.7% as a fraction.

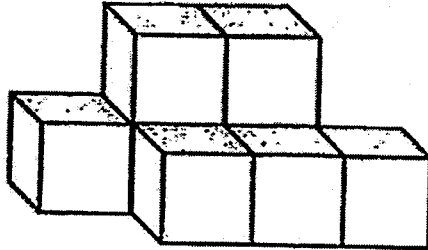
Ans: \_\_\_\_\_

---

23 John completed a race in 160 seconds.  
He was 35 seconds slower than Peter.  
How long did Peter take to complete the race?  
Give your answer in terms of minutes and seconds.

Ans: \_\_\_\_\_ min \_\_\_\_\_ s

- 24 The solid below consists of 1-cm cubes.  
Find the volume of the solid.



Ans: \_\_\_\_\_  $\text{cm}^3$

- 25 Find the value of  $4g + 10 + g - 7$  when  $g = 5$ .

Ans: \_\_\_\_\_

Do not write  
in this space



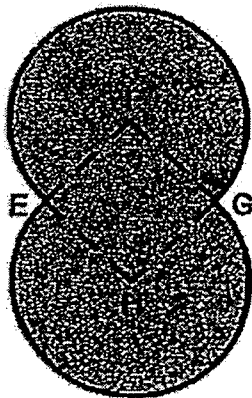
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space your answers in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

- 26 A drink mixture is made using 400 ml of water and 50 ml of syrup. To make 1.35 litres of this mixture, how many litres of water will be needed?

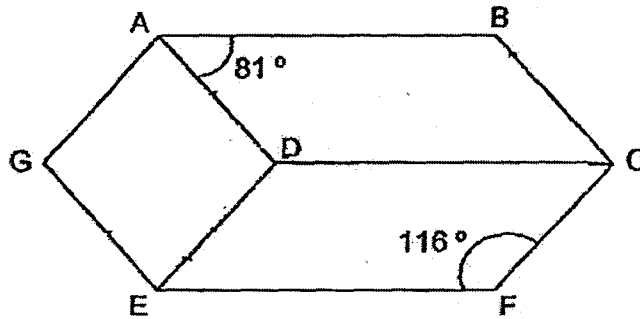
Ans: \_\_\_\_\_ l

- 27 The figure below is formed by 2 identical circles with centres F and H. EFGH is a square and the length of FG is 7 cm. Find the perimeter of the shaded figure. (Take  $\pi = \frac{22}{7}$ )



Ans: \_\_\_\_\_ cm

- 28 ABCD and CDEF are parallelograms.  
 ADEG is a rhombus.  
 Find  $\angle ADE$ .



Ans: \_\_\_\_\_<sup>o</sup>

- 29 Three groups of students sold notebooks and markers for charity. They sold a notebook for \$5 and a marker for \$3. The table shows the number of notebooks and markers sold by the three groups.

Group	Number of Items sold	
	Notebook	Marker
1	8	5
2	9	6
3	7	8

- (a) Which group collected the most amount of money?  
 (b) What was the amount collected by that group?

Ans: (a) Group \_\_\_\_\_

(b) \$ \_\_\_\_\_

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 in this space

- 30 There are 3 types of roses in a box.  
The ratio of the total number of red roses to the total number of pink roses is 1 : 2.  
The ratio of the total number of white roses to the total number of red roses and pink roses is 7 : 5.  
What fraction of all the roses in the box are pink roses?  
Give your answer as a fraction in its simplest form.

Do not write  
in this space

Ans: \_\_\_\_\_

---

END OF PAPER





**PRELIMINARY EXAMINATION 2017**

0008/2

**MATHEMATICS**

**PAPER 2**

Time: 1h 40 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 the questions.
4. Show your working clearly as marks are awarded for correct marking.
5. Write your answers in this booklet.
6. You are allowed to use a calculator.

Name : _____	
Index No.: _____	Class : P6/ _____
Date: <u>2 August 2017</u>	
<b>PAPER 1: Booklet A</b>	<b>/ 20</b>
<b>PAPER 1: Booklet B</b>	<b>/ 20</b>
<b>PAPER 2</b>	<b>/ 60</b>
<b>TOTAL</b>	<b>/ 100</b>
Parent's Signature : _____	

This booklet consists of 14 printed pages.

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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)

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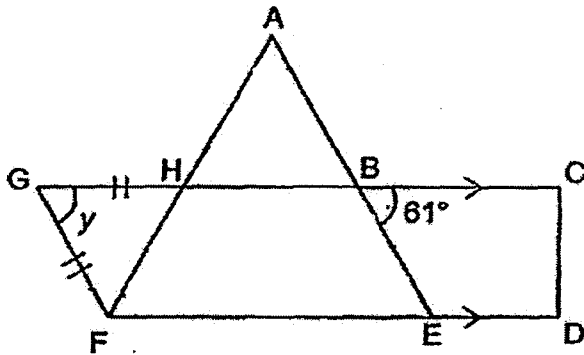
- 1 Faith saves \$6w.  
Her sister saves \$7 more than her.  
How much do Faith and her sister save altogether?  
Give your answer in terms of w.

Ans: \$ \_\_\_\_\_

- 2 The figure below is formed using 2 identical squares of side 15 cm and 2 equilateral triangles.  
Find the perimeter of the figure.

Ans: \_\_\_\_\_ cm

- 3 In the figure below, AEF and FGH are isosceles triangles.  
 GC is parallel to FD.  
 Given that  $\angle EBC = 61^\circ$ , find  $\angle y$ .



Ans: \_\_\_\_\_

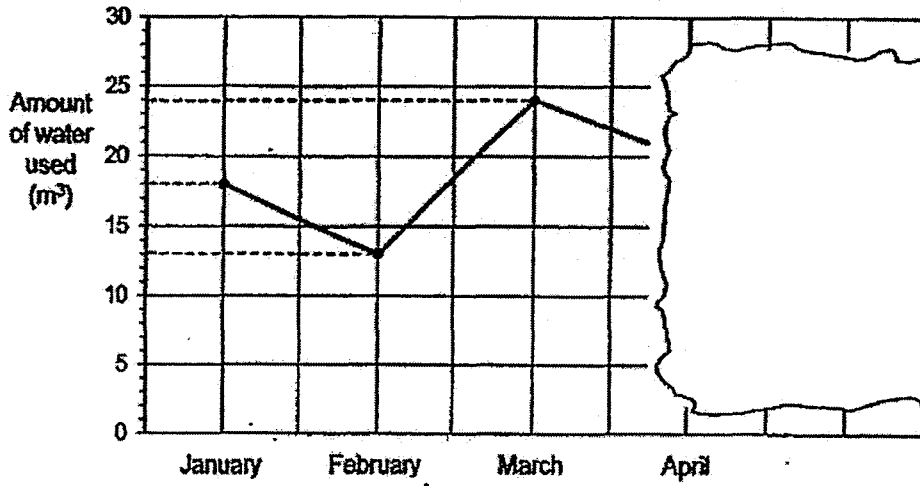
- 4 The number of visitors to a zoo was 10 000 in September.  
 This was a 20% decrease from the in August.  
 How many visitors were there in August?

Ans: \_\_\_\_\_

Do not write  
 in this space

- 5 The graph below shows the amount of water used by Tom's family from January to April. Part of the graph was accidentally torn away.

Do not write  
in this space



The average amount of water used from January to April was  $18.75 \text{ m}^3$ .  
What was the family's water usage in April?

Ans: \_\_\_\_\_  $\text{m}^3$

For questions 6 to 18, 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. (50 marks)

Do not write  
in this space

- 6 Mr Max bought 6 identical red shirts and 6 identical blue shirts.  
The total cost of the shirts was \$372.  
Each blue shirt cost \$6.80 more than each red shirt.  
What was the cost of one red shirt?

Ans: \_\_\_\_\_ [3]

- 7 Andy and Brady travelled from Town C to Town D along the same route.  
Andy started his journey 18 minutes earlier than Brady.  
Brady travelled 84 km at an average speed of 70 km/h for the whole journey.  
Both Andy and Brady arrived at Town D at the same time.  
Find Andy's average speed in km/h.

Ans: \_\_\_\_\_ [3]

- 8 David bought some 30-cent stamps and some 80-cent stamps for \$28.90.  
There were three times as many 30-cent stamps as 80-cent stamps.  
How many 30-cent stamps were there?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]

- 9 The original price of a washing machine was \$900.  
Mrs Lee bought the washing machine at a discount of 15%.
- (a) What was the discounted price of the washing machine?
- (b) If there was a GST of 7% on the discounted price of the washing machine, how much did Mrs Lee pay in total?

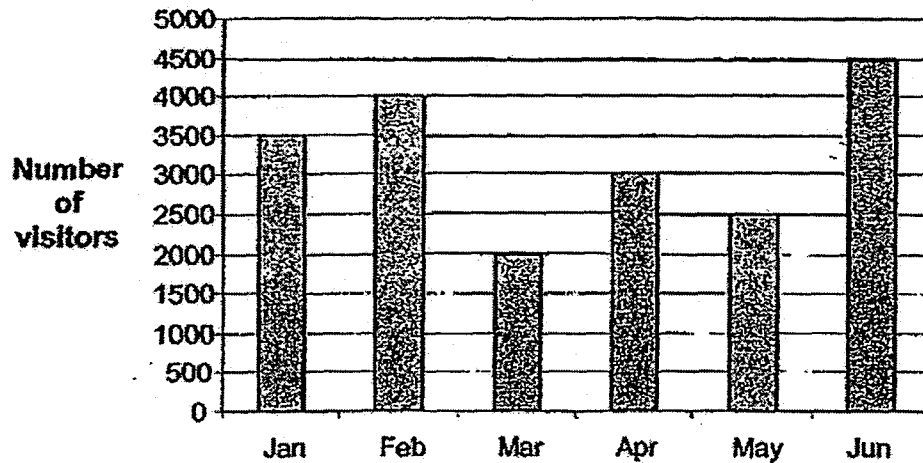
Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

10

The bar graph below shows the number of visitors who visited a carnival for the first 6 months of the year.

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in this space



In June,  $\frac{2}{5}$  of the visitors were adults and the rest were children.

The number of girls in June was the same as the number of visitors in March.

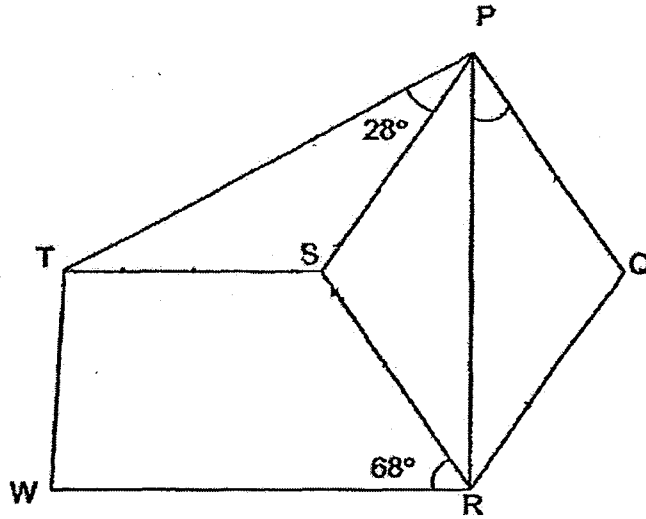
- (a) How many boys visited the carnival in June?
- (b) What fraction of the visitors in June were boys?  
Give your answer as a fraction in its simplest form.

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [1]



- 11 In the figure below, PQRS is a rhombus and RSTW is a trapezium. Find  $\angle QPR$ .



Do not write  
in this space

Ans: \_\_\_\_\_ [4]

12 John's age is  $\frac{2}{9}$  of his grandmother's age now.  
His grandmother will be 99 years old in 18 years' time.

(a) How old is John's grandmother now?

(b) In how many years' time will John's age be  $\frac{1}{4}$  that of his grandmother?

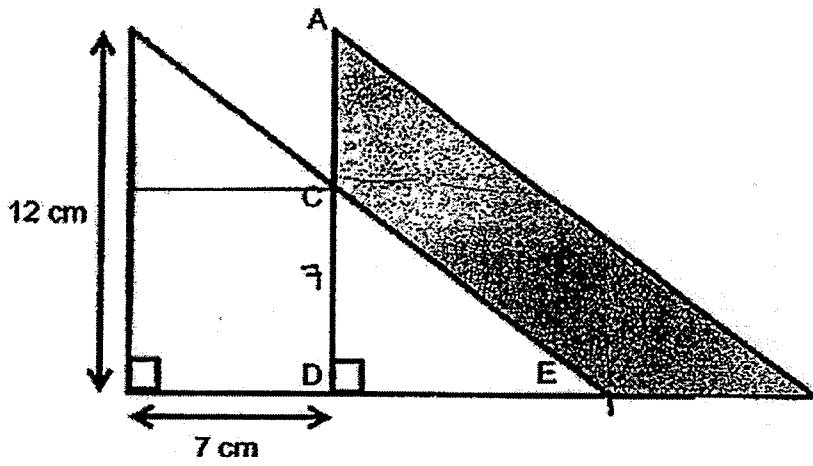
Do not write  
in this space

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]

- 13 In the figure below, 2 identical right-angled triangles overlap.  
 AC is 5 cm and the area that overlaps is CDE.  
 Find the area of the shaded part.

Do not write  
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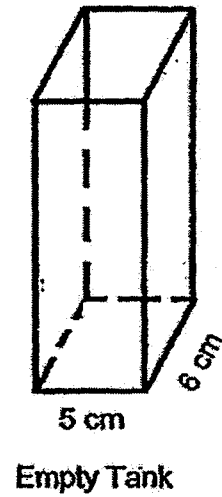
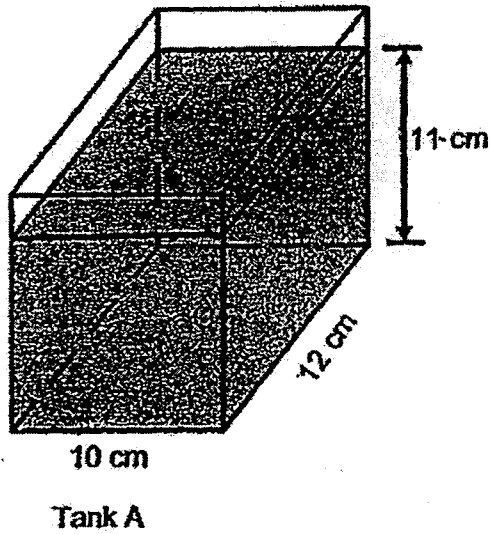


Ans: \_\_\_\_\_ [4]

- 14 Tank A is filled with water to a height of 11 cm.  
The water in Tank A is poured slowly into an empty rectangular tank until the water in both tanks reach the same height without spilling.

Do not write  
in this space

- (a) What is the volume of water in Tank A at first?  
(b) Find the height of the water level in each tank.



Ans: (a) \_\_\_\_\_ [1]  
(b) \_\_\_\_\_ [3]

15 Nathan had some money.

He spent  $\frac{1}{8}$  of it on a T-shirt and  $\frac{3}{4}$  of the remainder on a pair of shoes.

After that, his parents gave him \$715.

The ratio of the total amount of money he had left at the end to the amount of money he had at first was 9 : 4

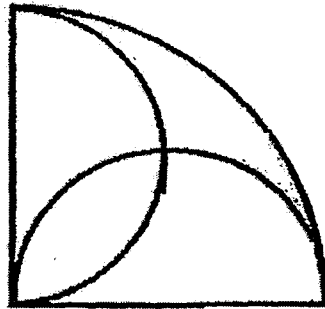
How much did Nathan have at first?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]

- 16 The figure below is made up of 2 identical semicircles enclosed in a quarter circle.  
The radius of the quarter circle is 42 cm.  
Find the area of the shaded part.  
(Take  $\pi = 3.14$ )

Do not write  
in this space



Ans: [5]

- 17 A fruit stall owner had some pears, apples and oranges.  
For every 2 pears, there were 3 apples.  
For every 9 apples, there were 5 oranges.

Do not write  
in this space

(a) What was the ratio of the number of pears to the number of apples to the number of oranges the fruit stall owner had?

Give your answer in the simplest form.

(b) 40 pears were rotten and thrown away.

Then the ratio of the remaining pears to the total number of apples and oranges was 1 : 4.

How many fruits did the fruit stall owner have at first?

Ans:	(a)	[ 1 ]
	(b)	[ 4 ]

18

At a carnival, the number of children is three times the number of adults.

$\frac{2}{3}$  of the boys is equal to  $\frac{5}{6}$  of the girls.

The number of cookies given to each adult, boy and girl is 9, 6 and 3 respectively.

The total number of cookies given to the boys is 1440 more than the total number of cookies given to the adults.

(a) Find the total number of cookies given out at the carnival.

(b) Find the number of girls at the carnival.

Do not write  
in this space

Ans: (a) [4]

(b) [1]

END OF PAPER



# ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : ST. HILDA'S

SUBJECT : MATHEMATICS

TERM : PRELIM

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

16)22

17)560.21

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

19)

20)230°

21)44/25

22)7/1000

23)2 min 5 s

24)8cm<sup>3</sup>

25)28

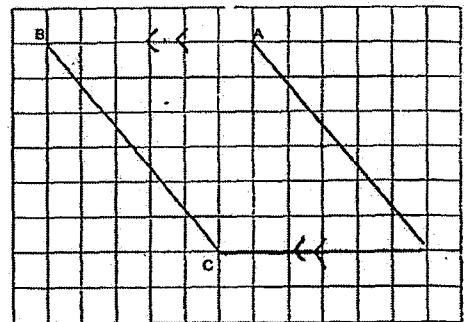
26)1.2L

27)66cm

28)145°

29)a)2 b)563

30)5/18



## Paper 2

1)  $6w + 7 = 6w + 7$

$$6w + 6w + 7 = 12w + 7$$

ANS:  $\$(12w+7)$

2)  $15 \times 4 = 60$

$$30 \times 2 = 60$$

$$60 + 60 = 120\text{cm}$$

3)  $180^\circ - 61^\circ = 119^\circ$

$$\angle y = 180^\circ - 61^\circ - 61^\circ = 58^\circ$$

4)  $80\% \rightarrow 10000$

$$20\% \rightarrow 2500$$

$$100\% \rightarrow 12500$$

5)  $18.75 \times 4 = 75$

$$75 - 18 - 13 - 24 = 20\text{m}^3$$

6)  $6.8 + 6 = 40.8$

$$372 - 40.8 = 331.2$$

$$331.2 \div 12 = \$27.60$$

7)  $84 \div 70 = 1.2$

$$1.2 \times 60 = 72$$

$$72 + 18 = 90$$

$$84 \div 1.5 = 56\text{km/h}$$

8)  $3 \times 0.3 = 0.9$

$0.9 + 0.8 = 1.7$

$28.9 \div 1.7 = 17$  (set)

$17 \times 3 = 51$  stamps

9)a)  $85\% \times 900 = 765$

b)  $107\% \times 765 = 818.55$

10)a)  $2/5 \times 4500 = 1800$

b)  $4500 - 1800 - 2000 = 700$  boys

$700/4500 = 7/45$

11)  $\angle TSR = 180^\circ - 68^\circ = 112^\circ$

$180^\circ - 28^\circ - 28^\circ = 124^\circ$

$360^\circ - 124^\circ - 112^\circ = 124^\circ$

$180^\circ - 124^\circ - 56^\circ$

$\angle QPR = 56^\circ \cdot 2 = 112^\circ$

12)  $99 - 18 = 81$

$9u \rightarrow 81$

$1u \rightarrow 9$

$2u \rightarrow 18$

$81 - 18 = 63$

$3u \rightarrow 63$

$1u \rightarrow 21$

$21 - 18 = 3$

a) 81 years old

b) 3 years

13)  $7 + 2 = 79$

$\frac{1}{2} + 7 + 5 = 175$

$175 + 49 = 66.5\text{cm}^2$

14)  $10 \times 12 \times 11 = 1320$

$10 \times 12 = 120$

$5 \times 6 = 30$

$120 + 30 = 150$

$320 \div 150 = 8.8$

a)  $1320\text{cm}^3$

b)  $8.8\text{cm}$

15)  $\frac{1}{8} \times 352 = 44$

$352 - 44 = 308$

$308 \times \frac{3}{4} = 231$

$308 \times \frac{1}{4} = 77$

$77 + 715 = 792$

$792 \div 9 = 88$

$88 \times 4 = \$352$

$$16) \frac{1}{2} \times 21 \times 21 = 220.5$$

$$\frac{1}{4} \times 3.14 \times 21 \times 21 = 346.185$$

$$346.185 - 220.5 = 125.685$$

$$125.685 \times 2 = 251.37$$

$$\frac{1}{2} \times 21 \times 21 \times 3.14 = 692.37$$

$$692.37 - 251.37 = 441$$

$$692.37 + 441 = 1133.37$$

$$\frac{1}{4} \times 3.14 \times 42 \times 42 = 1384.74$$

$$1384.74 - 1133.37 = 251.37 \text{cm}^2$$

$$17) a) 6 : 9 : 5$$

b) 320 fruits

$$18) a) 33120 \text{ cookies}$$

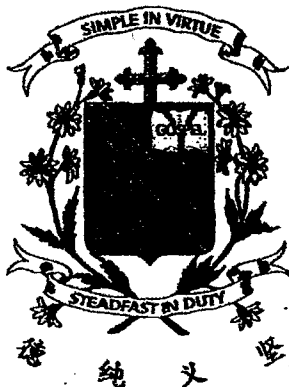
b) 1920 girls



Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

**CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)**



**Primary 6 Mathematics**

**2017 Preliminary Examination**

**Paper 1**

**Booklet A**

**22 AUGUST 2017**

**15 QUESTIONS  
20 MARKS**

**TOTAL TIME FOR BOOKLET A & B : 50 MINUTES**

**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.**

***This booklet consists of 8 printed pages including 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 correct oval (1, 2, 3, or 4) on the Optical Answer Sheet.

(20 marks)

---

1. In 42.315, what does the digit 3 stand for?

- (1) 3 ones
- (2) 3 tenths
- (3) 3 hundreds
- (4) 3 thousandths

2. Which one of the following fractions is the smallest?

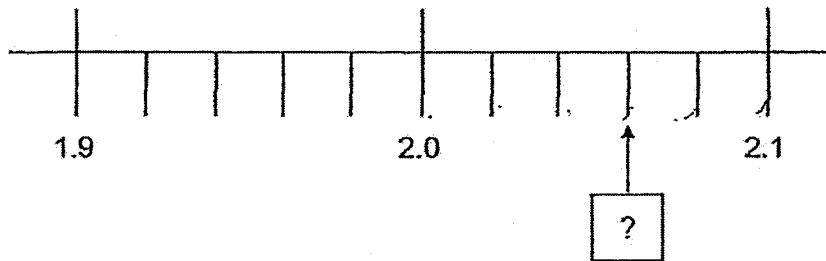
- (1)  $\frac{1}{2}$
- (2)  $\frac{2}{5}$
- (3)  $\frac{3}{8}$
- (4)  $\frac{4}{9}$

3. Express  $6\frac{9}{12}$  as a decimal.

- (1) 6.129
- (2) 6.34
- (3) 6.75
- (4) 6.912



4. Part of a scale is shown below. What is the value indicated by the arrow?

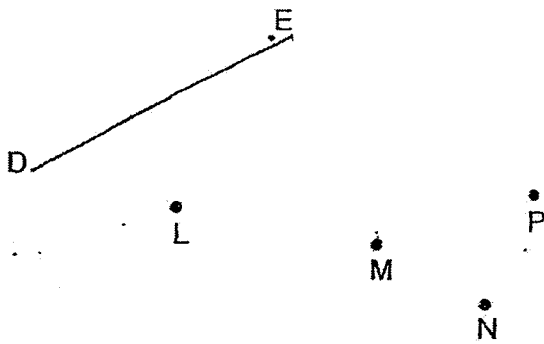


- (1) 2.003  
(2) 2.006  
(3) 2.03  
(4) 2.06
5. A machine can pack  $10j$  boxes of chocolates in 5 hours. At this rate, how many boxes of chocolates can it pack in 1 hour?
- (1)  $5j$   
(2)  $2j$   
(3)  $15j$   
(4)  $50j$
6. Which one of the following would be the most likely length of a bed for an adult?
- (1) 1.9 cm  
(2) 19 cm  
(3) 1.9 m  
(4) 19 m

7. Steven completed a puzzle in 132 seconds. He was 39 seconds faster than Thomas. How long did Thomas take to complete the puzzle?

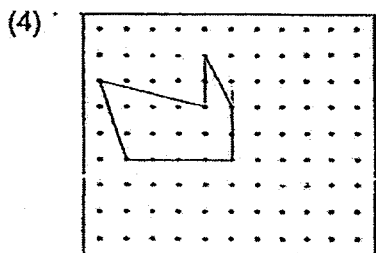
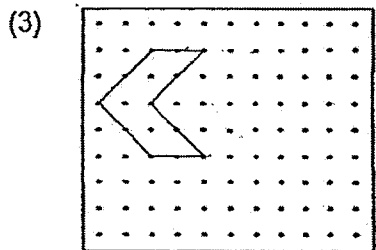
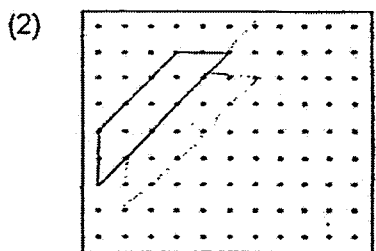
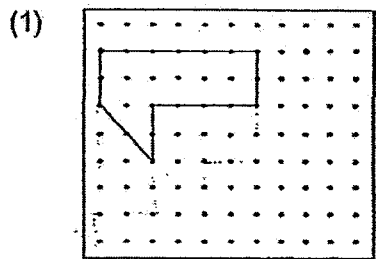
- (1) 1 min 33 s
- (2) 1 min 55 s
- (3) 2 min 51 s
- (4) 3 min 25 s

8. The figure below shows a line DE and 4 points, L, M, N and P. Which point will form an angle greater than  $45^\circ$  but smaller than  $90^\circ$  at point E?



- (1) L
- (2) M
- (3) N
- (4) P

9. Which one of the following unit shapes cannot be tessellated?



10. During a promotion, Tasty Bakery gave away a free pancake for every 4 pancakes purchased. What was the percentage discount offered during the promotion?

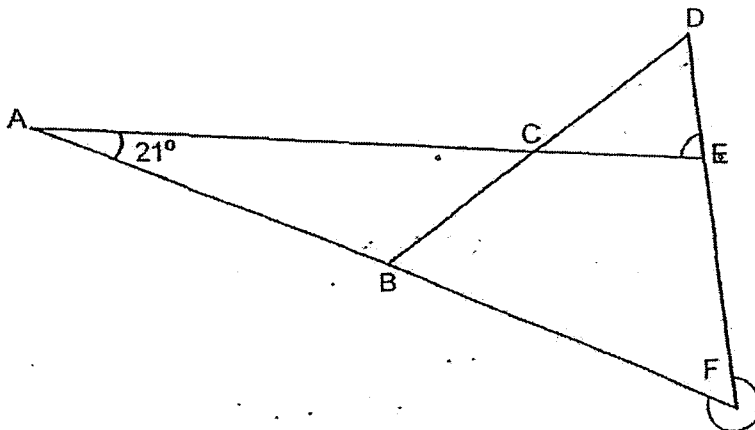
(1) 20%

(2) 25%

(3) 75%

(4) 80%

11. In the figure below, DBF is an equilateral triangle. ABF and ACE are straight lines. What is the difference between the marked angles,  $\angle CED$  and  $\angle BFD$ ?



(1)  $300^\circ$

(2)  $261^\circ$

(3)  $219^\circ$

(4)  $180^\circ$

12. The table below shows the charges for bicycle rental.

Bicycle for Rent	
Deposit	\$40
Charges per 15 minutes	\$0.50

Chang wants to rent a bicycle for 3 hours. How much does he need to pay, including the deposit?

- (1) \$46
  - (2) \$42
  - (3) \$41.50
  - (4) \$40.50
13. The table below shows the number of 11-year-old and 12-year-old children in a horse-riding class. Some information is missing.

	11-year-old	12-year-old	Total
Boys	9	16	25
Girls			40
Total		48	

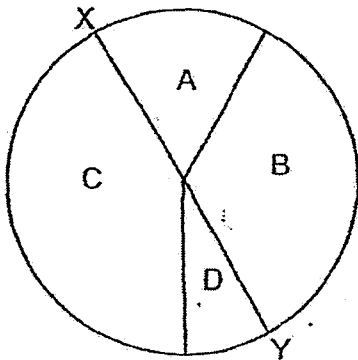
Based on the given information in the table, which one of the following statements is correct?

- (1) There are 17 girls who are 11 years old.
- (2) The total number of girls is fewer than the total number of boys.
- (3) The number of 11-year-old boys is 36% of the total number of boys.
- (4) The ratio of the number of 12-year-old girls to the number of 11-year-old girls is 1 : 4.

14. Mrs Tang bought some sugar. She used  $\frac{1}{3}$  of the sugar on Monday and  $\frac{2}{5}$  of it on Tuesday. The amount of sugar she had left was 132 g. How much sugar did Mrs Tang buy?

- (1) 220 g
- (2) 330 g
- (3) 363 g
- (4) 495 g

15. The figure below, not drawn to scale, shows a circle that is divided into 4 parts, A, B, C and D. Line XY is the diameter of the circle.



Area A is  $\frac{1}{2}$  of Area B. Area C is 5 times of Area D. The area of A is  $26 \text{ cm}^2$ . Find the area of C.

- (1)  $13 \text{ cm}^2$
- (2)  $52 \text{ cm}^2$
- (3)  $65 \text{ cm}^2$
- (4)  $130 \text{ cm}^2$

Name : \_\_\_\_\_ (    )

Class : Primary 6 \_\_\_\_\_

**Primary 6 Mathematics**

**2017 Preliminary Examination**

**Paper 1**

**Booklet B**

**22 AUGUST 2017**

**15 questions  
20 marks**

**TOTAL TIME FOR BOOKLET A & B : 50 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 CALCULATORS IS NOT ALLOWED.**

***This booklet consists of 10 printed pages including the cover page.***

Questions 16 to 25 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)

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16. Given  $e = 9$ , find the value of  $20e - 16e \div 4 + (e \times 5)$ .

Ans : \_\_\_\_\_

17. The number of visitors to a tourist attraction last year was 212 000 when rounded off to the nearest thousand. What was the largest possible number of visitors to this tourist attraction last year?

Ans : \_\_\_\_\_

18. Using any two of the numbers in the box below, form the largest 2-digit number which is a multiple of 4.

6, 8, 9

Ans : \_\_\_\_\_



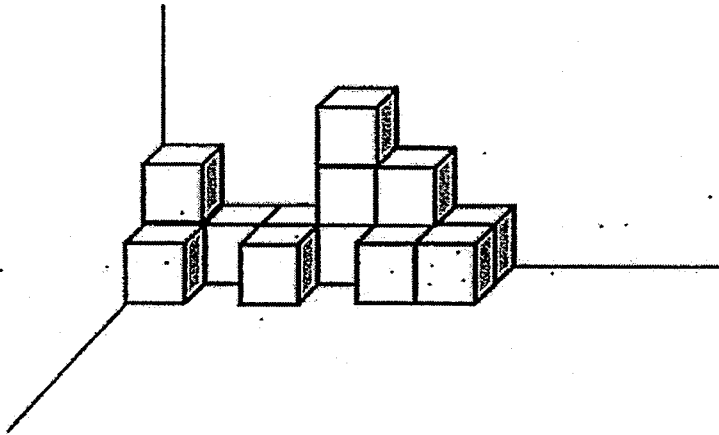


19. A train travelled 390 km at an average speed of 90 km/h. What was the time taken? Leave your answer as a mixed number in the simplest form.

Do not write in this space

Ans : \_\_\_\_\_

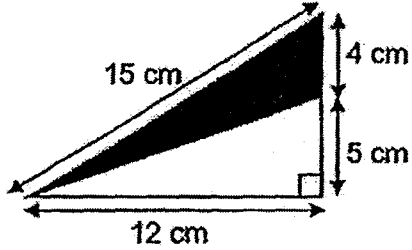
20. How many cubes are used to form this solid?



Ans : \_\_\_\_\_

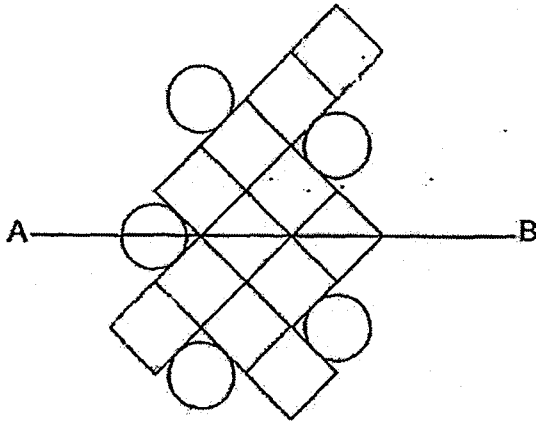


21. Find the area of the shaded triangle.



Ans : \_\_\_\_\_  $\text{cm}^2$

22. In the figure below, which two squares should be removed to make line AB the line of symmetry? Shade the two squares.



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Use the information given below to answer questions 23 and 24.

During a class party, some games were played. Each game was played only once.

The table shows the number of games some children played during the class party.

Number of games played	0	1	2	3
Number of children	10	7	12	9

23. How many children played at least 1 game?

Ans : \_\_\_\_\_

24. The games lasted 15 minutes each. What was the longest time that one of these children could have been playing games?

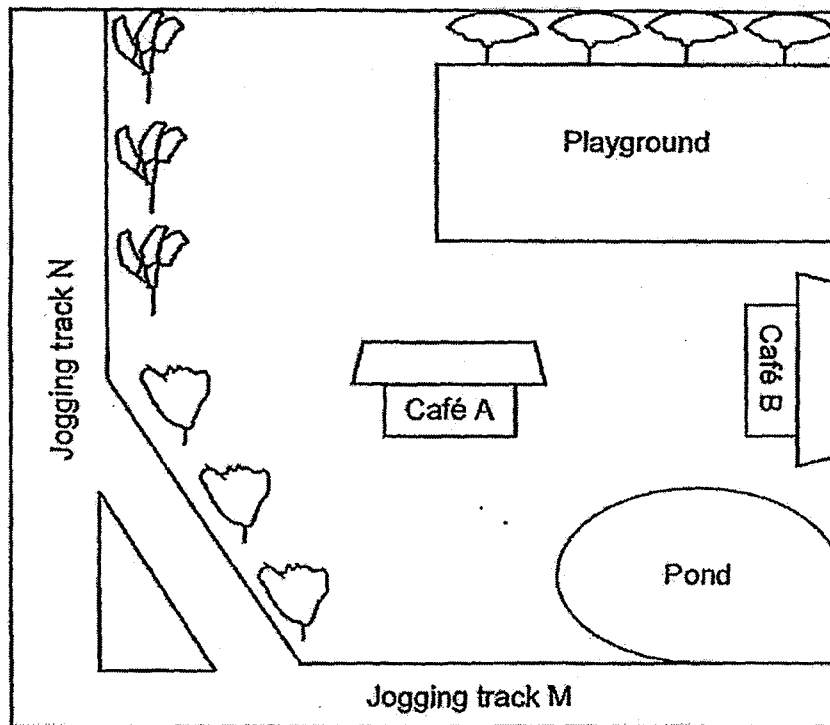
Ans : \_\_\_\_\_ min



Use the information below to answer question 25.

The figure shows a park.

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stands for a yellow flame tree



stands for a saga tree



stands for a rain tree

25. Which type of trees, yellow flame trees, saga trees or rain trees, forms a line parallel to jogging track M?

Ans : \_\_\_\_\_



Questions 26 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. (10 marks)

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26. The participants in a contest are Primary 5 and Primary 6 pupils in the ratio 7 : 6. All the Primary 5 participants are boys. Among the Primary 6 participants, the ratio of the number of girls to the number of boys is 2 : 3. What fraction of the total number of Primary 5 and Primary 6 participants are boys?

Ans : \_\_\_\_\_

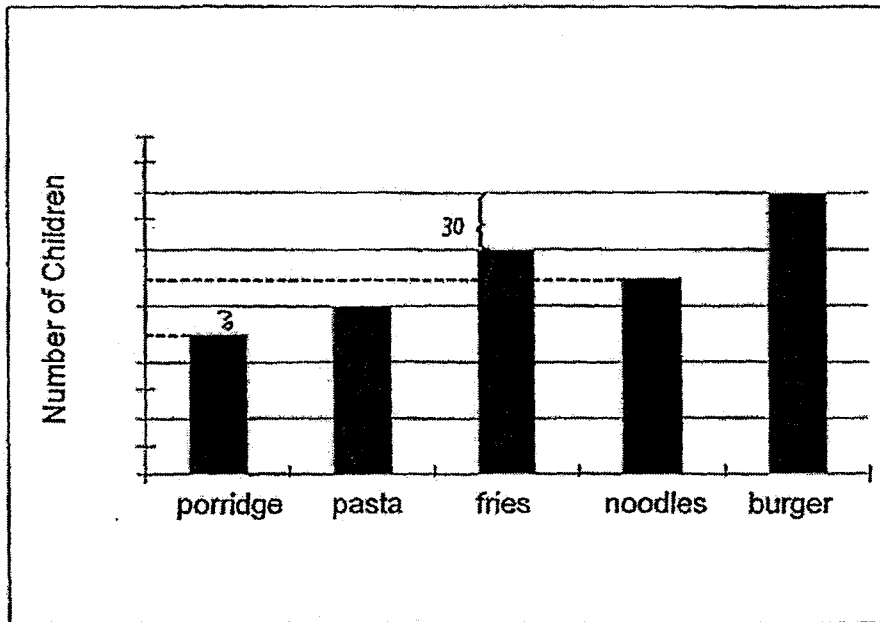
27. A group of kindergarten children were asked to vote for their favourite food.

The bar graph below shows their choices.

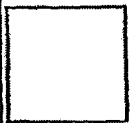
The difference between the number of children who voted for the most popular food and the number of children who voted for the next most popular food was 30.

How many children voted for porridge as their favourite food?

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Ans : \_\_\_\_\_



28. Li Wen had two pieces of wire of the same length. She used one piece of wire to form an equilateral triangle of side 27 cm. She used the other piece of wire to form a square but had 17 cm of the wire left. What was the length of the square?

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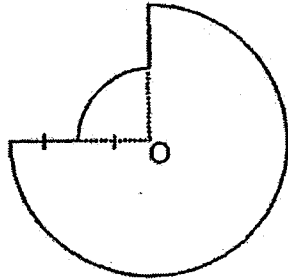
Ans : \_\_\_\_\_ cm

29. At first, on a bookshelf,  $\frac{7}{10}$  of the books were non-fiction books and the rest were fiction books.  $\frac{1}{3}$  of the fiction books and  $\frac{1}{7}$  of the non-fiction books were removed. Twelve non-fiction books were removed. How many books were left on the bookshelf altogether?

Ans : \_\_\_\_\_



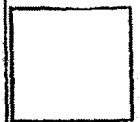
30. The figure below is made up of 3 big quadrants and 1 small quadrant. O is the centre of the circle and the diameter of the circle is 28 cm. Find the perimeter of the figure. (Take  $\pi = \frac{22}{7}$ )



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Ans : \_\_\_\_\_ cm

**\*\* END OF BOOKLET B\*\***





Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

**Primary 6 Mathematics**  
**2017 Preliminary Examination**  
**Paper 2**  
**22 AUGUST 2017**

\_\_\_\_\_  
Parent's Signature

Paper 1	40
Paper 2	60
<b>Total</b>	<b>100</b>

**18 QUESTIONS**  
**60 MARKS**

**TOTAL TIME FOR PAPER 2 : 1 HOUR 40 MINUTES**

**INSTRUCTIONS TO CANDIDATES**

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FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

WRITE YOUR ANSWERS IN THIS BOOKLET.

THE USE OF AN APPROVED CALCULATOR IS EXPECTED, WHERE APPROPRIATE.

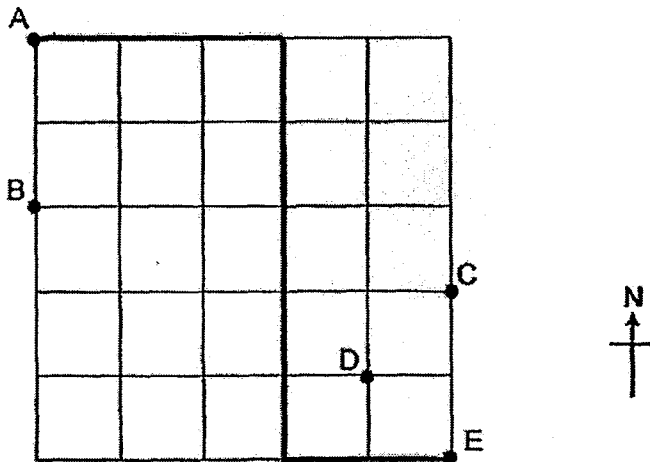
*This booklet consists of 17 printed pages including the cover page.*

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.

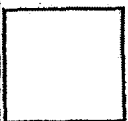
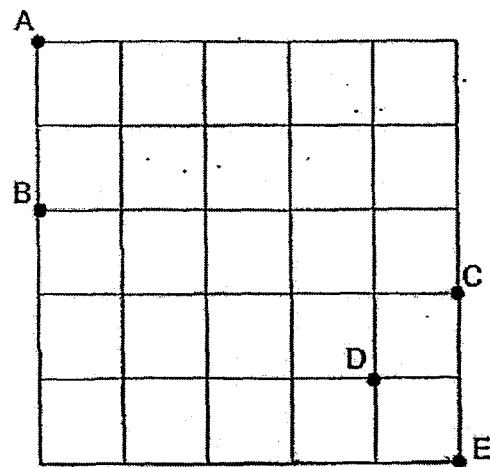
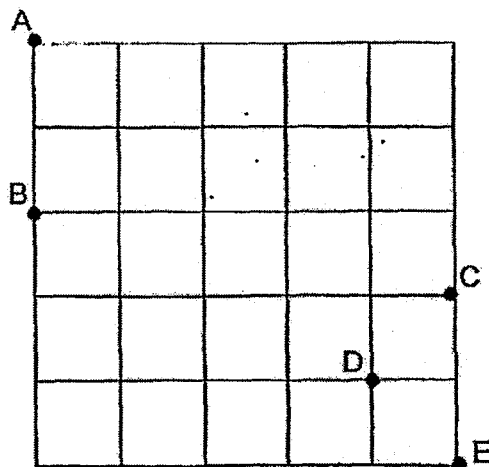
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(10 marks)

1. Joon Kee wants to move from point A to point E. He can only move south or east along the grid lines. He also must not cross points B, C and D. The grid below shows one way Joon Kee can move from point A to point E.



In each of the grids below, illustrate another two different ways that Joon Kee can move south or east from point A to point E, without crossing points B, C and D.



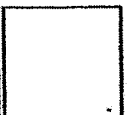
2. The mass of a pot was  $(3 + 9)$  kg. The mass of a flask was 3 kg less than the pot. Find the total mass of 1 such pot and 2 such flasks.

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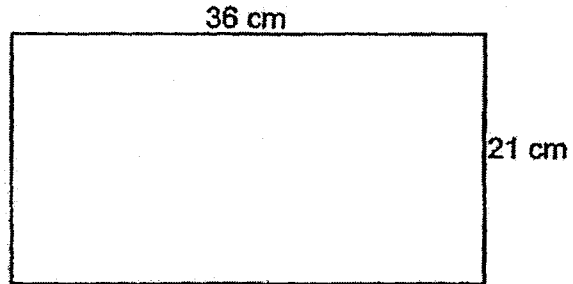
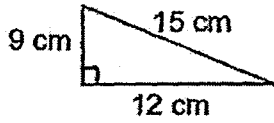
Ans : \_\_\_\_\_ kg

3. Jenny had a bottle of  $0.12\ell$  of medicine. She was supposed to take an equal amount each day. She did not take the medicine on the 3<sup>rd</sup> day. At the end of the 5<sup>th</sup> day, she stopped taking the medicine. Half the bottle of medicine was left. How much medicine did Jenny take each day?

Ans : \_\_\_\_\_ ml



4. Tim wants to use triangular cards to cover a rectangular cardboard of length 36 cm and breadth 21 cm completely, with no overlapping. One such triangular card is shown below. What is the smallest number of such triangular cards needed to cover the rectangular cardboard completely?



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Ans : \_\_\_\_\_

5. Almaz paid \$76.50 for some rings. Every ring cost the same. She also bought 5 bangles and paid \$35.90 for each of them. The average cost of the rings and the 5 bangles was \$32. How many rings did she buy?

Ans : \_\_\_\_\_

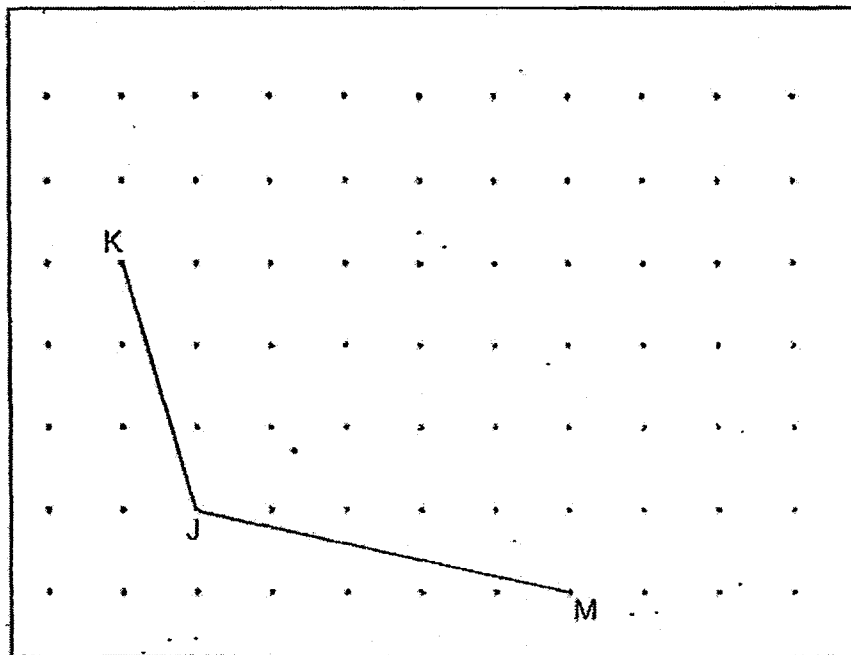


For questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (50 marks)

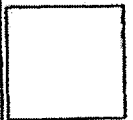
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6. JK and JM are two sides of a parallelogram.

- (a) Complete the parallelogram JKLM by drawing the other two sides. Label the parallelogram.
- (b) Draw a line perpendicular to LK passing through point J.

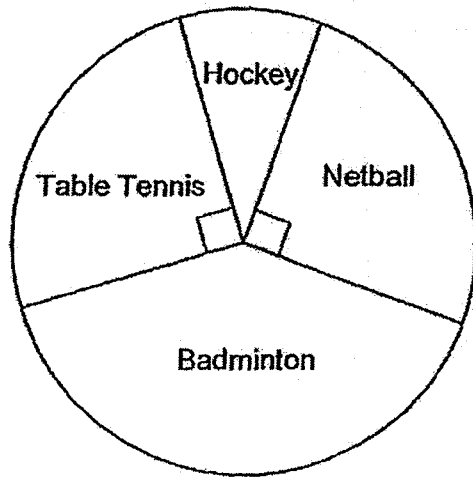


[3]



7. The pie chart shows the number of members in 4 CCAs in Respectful Primary School.

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There are altogether 96 members in hockey and netball. The number of hockey members is 34 fewer than the number of table tennis members. How many members are there in badminton?

Ans : \_\_\_\_\_ [3]

8. A group of boys and girls went to an art exhibition. There were 180 girls at first. When  $\frac{4}{5}$  of the boys and  $\frac{2}{3}$  of the girls left the exhibition, the number of boys and girls who remained became 135. How many boys were there at first?

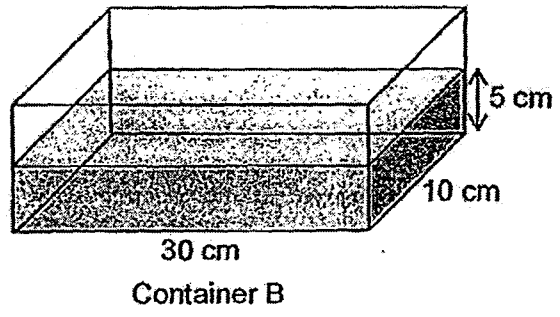
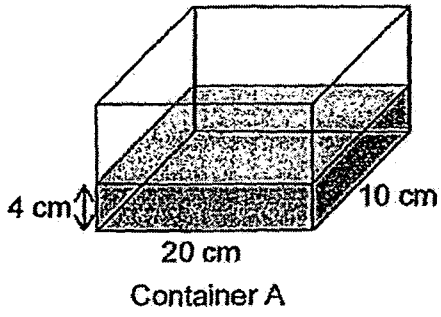
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Ans : \_\_\_\_\_ [3]



9. Container A and Container B were filled with some water as shown below. All the water from Container B was poured into Container A. In the end, Container A was filled to the brim. What was the height of Container A?

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Ans : \_\_\_\_\_ [3]





10. Cheryl had twice as many beads as Diana at first. Every day, Diana used 8 beads and Cheryl used 6 beads to make necklaces. When Diana had used all her beads, Cheryl still had 70 beads left. How many days did Diana take to use all her beads?

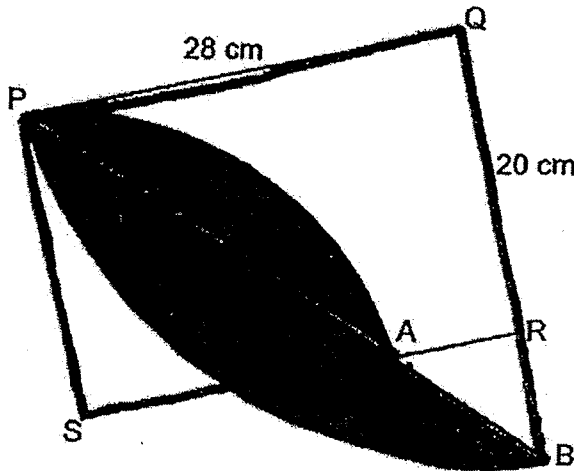
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Ans : \_\_\_\_\_ [3]



11. The figure below is made up of a rectangle, PQRS and two quarter circles, PAS and PBQ. Find the area of the shaded part. (Take  $\pi = 3.14$ )

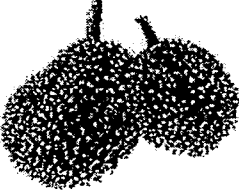
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Ans : \_\_\_\_\_ [4]



12. Two brands of durians, Brand X and Brand Y, were sold at different prices as shown in the table below.

<i>Durians for Sale</i>	
	
Brand	Price Per Durian
X	\$21
Y	\$9

The number of Brand Y durians sold was 3 times of the number of Brand X durians sold. The total amount of money collected from the sale of Brand X durians was \$612 less than the total amount of money collected from the sale of Brand Y durians. How many durians were sold altogether?

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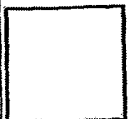
Ans : \_\_\_\_\_ [4]



13. David bought a bag of soil to do gardening. He kept  $\frac{4}{9}$  of it for his own use. Then he scooped out 1.5 kg of the soil for his brother and  $\frac{2}{7}$  of the remainder for his sister. He gave the rest to his mother.  $\frac{1}{5}$  of his mother's share was 250 g. What was the mass of the bag of soil David bought?

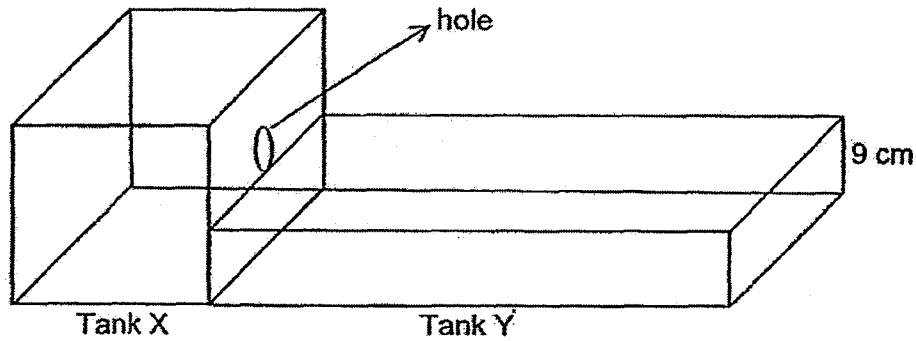
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Ans: \_\_\_\_\_ [4]



14. The figure below shows Tank X and Tank Y placed together. Both the tanks were empty. Tank X is a cubical tank of base area  $484 \text{ cm}^2$ . When some water was poured into Tank X, some of the water flowed into Tank Y through the hole which was just above Tank Y. In the end, Tank Y was  $\frac{3}{8}$  filled and there was a total of 8217 ml of water in the two tanks. Find the capacity of Tank Y.

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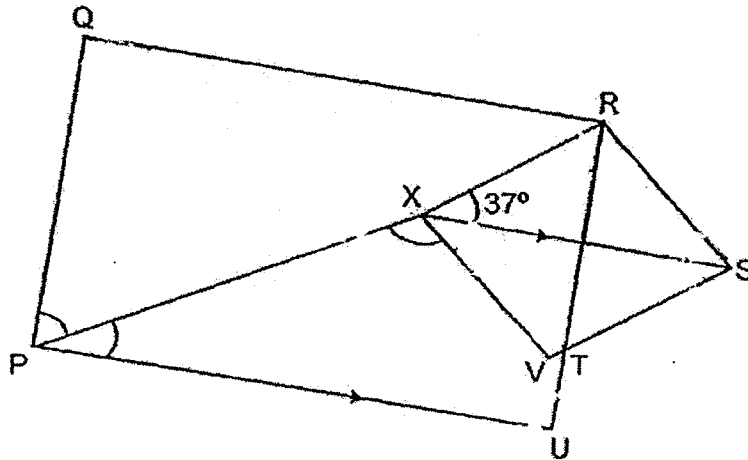
Ans : \_\_\_\_\_ [4]



15. The figure below shows a rectangle PQRU. All the sides of XRSV are equal.

- (a) Name an isosceles triangle in XRSV.
- (b)  $\angle QPX$  is  $44^\circ$  bigger than  $\angle XPU$ . Find  $\angle XPU$ .
- (c) Find  $\angle PXV$ .

Do not write in this space



- Ans : (a) Triangle \_\_\_\_\_ [1]  
 (b) \_\_\_\_\_ [2]  
 (c) \_\_\_\_\_ [2]



16. In 2015, the ratio of the number of men to the number of women who signed up for a marathon was 5 : 4. In 2016, the number of men decreased by 30% and the number of women increased by 50%. A total of 5225 men and women signed up for the marathon in 2016.

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- (a) Was there an overall increase or decrease in the total number of people who signed up for the marathon from 2015 to 2016?
- (b) What was the difference between the total number of people who signed up for the marathon in the two years?

Ans : (a) Overall \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



17. Mrs Bae left Town X at 11.35 a.m. and drove to Town Z.  
For the first 67.5 km, she drove at an average speed of 90 km/h.  
She stopped in Town Y for a short break of 20 min.  
Then she drove the rest of the distance at an average speed of 80 km/h for 24 min.
- (a) Find the distance between Town Y and Town Z.  
(b) What time did Mrs Bae arrive at Town Z?

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Ans : (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

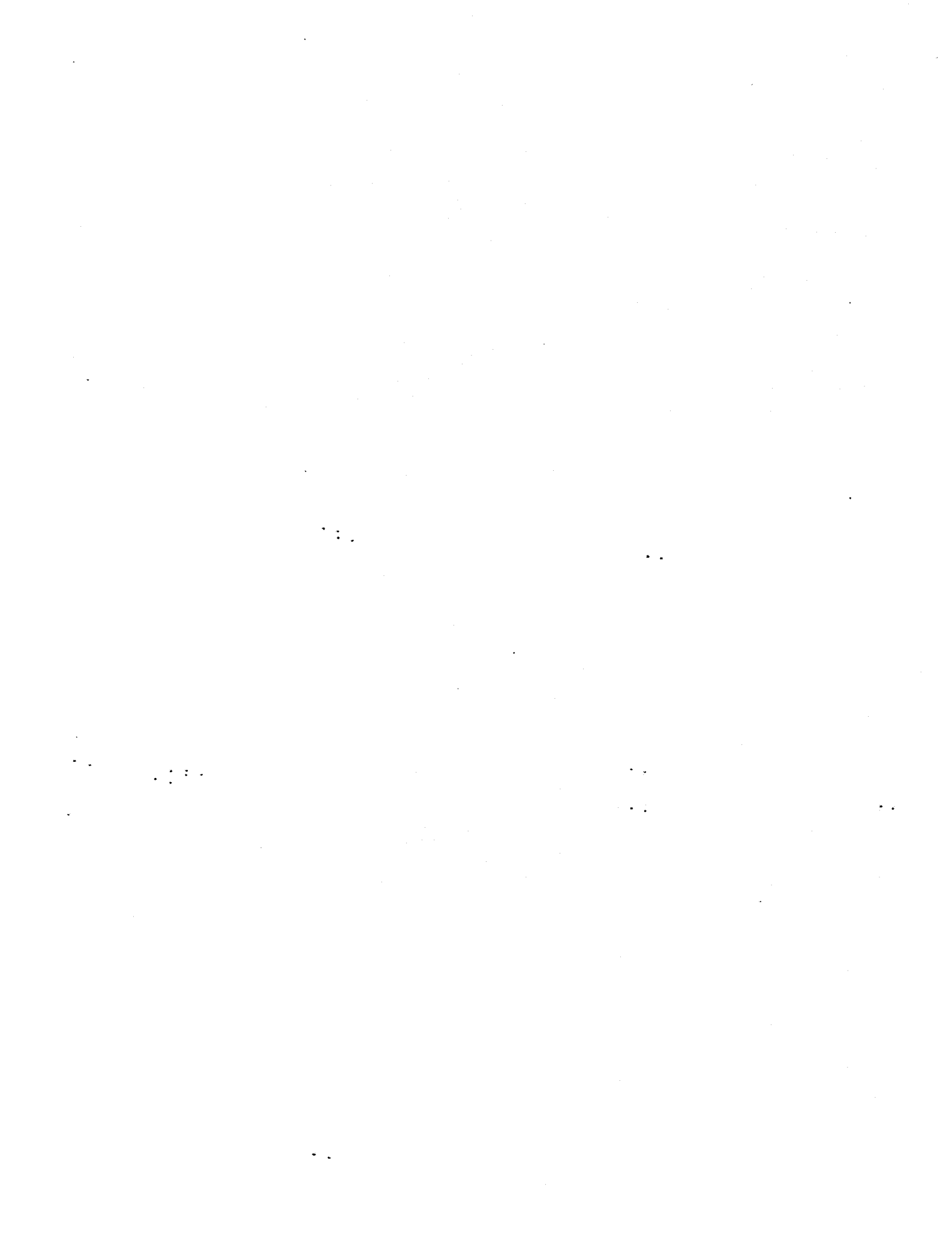




18. Tristan bought a football and two jerseys.  
Beckam bought a football, a jersey and a helmet.  
Tristan and Beckam bought the same type of football and jersey.  
Tristan spent \$71 less than Beckam.  
The cost of a Jersey is \$54 more than the cost of a football.  
The ratio of the cost of a football to the cost of a helmet is 1 : 6.  
How much did Beckam spend on the football, the jersey and the helmet altogether?

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Ans : \_\_\_\_\_ [5]



# ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : CHIJ

SUBJECT : MATHEMATICS

TERM : PRELIM

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	3	3	4	2	3	3	2	4	1
Q11	Q12	Q13	Q14	Q15					
3	1	3	4	5					

16)  $16 \times 9 = 144$

$144 \div 4 = 36$

$20 \times 9 = 180$

$180 - 36 = 144$

$144 + 45 = 189$

17) 212499

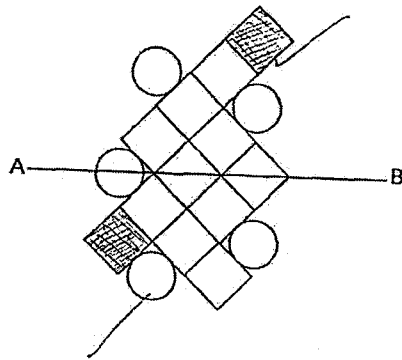
18) 96

19)  $4\frac{1}{3}$

20) 14

21)  $\frac{1}{2} \times 4 \times 12 = 24\text{cm}^2$

22)



23)  $7 + 12 + 9 = 28$

24)  $15 \times 3 = 45$  min

25) The rain trees

26)  $18u + 35u = 53u$

$53/65$

27)  $\frac{1}{2}$  of 30  $\rightarrow$  15

$30 + 30 + 15 = 75$

28)  $27 \times 3 = 81$

$81 - 17 = 64$

$64 \div 4 = 16$ cm

29)  $1/7 \rightarrow 12$

$7/7 \rightarrow 12 \times 7 = 84$  (no. of n.f book)

$12 \times 3 = 36$

$36 - 12 = 24$

$10 \times 12 = 120$

$120 - 24 = 96$

30) radius of circle  $\rightarrow 28 \div 2 = 14$

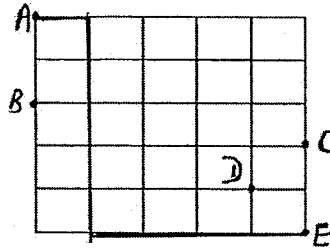
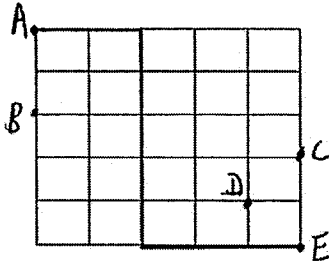
$\frac{3}{4} \times \frac{22}{7} \times 28 = \frac{33}{14} \times \frac{28}{1} = \frac{66}{1}$

$\frac{1}{4} \times \frac{22}{7} \times 14 = \frac{11}{14} \times \frac{14}{1} = \frac{11}{1}$

$66 + 11 + 14 = 91$

Paper 2

1)



2) 2 Flasks  $\rightarrow (9r) \text{kg} \times 2 = (18r) \text{kg}$

$(18r) \text{kg} + (3+9r) \text{kg} = (3+27r) \text{kg}$

3) 4 days  $\rightarrow 60 \text{ml}$

1 days  $\rightarrow 60 \text{ml} \div 4 = 15 \text{ml}$ .

4) Area of A  $\rightarrow \frac{1}{2} \times 12 \times 9 = 54$

Area of B  $\rightarrow 36 \times 21 = 756$

$756 \div 54 = 14$  triangular cards

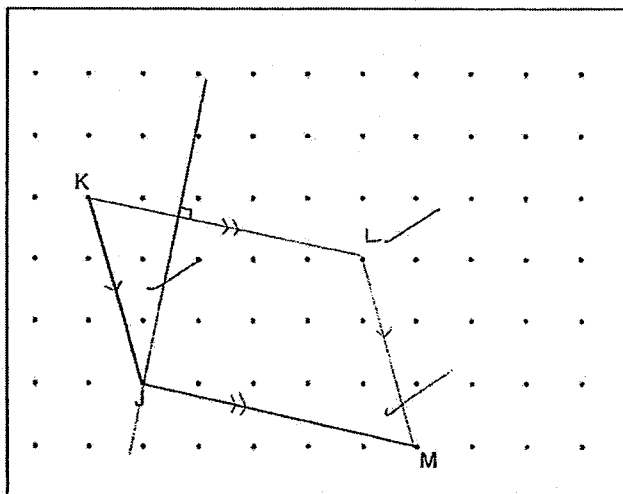
5) 5 bangles  $\rightarrow \$35.90 \times 5 = \$179.50$

Total amount  $\rightarrow \$179.50 + \$76.50 = \$256$

$\$256 \div \$32 = 8$

$8 - 5 = 3$  rings

6)



7)  $96 - 34 = 62$

$62 \div 2 = 31$  (hockey)

$\frac{1}{4} \rightarrow 31 + 34 = 65$  (table tennis/netball)

$4/4 \rightarrow 65 \times 4 = 260$

$65 + 65 + 31 = 161$

$260 - 161 = 99$  members

8)  $180 \times \frac{2}{3} = 120$  (no. of girls who left)

$135 + 120 = 255$  (no. of people before girls left)

$255 - 180 = 75$  ( $\frac{1}{5}$  of boys)

$5/5b \rightarrow 75 \times 5 = 375$  (no. of boys at first)

9)  $800\text{ml} + 1500\text{ml} = 2300\text{ml}$

$2300\text{ml} = 2300\text{cm}^3$

$2300\text{cm}^3 \div 20 \div 10 = 11.5\text{cm}$

10)  $16u - 6u = 10u$

$10u \rightarrow 70$

$1u \rightarrow 7$

$8u \rightarrow 7 \times 8 = 56$

$56 \div 8 = 7$

$$11) \frac{1}{4} \times 3.14 \times 20 \times 20 = 314 \text{ (Area of A)}$$

$$\frac{1}{2} \times 20 \times 20 = 200$$

$$314 - 200 = 114$$

$$\frac{1}{4} \times 3.14 \times 28 \times 28 = 615.44 \text{ (Area of B)}$$

$$\frac{1}{2} \times 28 \times 28 = 392$$

$$615.44 - 392 = 223.44$$

$$114 + 223.44 = 337.44 \text{ (total area of part)}$$

$$12) 9 \times 3 = 27$$

$$21 + 1 = 21$$

$$27 - 21 = 6$$

$$612 \div 6 = 102$$

$$3 + 1 = 4$$

$$102 \times 4 = 408$$

$$13) \frac{5}{5}m \rightarrow 250g \times 5 = 1250g \text{ (5/7 of remainder)}$$

$$\frac{1}{7}R \rightarrow 1250g \div 5 = 250g$$

$$\frac{7}{7}R \rightarrow 250g \times 7 = 1750g$$

$$1.5kg = 1500g$$

$$1500g + 1750g = 3250g \text{ (5/9)}$$

$$3250g \div 5 = 650g \text{ (1/9)}$$

$$\frac{9}{9} \rightarrow 650g \times 9 = 5850g$$

14)  $484\text{cm}^2 \times 9\text{cm} = 4356\text{cm}^3$

$4653\text{cm}^3 = 4356\text{ml}$

$8217\text{ml} - 4356\text{ml} = 3861\text{ml}$

$3861\text{ml} \div 3 = 1287\text{ml}$

$1287\text{ml} \times 8 = 10296\text{ml}$

15)a) XRS

b)  $90^\circ - 44^\circ = 46^\circ$

$46^\circ \div 2 = 23^\circ$

c)  $180^\circ - 23^\circ - 37^\circ = 120^\circ$

16)a) increase

b)  $3.5u + 6u = 9.5u$

$9.5u \rightarrow 5225$

$1u \rightarrow 5225 \div 9.5u = 550$

$9u \rightarrow 550 \times 9 = 4950$

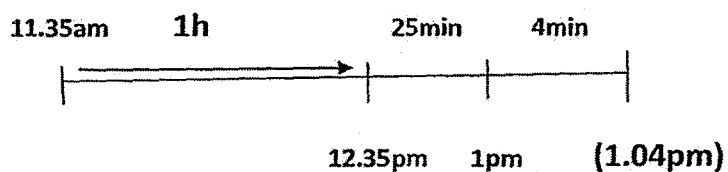
$5225 - 4950 = 275 \text{ people}$

17)a)  $A \rightarrow 67.5/90 = \frac{3}{4} \text{ h (D/S)}$

$24\text{min} = \frac{2}{5}\text{h}$

$B \rightarrow 80 \times \frac{2}{5}\text{h} = 32\text{km}$

b)  $\frac{3}{4}\text{h} + \frac{2}{5}\text{h} + 20 \text{ min} = \frac{3}{4}\text{h} + \frac{2}{5}\text{h} + \frac{1}{3}\text{h} = \frac{129}{60} = 1\text{h } 29\text{min}$





$$18) 5\text{FB} \rightarrow \$54 + \$71 = \$125$$

$$1\text{FB} \rightarrow \$125 \div 5 = \$25$$

$$1\text{J} \rightarrow \$25 + \$54 = \$79$$

$$7\text{FB} \rightarrow \$25 \times 7 = \$175$$

$$\$175 + \$79 = \$254$$





新加坡福建会馆属下五校小六统一考试

道南 • 爱同 • 崇福 • 南侨 • 光华

SINGAPORE HOKKIEN HUAY KUAN  
5-SCHOOL COMBINED

PRIMARY 6 PRELIMINARY EXAMINATION

TAO NAN • AI TONG • CHONGFU • NAN CHIAU • KONG HWA

2017

数学 MATHEMATICS  
PAPER 1  
BOOKLET A

Date: 22 August 2017

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.
- √ Shade your answers in the Optical Answer Sheet (OAS) provided.
- √ The use of calculators is **NOT** allowed.

This booklet consists of 7 printed pages.

School : \_\_\_\_\_

Name : \_\_\_\_\_

Class : \_\_\_\_\_

TOTAL	20
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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 What is the value of 3 hundreds, 7 tenths and 9 hundredths?
- (1) 300.79
  - (2) 300.709
  - (3) 307.9
  - (4) 370.09
- 2 Which is the greatest possible number that will become 25 000 when rounded off to the nearest thousand?
- (1) 24 500
  - (2) 24 999
  - (3) 25 499
  - (4) 25 900
- 3 Express 3.05 l in ml.
- (1) 305 ml
  - (2) 350 ml
  - (3) 3005 ml
  - (4) 3050 ml
-

- 4 The table below shows the number of cakes Mrs Tan sold from Friday to Sunday.

Day	Number of cakes sold in terms of $y$
Friday	$3y$
Saturday	$30 - y$
Sunday	$4y - 7$

What was the total number of cakes Mrs Tan sold from Friday to Sunday?

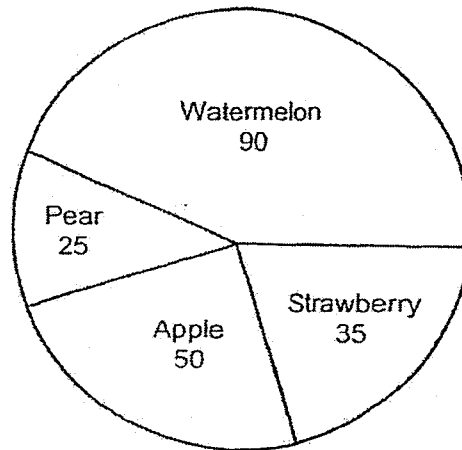
- (1)  $8y + 23$   
(2)  $8y - 37$   
(3)  $6y + 23$   
(4)  $6y - 37$
- 5 How many three-quarters are there in 12?

- (1)  $\frac{1}{16}$   
(2)  $\frac{1}{9}$   
(3) 9  
(4) 16

6 A number when divided by 30 gives a quotient of 5 and a remainder of 8.  
What is the number?

- (1) 142
- (2) 158
- (3) 190
- (4) 245

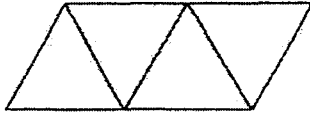
7 The pie chart shows the favourite fruits of a group of 200 students.  
Which fruit was chosen by 25% of the students as their favourite fruit?



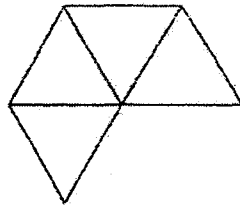
- (1) Apple
- (2) Pear
- (3) Strawberry
- (4) Watermelon

8 Which of the following is a net of a prism?

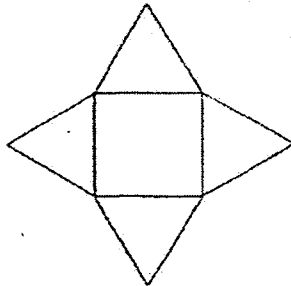
(1)



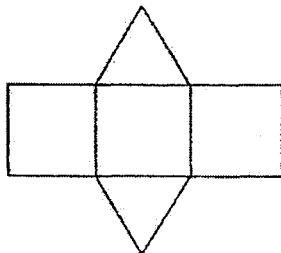
(2)



(3)



(4)





9 The ratio of Imran's age to Johan's age is 3 : 4. Imran is 24 years old. How old is Johan?

- (1) 18 years old
- (2) 25 years old
- (3) 28 years old
- (4) 32 years old

10 The sum of 4 numbers is 960. One of the numbers is 150. What is the average of the other 3 numbers?

- (1) 240
- (2) 270
- (3) 320
- (4) 810

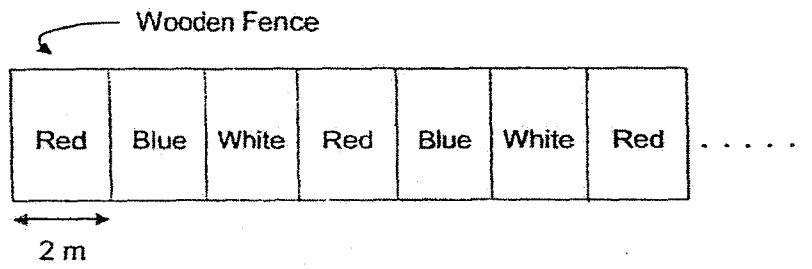
11 The table below shows a baby's mass on the first day of each month from March to July.

Date	Mass (kg)
1 <sup>st</sup> March	2.6
1 <sup>st</sup> April	3.5
1 <sup>st</sup> May	5.1
1 <sup>st</sup> June	6.2
1 <sup>st</sup> July	7.4

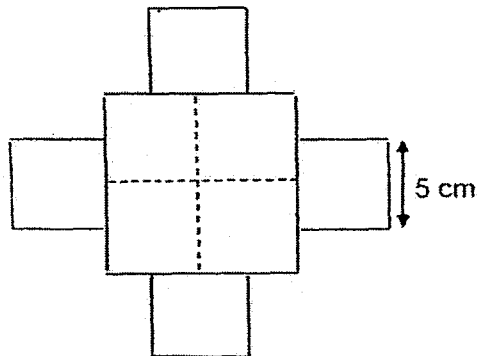
In which month did the baby's mass increase the least?

- (1) March
- (2) April
- (3) May
- (4) June

- 12 A wooden fence 100 m long is divided into equal segments and painted red, blue and white. Each segment is 2 m long. The segments follow a repeated pattern. How many segments of the wooden fence are painted red?

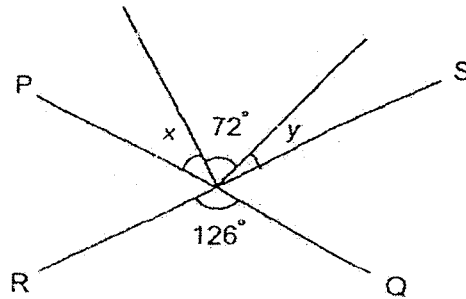


- (1) 16  
 (2) 17  
 (3) 22  
 (4) 34
- 13 The figure is formed by putting 8 identical pieces of 5-cm square papers together without overlapping. Find the perimeter of the figure.

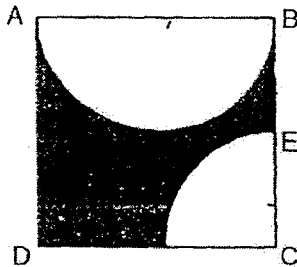


- (1) 200 cm  
 (2) 160 cm  
 (3) 80 cm  
 (4) 40 cm

- 14 In the figure, PQ and RS are straight lines.  $\angle x$  is twice of  $\angle y$ . Find the size of  $\angle x$ .



- (1)  $18^\circ$   
 (2)  $27^\circ$   
 (3)  $36^\circ$   
 (4)  $54^\circ$
- 15 ABCD is a square of area  $64 \text{ cm}^2$ . A semicircle and a quadrant lie within the square.  $BE = EC$ . Find the area of the shaded part.



- (1)  $(52\pi) \text{ cm}^2$   
 (2)  $(64 - 6\pi) \text{ cm}^2$   
 (3)  $(64 - 12\pi) \text{ cm}^2$   
 (4)  $(64 - 16\pi) \text{ cm}^2$

2017

数学 MATHEMATICS  
PAPER 1  
BOOKLET B

Date: 22 August 2017

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

This booklet consists of 7 printed pages.

School : \_\_\_\_\_

Name : \_\_\_\_\_

Class : \_\_\_\_\_

TOTAL	20
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Questions 16 to 25 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 Divide 12.36 by 4.

Ans : \_\_\_\_\_

---

17 Write down all the common factors of 15 and 36.

Ans : \_\_\_\_\_

---

18 Andy, Bill and Cody shared 160 Pokemon cards in the ratio 4 : 3 : -1 :  
How many Pokemon cards did Cody have?

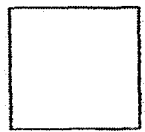
Ans : \_\_\_\_\_

19 Find the value of  $\frac{2}{3} \div \frac{5}{9}$ .

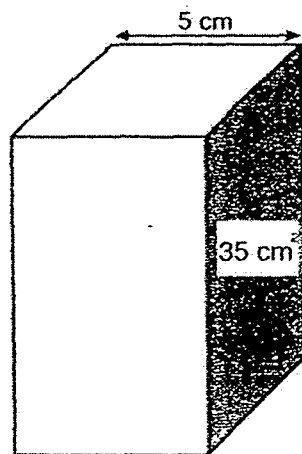
Express your answer as a mixed number in its simplest form.

Do not  
write in  
this space

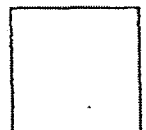
Ans : \_\_\_\_\_



20 Find the volume of the cuboid below.

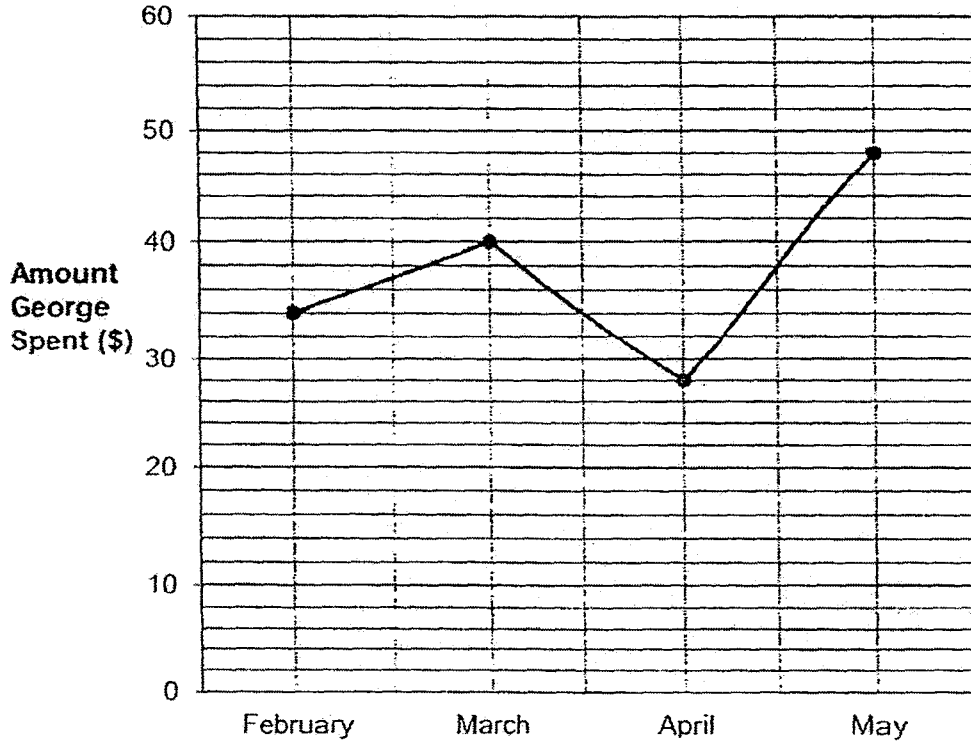


Ans : \_\_\_\_\_ cm<sup>3</sup>



Use the information below to answer questions 21 and 22.

George received \$80 for his pocket money each month. The line graph shows the amount of pocket money he spent each month. He saved the rest of his pocket money.



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21 In which month did George spend more than half his pocket money?

Ans : \_\_\_\_\_

22 How much did George save in February?

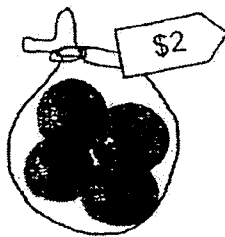
Ans : \$ \_\_\_\_\_

- 23 There are 45 eggs in a tray. 20% of them are cracked. How many eggs in the tray are not cracked?

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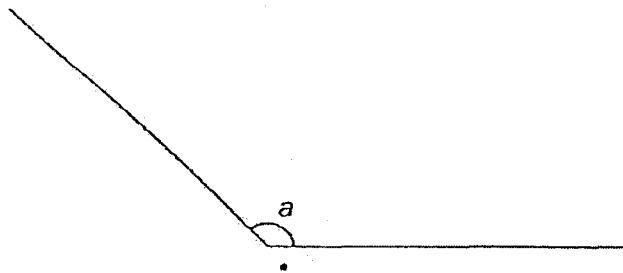
Ans : \_\_\_\_\_

- 24 Oranges are only sold in bags of 4 oranges. Each bag is sold at \$2. Mrs Lim has \$11. How many oranges can she buy at most?



Ans : \_\_\_\_\_

- 25 Measure and write down the size of  $\angle a$  in the figure.



Ans : \_\_\_\_\_



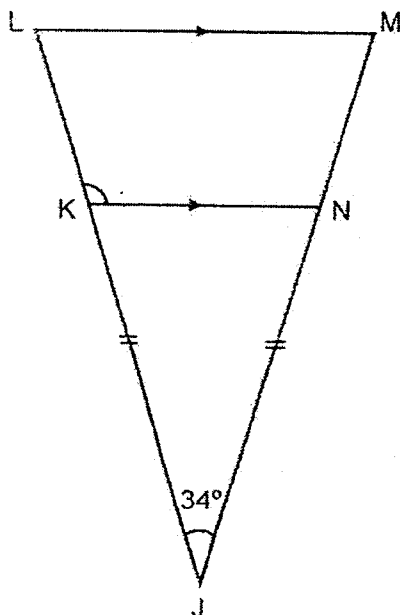
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

- 26 Kate is  $2n$  years old. Kate's father is 4 times as old as she. Kate's mother is 5 years younger than Kate's father. How old was Kate's mother when Kate was born? Express your answer in terms of  $n$  in its simplest form.

Ans : \_\_\_\_\_ years old

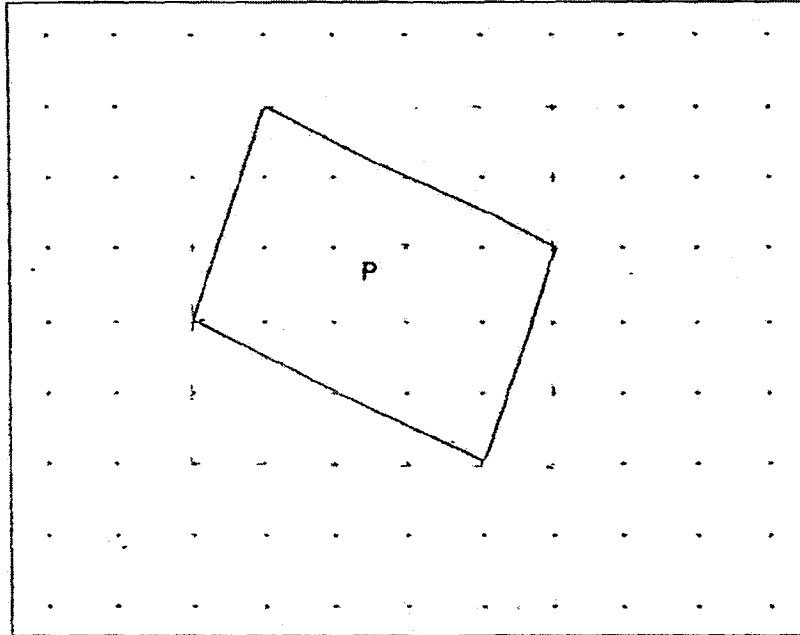
- 27 In the figure, JLM is an isosceles triangle with  $JL = JM$  and KLMN is a trapezium.  $LM \parallel KN$  and  $\angle KJN = 34^\circ$ . Find  $\angle NKL$ .



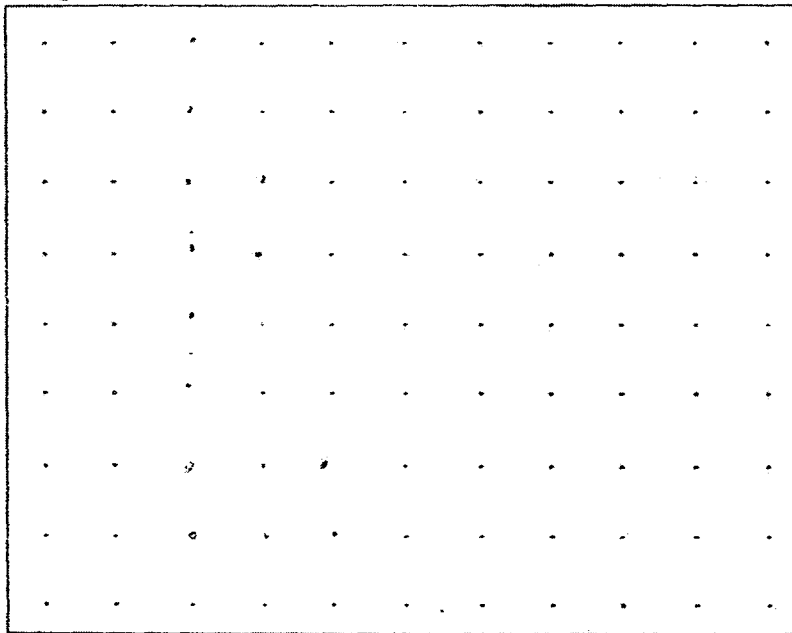
Ans : \_\_\_\_\_

- 28 A parallelogram P is drawn by joining dots on the square grid below with four straight lines.

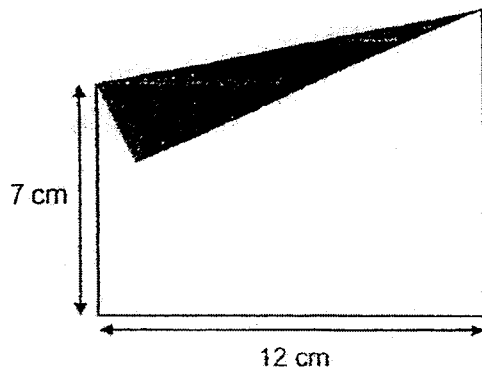
Do not write in this space



By joining dots with straight lines in the square grid below, draw a triangle with half the area of P. Label the triangle T.



- 29 A rectangular piece of paper is folded as shown in the figure below. The length of the rectangle is 12 cm. The ratio of the length to the breadth of the rectangle is 4 : 3. Find the area of the shaded triangle.

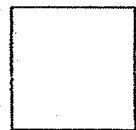
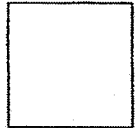


Ans : \_\_\_\_\_ cm<sup>2</sup>

- 30 Ming Teck gave 12 stickers to his sister and  $\frac{1}{5}$  of the remainder to his brother. He was then left with  $\frac{2}{3}$  of his stickers. How many stickers did he have at first?

Ans : \_\_\_\_\_

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write in  
this space



End of Paper 1

**2017**

**MATHEMATICS**

**PAPER 2**

Date : 22 August 2017  
Total Time : 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.
- √ Write your answers in this booklet
- √ The use of an approved calculator is expected, where appropriate.

This booklet consists of 15 printed pages.

School : \_\_\_\_\_  
Name : \_\_\_\_\_  
Class : \_\_\_\_\_

TOTAL	60
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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.

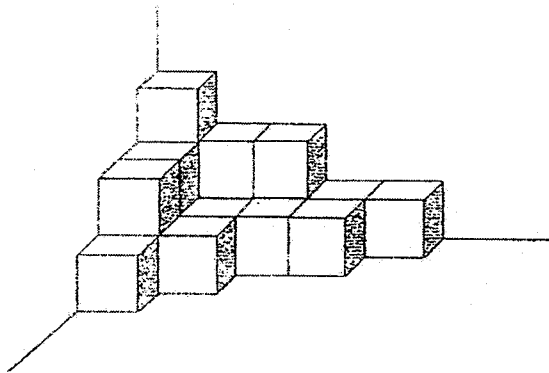
(10 marks)

Do not write  
in this space

- 1 Sara put an amount of money in a bank which pays 2% annual interest. After one year, she received \$25 as interest. She did not withdraw any money from the bank. Find the total amount of money Sara had in the bank after one year.

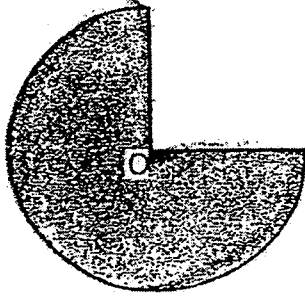
Ans: \$ \_\_\_\_\_

- 2 The solid below is made up of 1-cm cubes. How many more 1-cm cubes must be added to the solid to make it a cuboid with sides of 5 cm by 4 cm by 3 cm?



Ans: \_\_\_\_\_

- 3 The figure shows a three-quarter circle with centre  $O$  and radius 60 cm. Using the calculator value of  $\pi$ , find the perimeter of the figure. Give your answer correct to 1 decimal place.



Ans: \_\_\_\_\_ cm

- 4 Square A has an area of  $256 \text{ cm}^2$ . Square B has an area  $68 \text{ cm}^2$  more than Square A. What is the ratio of the length of Square A to the length of Square B? Give your answer in its simplest form.

Ans: \_\_\_\_\_

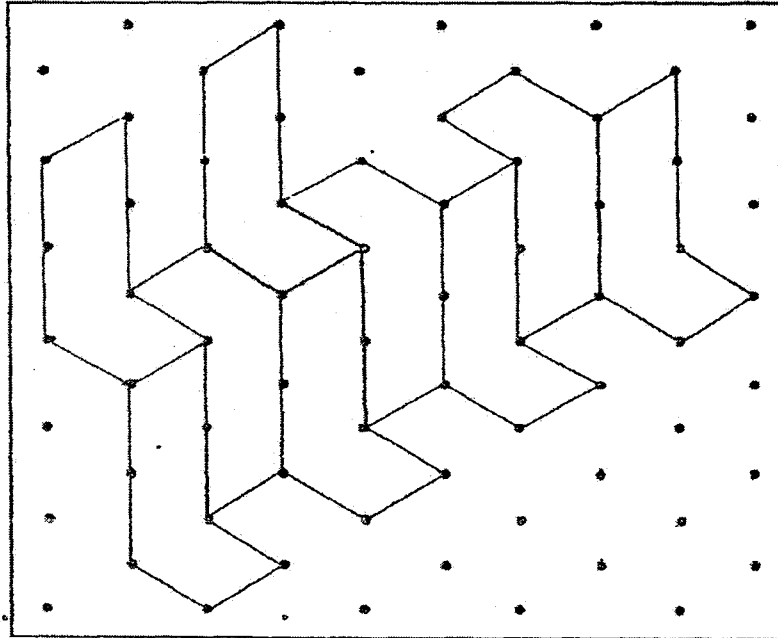
Do not write  
in this space

5 Part of a tessellation is shown below.

Do not write  
in this space.

(a) Shade one unit shape.

(b) Extend the tessellation by drawing one more unit shape within the grid.



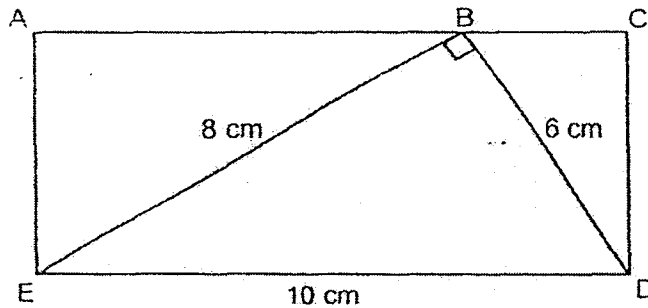
For questions 5 to 18, show your working clearly in the space provided for each question and write the answers in the spaces provided. The number of marks available is shown in the brackets [ ] at the end of each question or part-question. (50 marks)

Do not write in this space.

- 6 A list of 13 numbers has an average of 260. When two numbers are removed from the list, the average of the remaining numbers is 231. The difference between the two numbers that are removed is 1. What are the two numbers that have been removed?

Ans: \_\_\_\_\_ and \_\_\_\_\_ [3]

- 7 ACDE is a rectangle and BDE is a right-angled triangle. ED = 10 cm, BD = 6 cm and BE = 8 cm. Find the length of CD.



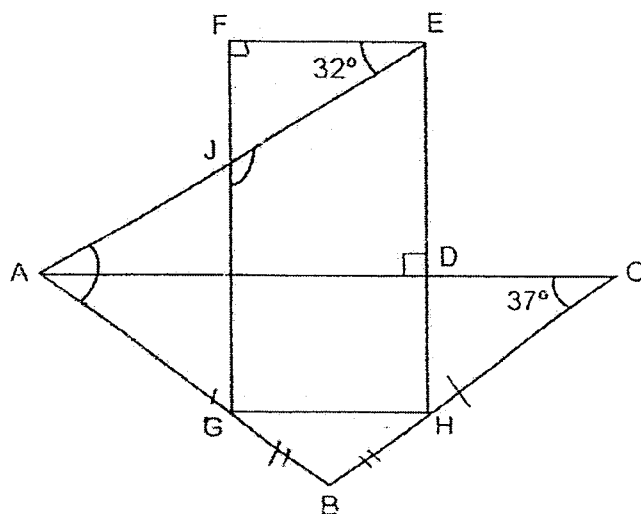
Ans: \_\_\_\_\_ [3]



- 8 In the figure, EFGH is a rectangle. ABC is an isosceles triangle and ADE is a right-angled triangle.  $AB = BC$  and  $BG = BH$ .  $\angle ACB = 37^\circ$  and  $\angle FEJ = 32^\circ$ .

Find

- (a)  $\angle EJG$   
 (b)  $\angle JAG$



Do not write  
in this space

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

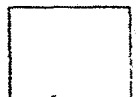


9

Debbie and Nick bought the same number of identical books at a bookstore. Debbie paid \$165 for all the books she bought. Nick was given a 20% discount. With the discount, he could buy another 3 such books at the original price. What was the price of each book after discount?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]



- 10 Mr Sim and Mr Low started driving from Town X to Town Y at the same time along the route shown below. Both did not change their speeds throughout. Mr Sim's average speed was 15 km/h slower than Mr Low's. After 20 min, Mr Low reached Town Y but Mr Sim had only covered  $\frac{4}{5}$  of the distance covered by Mr Low. Find Mr Sim's average speed in km/h.



Do not write  
in this space

Ans: \_\_\_\_\_ [4]



- 11 Packets of biscuits were divided equally among 21 families at a charity fair. 7 families gave away  $\frac{3}{4}$  of their share to the other families. As a result, the other families received 12 more packets of biscuits each. How many packets of biscuits were there at first?

Do not write  
in this space

Ans: \_\_\_\_\_ [4]



- 12 In a kindergarten,  $\frac{1}{3}$  of the boys and  $\frac{7}{11}$  of the girls walk to school.  $\frac{1}{2}$  of the children in the kindergarten walk to school. There are 6 more girls than boys in the kindergarten. How many children are there in the kindergarten altogether?

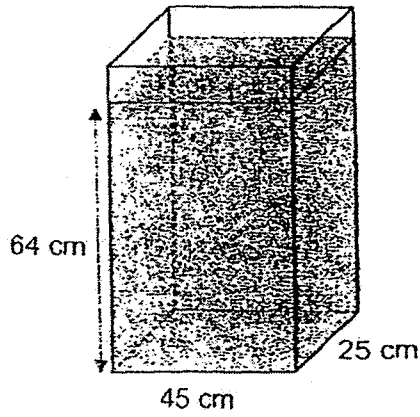
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Ans: \_\_\_\_\_ [4]

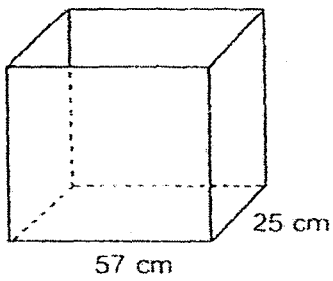


- 13 Tank A is filled with water to a height of 64 cm. Tank B and Tank C are empty at first. Some water in Tank A is then poured into Tank B and Tank C until the water level in each of the three tanks has the same height. Find the volume of water in Tank B in the end.

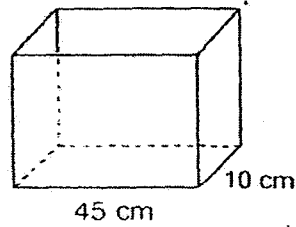
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Tank A



Tank B



Tank C

Ans: \_\_\_\_\_ [4]

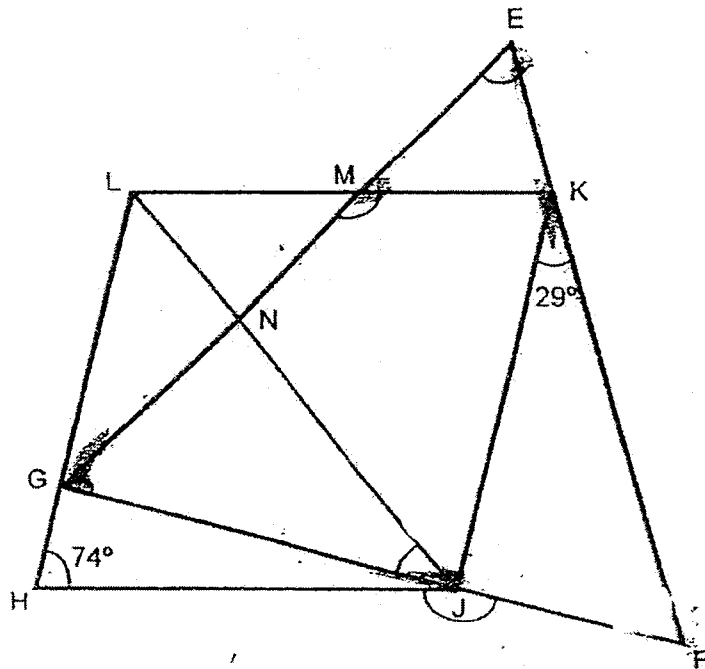


- 14 In the figure, EFG is an equilateral triangle and HJKL is a rhombus.  $\angle LHJ = 74^\circ$  and  $\angle JKF = 29^\circ$ . LNJ is a straight line.

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in this space

Find

- (a)  $\angle NMK$   
(b)  $\angle HJF$



Ans : (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



- 15 Sheryl had \$118. This amount of money was just enough to buy 4 large T-shirts and 3 small T-shirts. Sheryl bought 3 large T-shirts and 4 small T-shirts instead. She had \$1.50 left. Find the cost of one large T-shirt.

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in this space

Ans: \_\_\_\_\_ [4]



- 16 Ali had \$200 more than Kai Cong at first. After Ali spent \$340 and Kai Cong received \$120 from his father, Kai Cong had 5 times as much money as Ali. What was the total amount of money they had at first?

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in this space

Ans: \_\_\_\_\_ [4]



17 A club consists of swimmers and runners. There are 108 boys.  
The number of boys is 3 times the number of girls. The ratio of the  
number of swimmers to the number of runners is  $7 : 2 \frac{3}{8}$  of the runners  
are girls. How many swimmers are boys?

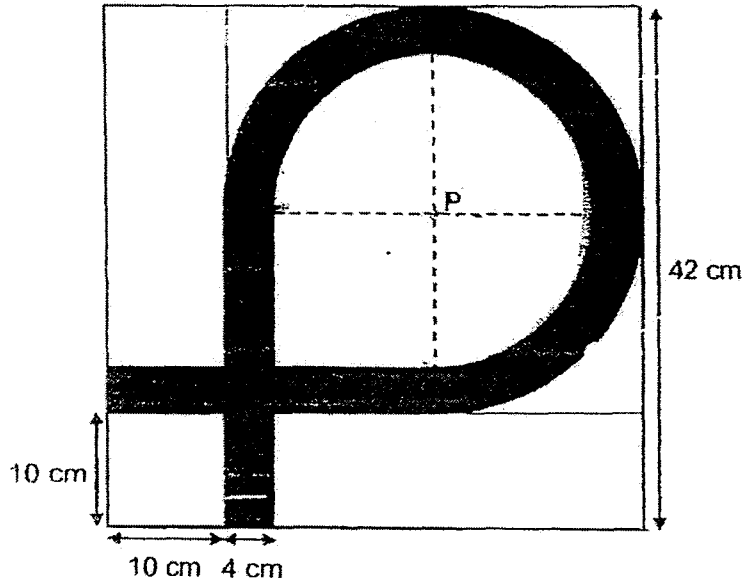
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Ans: \_\_\_\_\_ [5]



- 18 A square cardboard of side 42 cm has a design formed by a 4-cm wide shaded strip. The outline of the design is made up of quarter circles with centre P and straight lines. All the straight lines meet at right angles. Find the area of the shaded part. (Take  $\pi = 3.14$ )

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Ans: \_\_\_\_\_ [5]



END OF PAPER 2



# ANSWER KEY

YEAR : 2017  
LEVEL : PRIMARY 6  
SUBJECT : MATHEMATICS  
TERM : PRELIMINARY EXAMINATION

## Paper 1

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

Q16 3.09

Q17 1 and 3

Q18 20

Q19  $1\frac{1}{5}$

Q20  $175\text{ cm}^3$

Q21 May

Q22 \$46

Q23 36 eggs not cracked

Q24 20 oranges

Q25  $137^\circ$

Q26 Kate  $\rightarrow 2n$

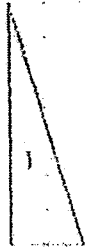
Kate's father  $\rightarrow 2n \times 4 = 8n$

Kate's mother  $\rightarrow 8n - 5$

$(8n - 5) - 2n \Rightarrow \underline{(6n - 5)\text{ years old}}$

Q27  $180^\circ - 34^\circ = 146^\circ$   
 $146^\circ \div 2 = 73^\circ$   
 $180^\circ - 73^\circ \Rightarrow \underline{107^\circ}$

Q28



Q29  $L : B (u)$   
 $= 4 : 3$   
 $4u = 12$   
 $u = 3$   
 $3u = 9$   
 $9 - 7 = 2$   
 $2 \times 12 \times \frac{1}{2} \Rightarrow \underline{12 \text{ cm}^2}$

Q30 72 stickers

Paper 2

Q1  $2\% \rightarrow 25$   
 $102\% \Rightarrow \underline{\$1275}$

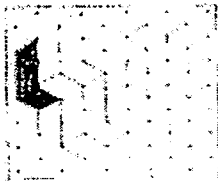
Q2  $5 \times 4 \times 3 = 60$   
 $60 \div (1 \times 1 \times 1) = 60$   
 $60 - 18 \Rightarrow \underline{42 \text{ cubes}}$

Q3 Radius = 60  
 $P = \pi \times d$   
 $60 \times 2 = 120$   
 $(120 \times \pi \times \frac{3}{4}) + 60 + 60$   
 $\approx \underline{402.7 \text{ cm}}$

Q4  $\sqrt{256} = 16$  (side of A)  
 $256 + 68 = 324$   
 $\sqrt{324} = 18$  (side of B)

A	:	B
= 16	:	18
= 8	:	<u>9</u>

Q5 (a & b)



Q6  $13 \times 260 = 3380$   
 $13 - 2 = 11$   
 $11 \times 231 = 2541$   
 $3380 - 2541 = 839$   
 $839 - 1 = 838$   
 $838 \div 2 \rightarrow 419$   
 $419 + 1 \rightarrow 420$   
 $\Rightarrow$  419 and 420

Q7  $8 \times 6 \times \frac{1}{2} = 24$  (area of  $\triangle$ )  
 $24 \times 2 = 48$   
 $48 \div 10 \Rightarrow$  4.8 cm

Q8 (a)  $180^\circ - 90^\circ - 32^\circ \rightarrow 58^\circ$   
 $180^\circ - 58^\circ \Rightarrow$   $122^\circ$

(b)  $90^\circ - 32^\circ = 58^\circ$   
 $180^\circ - 58^\circ - 90^\circ = 32^\circ$   
 $32^\circ + 37^\circ \Rightarrow$   $69^\circ$

Q9  $100\% - 20\% = 80\%$   
 $\$165 \times 20\% = \$33$   
 $\$33$  can buy 3 more books  
 $\$33 \div 3 = \$11$  (1 book)  
 $\$11 \times 80\% \Rightarrow$   $\$8.80$

Q10  $15\text{km/h} \div 3 = 5\text{km} \rightarrow 20\text{min}$

$$5 - 4 = 1$$

$$5 \times 5 = 25$$

$$25 \times \frac{4}{5} = 20$$

Mr Sim :  $20\text{km} \rightarrow 20\text{min}$

$$20 \times 3 \Rightarrow \underline{60\text{km/h}}$$

Q11  $21 - 7 = 14$

$$14 \times 12 = 168$$

$$168 \div 7 = 24$$

$$24 \div 3 = 8$$

$$8 \times 4 = 32$$

$$32 \times 21 \Rightarrow \underline{672 \text{ packets}}$$

Q12  $G = B + 6$

$$\frac{1}{3}B + \frac{7}{11}G = \frac{1}{2}(B + G)$$

$$G = B + 6$$

$$\frac{1}{3}B + \frac{7}{11}(B + 6) = \frac{1}{2}B + \frac{1}{2}(B + 6)$$

$$\frac{1}{3}B + \frac{7}{11}B + 3\frac{9}{11} = \frac{1}{2}B + \frac{1}{2}B + 3$$

$$3\frac{9}{11} - 3 = \frac{1}{2}B + \frac{1}{2}B - \frac{1}{3}B - \frac{7}{11}B$$

$$\frac{9}{11} = \frac{1}{33}B$$

$$27 \rightarrow B$$

$$27 + 27 + 6 \Rightarrow \underline{60 \text{ children}}$$

Q13  $64 \times 45 \times 25 = 72000$  (water)

$$45 \times 25 = 1125$$

$$57 \times 25 = 1425$$

$$45 \times 10 = 450$$

$$1125 + 1425 + 450 = 3000$$

$$\frac{72000}{3000} \rightarrow 24$$

$$24 \times 57 \times 25 \Rightarrow \underline{34200 \text{ cm}^3}$$



Q14 (a)  $180^\circ \div 3 = 60^\circ$   
 $180^\circ - 74^\circ - 29^\circ = 77^\circ$   
 $180^\circ - 77^\circ - 60^\circ = 43^\circ$   
 $180^\circ - 43^\circ \Rightarrow \underline{137^\circ}$

(b)  $180^\circ - 29^\circ - 60^\circ = 91^\circ$   
 $180^\circ - 74^\circ = 106^\circ$   
 $360^\circ - 106^\circ - 91^\circ \Rightarrow \underline{163^\circ}$

Q15 L = large shirt

U = small shirt

$$\$118 \rightarrow 4L + 3U$$

$$118 - 1.50 = 116.50$$

$$\$116.50 \rightarrow 3L + 4U$$

$$\$118 \rightarrow 4L + 3U$$

$$\$116.50 \rightarrow 3L + 4U$$

$$\$118 - 3U \rightarrow 4L$$

$$\$116.50 \rightarrow 3L + 4U$$

$$\$29.50 - \frac{3}{4}U \rightarrow 1L$$

$$\$116.50 \rightarrow 3(\$29.50 - \frac{3}{4}U) + 4U$$

$$\$116.50 \rightarrow \$88.50 - \frac{9}{4}U + 4U$$

$$\$116.50 - \$88.50 \rightarrow 4U - \frac{9}{4}U$$

$$\$28 \rightarrow \frac{7}{4}U$$

$$\$16 \rightarrow U$$

$$16 \times 3 = 48$$

$$118 - 48 = 70$$

$$70 \div 4 \Rightarrow \underline{\$17.50}$$

Q16  $340 - 200 = 140$

$$140 + 120 = 260$$

$$5 - 1 = 4$$

$$4u = 260$$

$$u = 65$$

$$6u = 390$$

$$390 + 340 - 120 \Rightarrow \underline{\$610}$$

Q17 (Boys)  $108 \div 3 = 36$  (Girls)  
 $36 \times 4 = 144$  (total)  
 $7 + 2 = 9$   
 $144 \div 9 = 16$   
 $16 \times 2 = 32$  (R)  
 $16 \times 7 = 112$  (S)  
 $32 \times \frac{3}{8} = 12$  (Girl runners)  
 $36 - 12 = 24$   
 $112 - 24 \Rightarrow \underline{88 \text{ boy swimmers}}$

Q18 (1)  $10 \times 10 = 100$

(2)  $42 - 10 - 4 = 28$   
 $28 \times 10 = 280$

(3)  $42 - 4 - 10 = 28$   
 $28 \times 10 = 280$

(4)  $A = \pi \times r \times r$   
 $28 + 4 = 32$   
 $32 \div 2 = 16$   
 $16 \times 16 \times 3.14 = 803.84$   
 $32 \times 32 = 1024$   
 $1024 - 803.84 = 220.16$   
 $220.16 \div 4 \times 3 = 165.12$

(5)  $28 - 4 = 24$   
 $24 \div 2 = 12$   
 $12 \times 12 = 144$

(6)  $28 - 4 = 24$   
 $24 \div 2 = 12$   
 $12 \times 12 \times 3.14 \times \frac{3}{4} = 339.12$

$(1) + (2) + (3) + (4) + (5) + (6)$   
 $100 + 280 + 280 + 165.12 + 144 + 339.12 = 1308.24$

$42 \times 42 = 1764$   
 $1764 - 1308.24 \Rightarrow \underline{455.76 \text{ cm}^2}$