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Anglo-Chinese School (Junior)



PRELIMINARY EXAMINATION (2022)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet A

Friday

19 August 2022

1 h

Name: _____ () Class: 6.()

INSTRUCTIONS TO PUPILS

- 1 Do not turn over the pages until you are told to do so.
- 2 Follow all instructions carefully.
- 3 Answer ALL questions.
- 4 Shade your answers in the Optical Answer Sheet (OAS) provided.
- 5 You are **not** allowed to use a calculator for this paper.

This question paper consists of 8 printed pages (inclusive of cover page).

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

1. Express 12 tenths as a decimal.

- 1) 0.012
- 2) 0.12
- 3) 1.2
- 4) 12.0

2. Round 51 872 to the nearest thousand.

- 1) 50 000
- 2) 51 000
- 3) 51 900
- 4) 52 000

3. Find the value of $\frac{4}{5} \div 2$.

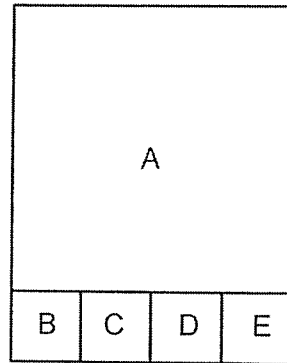
- 1) $\frac{5}{8}$
- 2) $\frac{2}{5}$
- 3) $1\frac{3}{5}$
- 4) $2\frac{1}{2}$

4. The average length of Ribbon A and B is 48 cm. The total length of Ribbon C and D is 56 cm. What is the average length of the 4 pieces of ribbon?

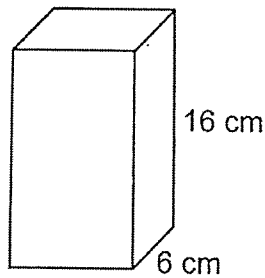
- 1) 26 cm
- 2) 38 cm
- 3) 52 cm
- 4) 76 cm

5. The figure is made up of 5 squares A, B, C, D and E. What fraction of the figure is Square D?

- 1) $\frac{1}{4}$
- 2) $\frac{1}{16}$
- 3) $\frac{1}{19}$
- 4) $\frac{1}{20}$

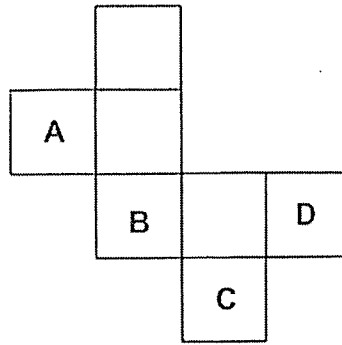


6. What is the volume of a cuboid that has a square base of side 6 cm and height 16 cm?



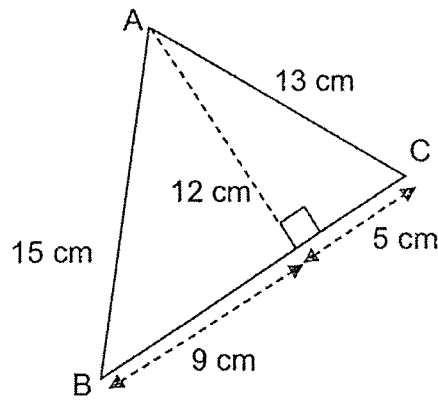
- 1) 96 cm^3
- 2) 216 cm^3
- 3) 576 cm^3
- 4) 1536 cm^3

7. Kenny wanted to fold the net below to form a cube. However, he realised that the net is incorrect. He has to remove one of the faces, A, B, C or D, from it to form the cube.



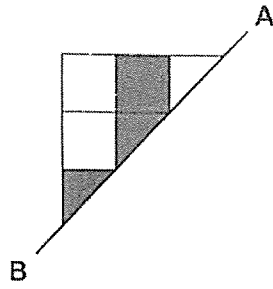
Which of the following letters representing the face that he has to remove from the net?

- 1) A
 - 2) B
 - 3) C
 - 4) D
8. Find the area of triangle ABC shown below.



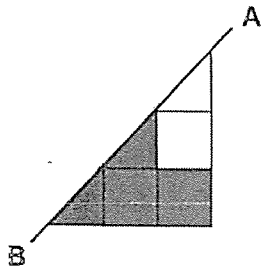
- 1) 30 cm^2
- 2) 65 cm^2
- 3) 84 cm^2
- 4) 90 cm^2

9.

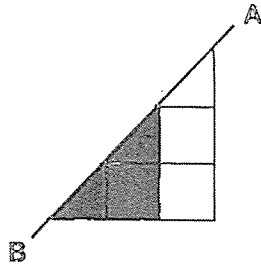


Half of a symmetric figure is shown above. AB is the line of symmetry. Which of the following completes the symmetric figure?

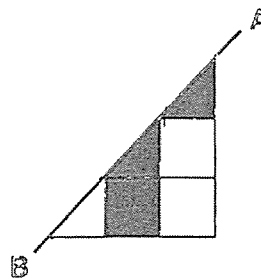
1)



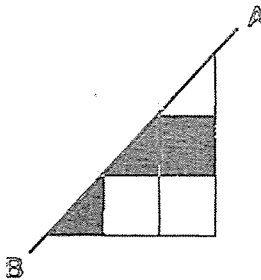
2)



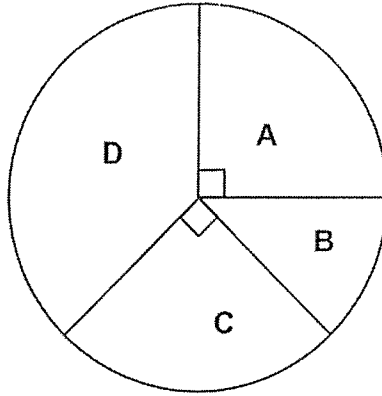
3)



4)



10. The pie chart shows the number of four types of buns sold by a shop in a day.



Which of the following tables below best represents the information in the pie chart?

1)

Types of buns	Number of buns sold
A	60
B	90
C	90
D	120

2)

Types of buns	Number of buns sold
A	90
B	120
C	90
D	60

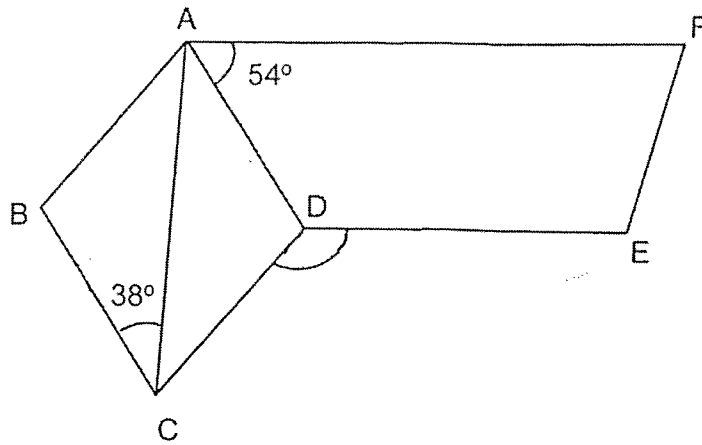
3)

Types of buns	Number of buns sold
A	80
B	40
C	80
D	70

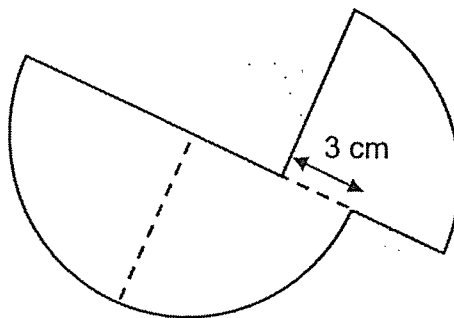
4)

Types of buns	Number of buns sold
A	80
B	40
C	80
D	120

11. In the figure below, ABCD is a rhombus and ADEF is a trapezium. AF is parallel to DE. $\angle BCA = 38^\circ$ and $\angle DAF = 54^\circ$. Find $\angle CDE$.



- 1) 92°
 - 2) 120°
 - 3) 130°
 - 4) 163°
12. The figure below is made up of three quarter circles of radius 7 cm. Find the perimeter of the figure. Take $\pi = \frac{22}{7}$.



- 1) 36 cm
- 2) 47 cm
- 3) 55 cm
- 4) 66 cm

13. Joshua used a calculator to multiply a 4-digit number by a 1-digit number. For the 1-digit number, he mistakenly pressed 2 instead of 3. He got the incorrect answer of 4296. What should the correct answer be?
- 1) 1432
 - 2) 2148
 - 3) 2864
 - 4) 6444
14. There are red, blue and yellow pens in a box. The ratio of the number of red pens to blue pens is 2 : 3. The ratio of the number of yellow pens to the total number of red and blue pens is 5 : 6. What fraction of the pens in the box are blue pens?
- 1) $\frac{3}{5}$
 - 2) $\frac{3}{11}$
 - 3) $\frac{18}{55}$
 - 4) $\frac{18}{67}$
15. A van travelled 240 km at a speed of 80 km/h. A car took $\frac{1}{2}$ h less than the van to travel the same distance. How long did the car take to cover the same distance?
- 1) $\frac{1}{3}$ h
 - 2) $2\frac{1}{2}$ h
 - 3) 3 h
 - 4) $3\frac{1}{2}$ h

End of Booklet A

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Anglo-Chinese School (Junior)



PRELIMINARY EXAMINATION (2022)

PRIMARY 6 MATHEMATICS PAPER 1 Booklet B

Friday

19 August 2022

1 h

Name: _____ () Class: 6.()

INSTRUCTIONS TO PUPILS

1. Do not turn over the pages until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighter.
6. The use of calculators is **NOT** allowed.

This question paper consists of 10 printed pages (inclusive of cover page).

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

16. Find the value of $98 - 3 \times (17 - 3)$.

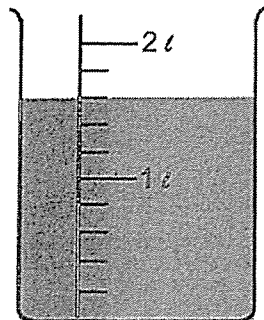
Ans : _____

17. Find the value of $70 + \frac{7}{10} + \frac{7}{1000}$.

Give your answer as a decimal.

Ans : _____

18. How much water is in the container? Give your answer in millilitres.



Ans : _____ ml

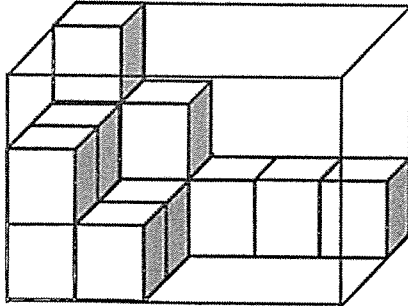
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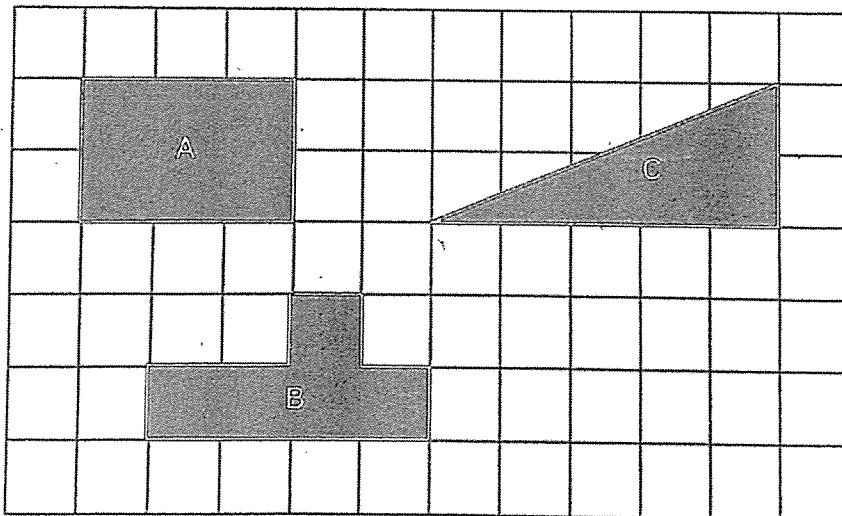
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19. The figure shows a rectangular glass box partly filled with unit cubes. When the box is completely filled with unit cubes, how many unit cubes are there altogether?



Ans : _____

20. There are 3 shapes A, B and C drawn in a grid. Which two shapes have the same area?



Ans : _____ and _____

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

21. (a) Express $y + 11 + 7y - 9 - 3y$ in the simplest form.

Ans : (a) _____

(b) Find the value of $3w + \frac{w}{5}$ when $w = 8$.

Ans : (b) _____

22. Jamie paid \$63 for a bag and 2 pencil cases. The price of a pencil case was $\frac{2}{5}$ the price of the bag. How much did Jamie pay for the bag?

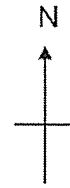
Ans : \$ _____

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23. The square grid below shows the plan of the amenities in a condominium.

	Swimming Pool			
Cafe		Playground		
				Fitness Corner
	Multi-Purpose Hall			



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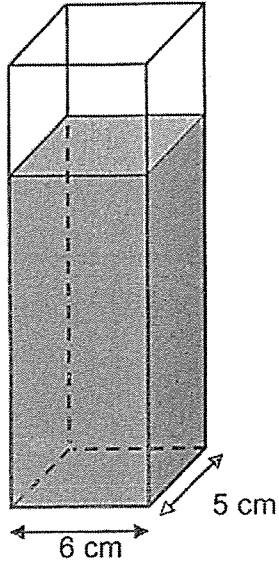
Please do not write in the margin.

(a) In what direction is the fitness corner from the playground?

Ans : (a) _____

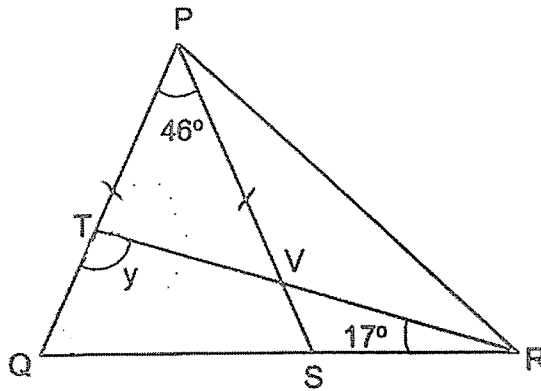
(b) The management committee wants to place a chess table in the condominium. The location of the chess table is to be south of the cafe and north-west of the multi-purpose hall. Put a tick (✓) in the square where the chess table will be placed.

24. A rectangular tank, 6 cm long and 5 cm wide, is $\frac{4}{5}$ filled with water. It contains 600 ml of water. Find the height of the tank.



Ans : _____ cm

25. In the figure, PQS is an isosceles triangle. PVS, QSR and TVR are straight lines and PQ = PS. $\angle QPS = 46^\circ$ and $\angle TRQ = 17^\circ$. Find $\angle y$.

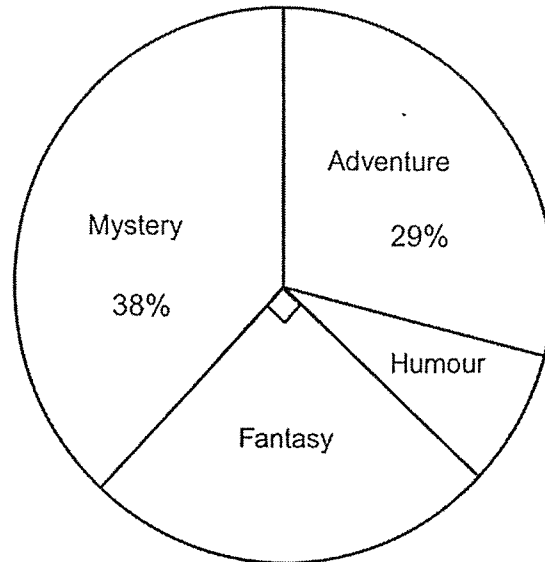


Ans : _____ °

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26. Books in a school library are grouped according to the following four types: Humour, Fantasy, Adventure and Mystery. The pie chart represents the number of books of each type in the school library.



There are 150 more books of the Mystery type than books of the Humour type in the school library. How many books of the Adventure type are there?

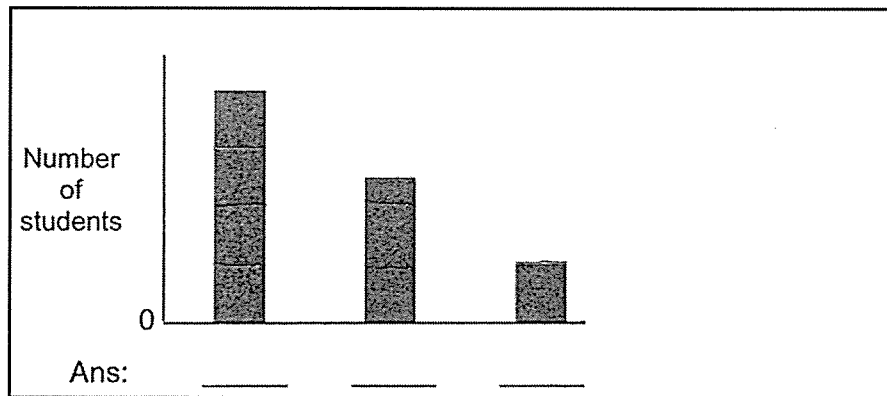
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Ans : _____

27. Students joined only one co-curricular activity (CCA) in school – art club, rugby or swimming. $\frac{1}{3}$ of them joined swimming. The number of students who joined art club was $\frac{1}{4}$ of the number who joined rugby.

The bar graph represents the number of students who joined each CCA. Label the bar graph by writing **R** for rugby, **A** for art club and **S** for swimming in the blanks below.



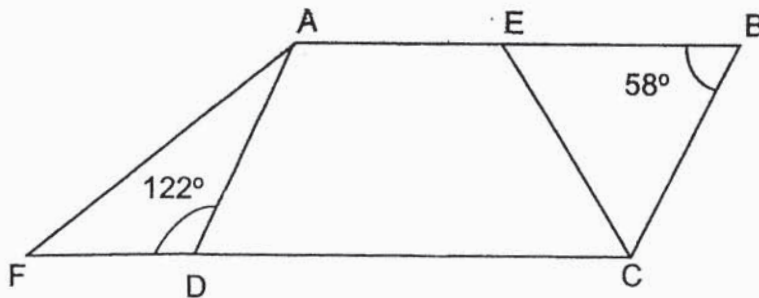
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28. A jar of peanut butter costs \$2.80 and a bundle of 3 jars of peanut butter costs \$7. Samuel wants to buy exactly 26 jars of peanut butter. What is the least amount of money he needs?

Ans : \$ _____

29. The figure below is not drawn to scale. DC and AEB are straight lines. AEB is parallel to DC. $\angle FDA = 122^\circ$ and $\angle EBC = 58^\circ$.



Each of the statements is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
$\angle EBC = \angle ECB$			
AECD is a trapezium.			
ABCD is a parallelogram.			

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30. Jonathan was given a fixed amount of pocket money each month. In July, he spent \$80 and saved the rest. In August, he spent 10% less and his savings increased by 20%. How much was Jonathan's pocket money for each month?

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Ans : \$ _____

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End of Booklet B

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Anglo-Chinese School (Junior)



PRELIMINARY EXAMINATION (2022)

PRIMARY 6 MATHEMATICS PAPER 2

Friday

19 August 2022

1 h 30 min

Name: _____ () Class: 6.()

Parent's Signature: _____

INSTRUCTIONS TO PUPILS

1. Do not turn over the pages until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighter.
6. The use of an approved calculator is allowed.

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

This question paper consists of 17 printed pages (inclusive of cover page).

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

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- The ratio of the number of curry puffs to the number of tuna puffs in a pastry shop was 7 : 4 at first. After 26 curry puffs were sold, the ratio of the number of curry puffs to the number of tuna puffs became 3 : 2. What was the total number of curry puffs and tuna puffs in the pastry shop at first?

Ans : _____

- Figure P is a rectangular strip of paper. Xander cut out exactly 7 identical squares from the whole strip of paper and formed Figure Q as shown below. The perimeter of Figure Q is 210 cm. Find the perimeter of the strip of paper.



Figure P

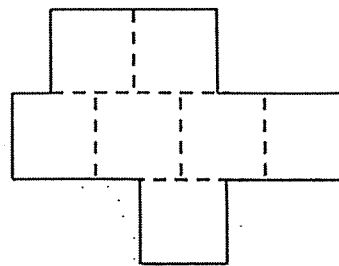
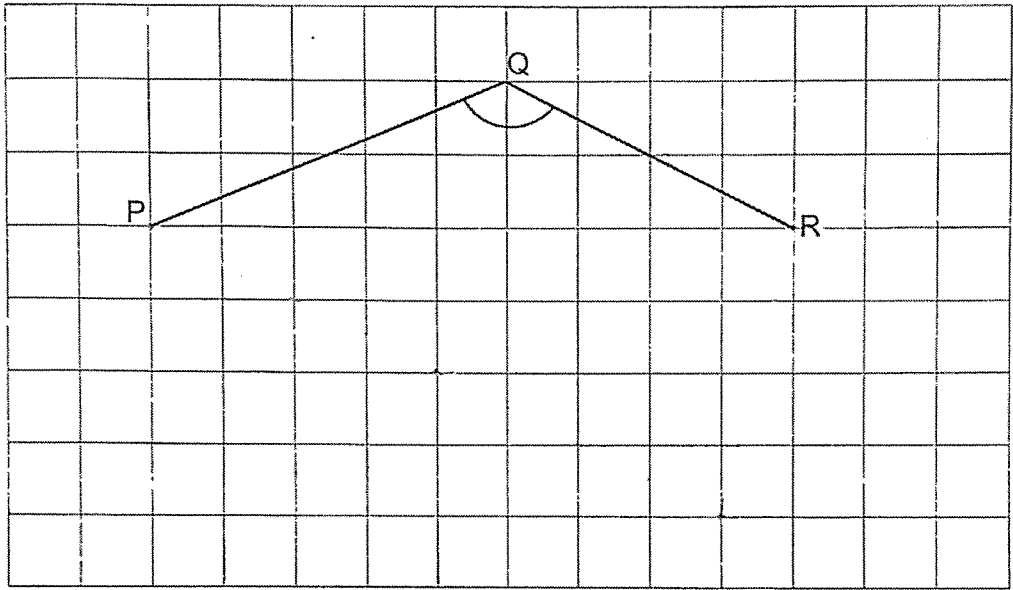


Figure Q

Ans : _____ cm

3. In the square grid below, PQ and QR are straight lines.
- (a) Measure and write down the size of $\angle PQR$.
 - (b) PQ and QR are two sides of a trapezium PQRS in which QR is parallel to PS and PS is twice the length of QR. Complete the trapezium PQRS by drawing the other two sides in the square grid below.

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Ans : (a) _____ °

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4. Miss Koh had a bag of flour. She used an equal amount of flour each day to bake bread. At the end of 8th day, $\frac{2}{5}$ of the flour was left. At the end of 10th day, the amount of flour left was 1.2 kg. How many kilograms of flour did Miss Koh have at first?

Ans : _____ kg

5. A player has to play a total of four games in Round 1 of a competition. The scores for Ahmad's first three games are shown below.

Round 1				
Game	1 st	2 nd	3 rd	4 th
Score	31	26	28	?

Ahmad will qualify for Round 2 if his average score for three of the four games is 32 or more. What is the lowest score Ahmad must get in the 4th game to qualify for Round 2?

Ans : _____

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

6. Gerald, Leon and Ali went for a jog. Gerald ran y km. Leon ran 3 km more than Gerald. Ali ran twice as far as Leon.
- (a) Express the total distance the three boys ran in terms of y .

Ans : (a) _____

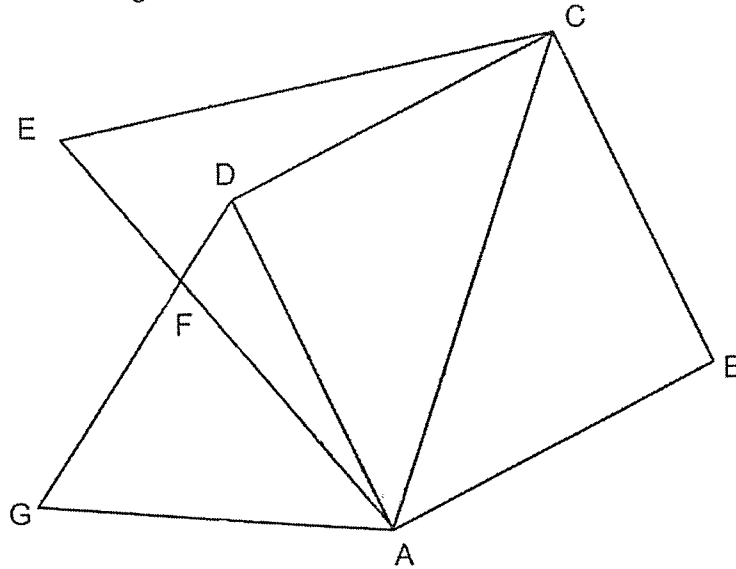
- (b) The three boys ran a total of 53 km. Find the value of y .

Ans : (b) _____ [2]

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7. In the figure, not drawn to scale, ABCD is a square. ACE and DGA are equilateral triangles. Find $\angle EFG$.



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Ans : _____ [3]

8. Four children played a game during recess. They had to throw as many balls into a basket within a given time. 3 points were awarded for throwing each ball into the basket and 1 point was deducted for each ball missed. The table shows the number of balls thrown into the basket and missed by three of the students.

Student	Number of balls	
	Thrown into basket	Missed
A	30	8
B	29	4
C	32	16

- (a) Which of the three students scored the most number of points? What was the student's points?

Ans : (a) student : _____

Points: _____ [1]

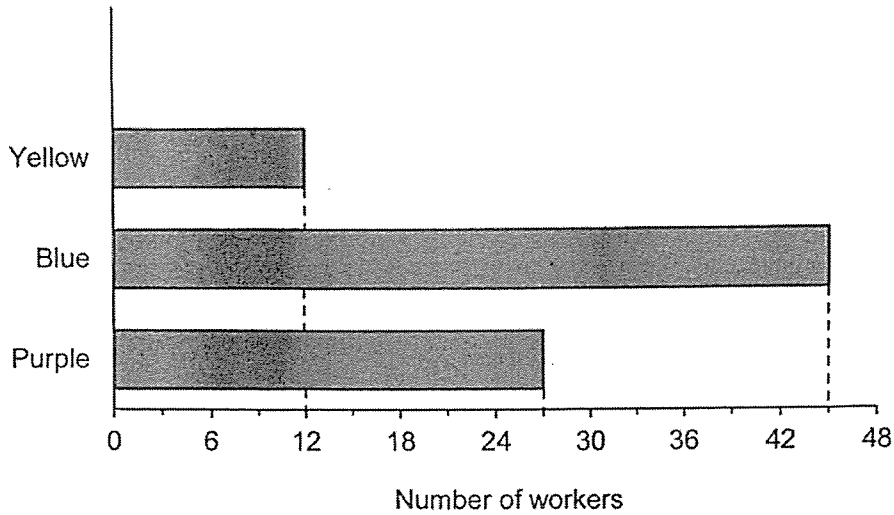
- (b) Student D threw the same number of balls as Student A but obtained 16 points more. How many balls did student D toss into the basket?

Ans : (b) _____ [2]

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9. Mr Fam wanted to buy T-shirts for his workers, He asked them to choose one colour from yellow, blue and purple for the T-shirt. The results are shown in the graph below.



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- (a) How many workers were there altogether?

Ans : _____ [1]

- (b) Mr Fam paid a total of \$384 for the Tshirts. The ~~costs~~ ^{prices} of Yellow, Blue and Purple T-shirts were in the ratio of 2 : 1 : 1. How much did Mr Fam pay for all the Purple T-shirts?

Ans : _____ [2]

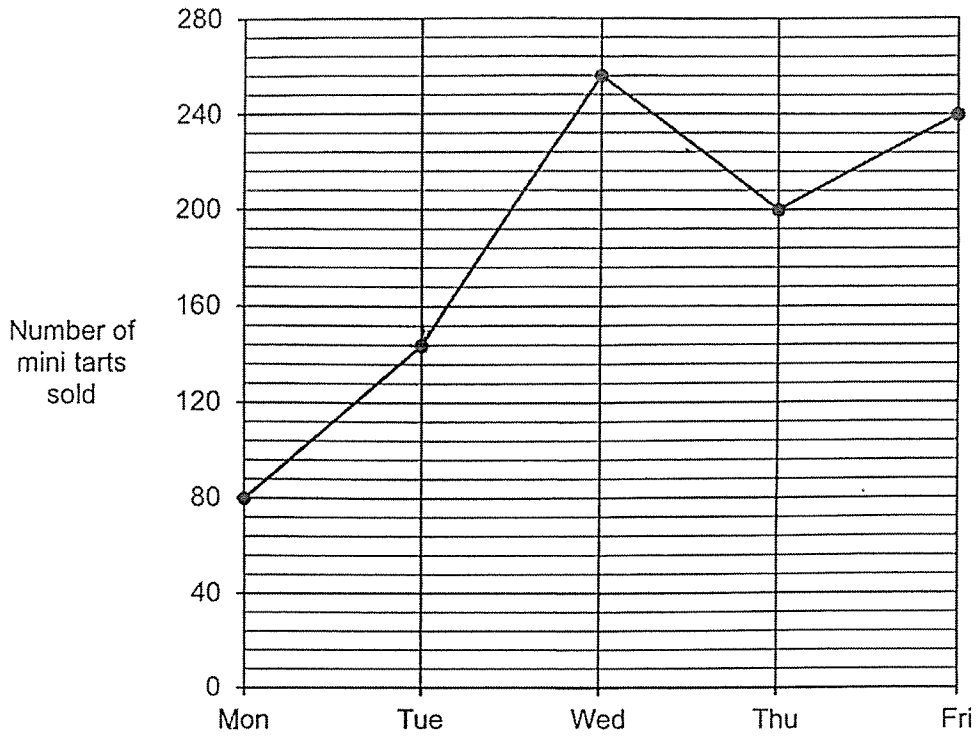
10. Ron and Harry started running in opposite directions on a running trail. Ron ran at a speed of 110 m/min. At the end of 15 minutes, they were 3525 m apart. Find Harry's running speed in m/min.

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Ans : _____ [3]

11. The graph below shows the number of mini tarts sold from Monday to Friday.



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- (a) What was the average number of mini tarts sold from Monday to Friday?

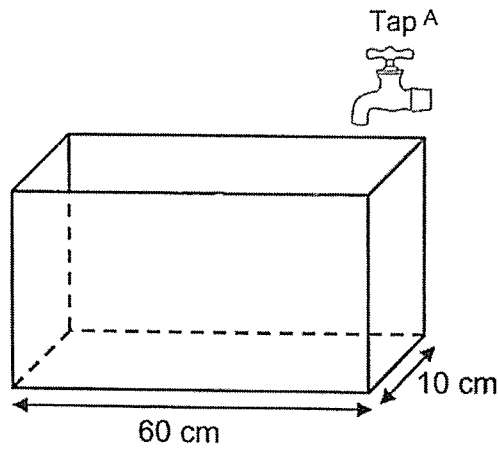
Ans: (a) _____ [2]

- (b) The average number of mini tarts sold on Saturday and Sunday was 26 more than the average number of mini tarts sold from Monday to Friday.

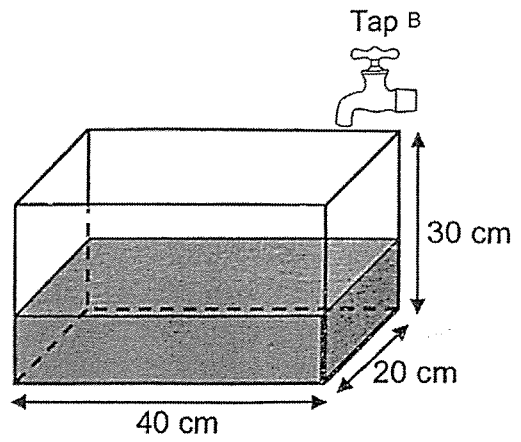
Write down one possible set of values for the number of mini tarts sold on Saturday and Sunday.

Ans: (b) _____ , _____ [2]

12. Two rectangular tanks are shown below.



Tank A



Tank B

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At first, Tank A was empty and Tank B was $\frac{1}{5}$ filled with water. Tap A and Tap B were turned on at the same time and water from both taps flowed at the same rate of 1.2 litres per minute.

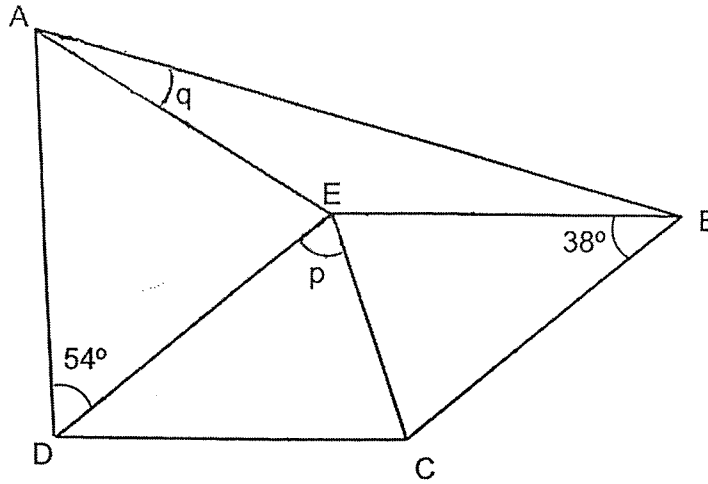
a) What was the height of water in Tank A after 1 minute?

Ans : (a) _____ [1]

b) How long did it take for the height of the water to be the same in both Tanks?

Ans : (b) _____ [3]

13. In the figure below, BCDE is a rhombus and $AE = DE$. $\angle EBC = 38^\circ$ and $\angle ADE = 54^\circ$



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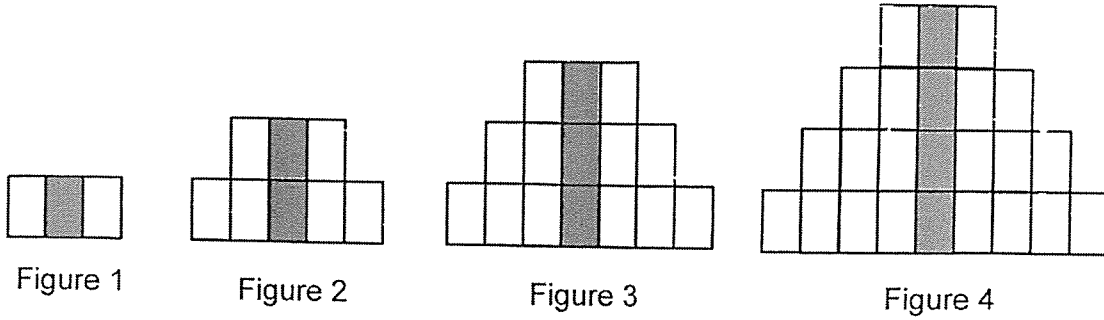
- (a) Find $\angle p$.

Ans : (a) _____ [2]

- (b) Find $\angle q$.

Ans : (b) _____ [3]

14. Some white and grey rectangles were used to form figures that follow a pattern. The first 4 figures are shown.



(a) The table shows the number white and grey rectangles used for each figure. Complete the table for Figure 5.

Figure Number	Number of white rectangles	Number of grey rectangles
1	2	1
2	6	2
3	12	3
4	20	4
5		

[1]

(b) What is the total number of white and grey rectangles in Figure 12?

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Ans : (a) _____ [1]

- (c) A figure in the pattern has 625 more white rectangles than grey rectangles. What is the number of white rectangles in this figure?

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Ans: (b) _____ [2]

15. Mrs Tan had a box of green, blue and red beads. She had 248 green beads. 30% of her beads were blue. She had 24 fewer red beads than blue beads.

(a) What was the total number of beads she had in the box?

Ans : (a) _____ [2]

(b) Mrs Tan's son bought her some blue beads. Her total number of beads then increased by 25%. How many blue beads did she have in the end?

Ans: (b) _____ [2]

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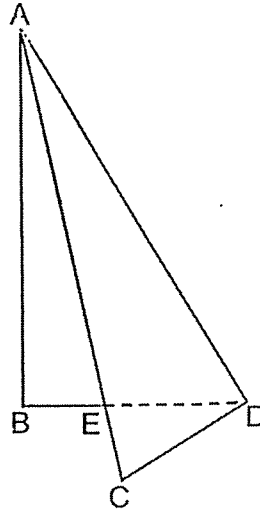
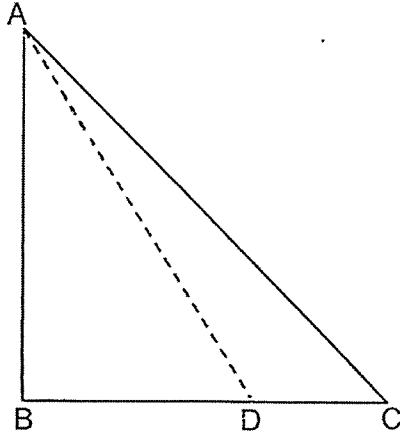
16. James used $\frac{1}{4}$ of his money to buy 3 pencil cases and 7 key chains. The cost of each pencil case is 3 times the cost of each key chain. He bought some more key chains with $\frac{5}{6}$ of his remaining money. He spent \$30.40 more on all the key chains than on all the pencil cases. How much was the cost of one key chain?

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Ans : _____ [4]

17. Triangle ABC is folded along the line AD. The area of the new figure is $\frac{7}{12}$ the area of Triangle ABC. The area of Triangle ADE is 65 cm^2 . Find the area of Triangle ABC.



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Ans : _____ [5]

End of Paper 2

SCHOOL : ACS Junior PRIMARY SCHOOL
 LEVEL : PRIMARY 6
 SUBJECT : MATH
 TERM : Prelims (SA2) 2022

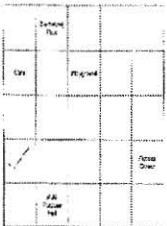
PAPER 1 BOOKLET A

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

Q 11	Q12	Q13	Q14	Q15
3	3	4	3	2

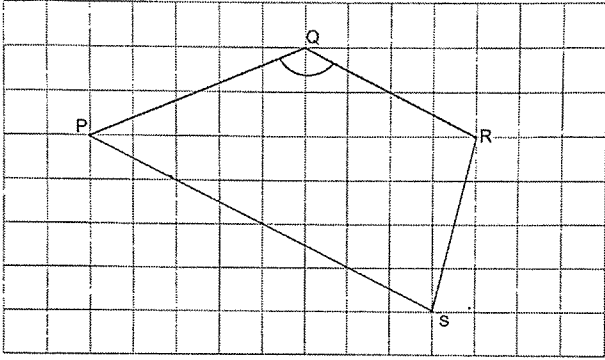
PAPER 1 BOOKLET B

Q16)	$98 - 3 \times (17-3)$ $= 98 - 3 \times 14$ $= 98 - 42$ $= 56$
Q17)	70.707
Q18)	1.6litre = 1600ml
Q19)	$3 \times 5 \times 3 = 45$
Q20)	B&C
Q21 a)	$y + 11 + 7y - 9 - 3y$ $= 5y + 2$
Q21 b)	$3 \times 8 + \frac{8}{5}$ $= 24 + \frac{8}{5}$ $= 25 + \frac{3}{5}$ $= 25\frac{3}{5}$
Q22)	$\frac{63}{9} = 7$

	$7 \times 5 = 35$	
Q23)	South-East	
Q23 b)		
Q24)	Height of Water = $600 \div 30 = 20$ $20 \div 4 = 5$ $5 \times 5 = 25$	
Q25)	$\angle TQS$ $(180^\circ - 46^\circ) \div 2$ $= 134 \div 2$ $= 67$ $\angle y$ $180^\circ - 67 - 17$ $= 96^\circ$	
Q26)	Humour Percent $100 - 25 - 38 - 24$ $= 75 - 67$ $= 8$ Difference percent $38 - 8$ $= 30$ $30\% = 150$ $1\% = 150 \div 30 = 5$ $29\% = 5 \times 29 = 145$	Q28 1 pb = \$2.80 3 pb = \$7 $26 \div 3 = 8 \text{ R } 2$ $8 \times 7 = \$56$ $56 + 2.80 + 2.80 = \$61.60$ Q29 EBC = ECB -> Not possible to tell AECD is a trapezium -> True ABCD is a parallelogram -> True
Q27)	R, S, A	
Q30)	$\frac{10}{100} * 80 = 8$ $20\% = 8$ $100\% = 8 \times 5 = 40$ Total = $80 + 40 = 120$	

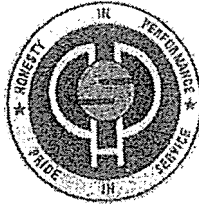
PAPER 2

Q1)	C:T C:T 7:4 3:2 6:4 1 unit = 26 11 units = $26 \times 11 = 286$
Q2)	1 unit = $210 \div 14 = 15$ 16 units = $15 \times 16 = 240$

Q3)	<p>131°</p> 
Q4)	<p>10 units = 1.2 1 unit = $1.2 \div 10 = 0.12$ 40units = $0.12 \times 40 = 4.8$</p>
Q5)	<p>Total needed = $32 \times 3 = 96$ Needed = $96 - 31 - 28 = 37$</p>
Q6a)	<p>Total = $4y + 9$ $(4y+9)$ km</p>
Q6b)	<p>$53\text{km} = 4y+9\text{km}$ $44\text{km} = 4y$ $Y = 44 \div 4 = 11$</p>
Q7)	<p>$\angle DAF = 60^\circ - 45^\circ = 15^\circ$ $\angle EFG = 180^\circ - 60^\circ - 15^\circ = 105^\circ$</p>
Q8a)	<p>Student: B</p> <p>$A = (30 \times 3) - 8 = 82$ $B = (29 \times 3) - 4 = 83$ $C = (32 \times 3) - 16 = 80$</p> <p>Points: 83</p>
Q8b)	<p>$3+1 = 4$ More balls = $16 \div 4 = 4$ Tossed in = $30+4=34$</p>
Q9a)	<p>Total = $12+27+45=84$</p>
Q9b)	<p>Y:B:P:Total 2:1:1:4</p> <p>1 set = $(12 \times 2) + (45 \times 1) + (27 \times 1) = 96$ No. of Sets $384 \div 96 = 4$ $4 \times 27 = \\$108$</p>

Q10)	<p>Total Speed = $3525 \div 15 = 235$</p> <p>Harry's speed = $235 - 110 = 125$</p> <p>125m/min</p>
Q11a)	<p>Average speed:</p> $\frac{80 + 144 + 256 + 200 + 240}{5}$ $= \frac{920}{5}$ $= 184$
Q11b)	<p>$184 + 26 = 210$</p> <p>$210 \times 2 = 420$</p> <p>$200 + 220 = 420$</p> <p>Ans B: 200,220</p>
Q12a)	<p>Height</p> <p>1.2litre = 1200ml</p> <p>$1200 \div 600 = 2$</p> <p>Ans: 2cm</p>
Q12B	<p>Tank B Height / min = $1200 \div 800 = 1.5$</p> <p>Tank D Height at first = $\frac{1}{5} * 30 = 6$</p> <p>Answer: 12min</p>
Q13a	$\angle P = (180^\circ - 38^\circ) \div 2 = 71^\circ$
Q13b	<p>$\angle AED = 180^\circ - 54^\circ - 54^\circ = 72^\circ$</p> <p>$\angle AEB = 360^\circ - 72^\circ - 71^\circ - 71^\circ = 146^\circ$</p> <p>$\angle Q = (180^\circ - 146^\circ) \div 2 = 17^\circ$</p>
Q14a	Figure number 5 = 30 & 5
Q14b	<p>$(\text{Figure number} + 1)^2 - 1 = \text{Total of figure number rectangles}$</p> <p>$(12+1) \times (12+1) - 1 = 168$</p>
Q14C	<p>Figure number</p> <p>$2\sqrt{624} = 25$</p> <p>White Triangle</p> <p>$25 \times (25+1) = 650$</p>
Q15a	<p>$40\% = 248 - 24 = 224$</p> <p>$10\% = 224 \div 4 = 56$</p> <p>$100\% = 56 \times 10 = 260$</p>
Q15B	<p>Son bought = $\frac{25}{100} \times 560$</p> <p>= 140</p> <p>In the end = $(56 \times 3) + 140 = 308$</p>
Q16	<p>3 Pencil Cases = 9 Key Chains</p> <p>2 units = $9 + 7 = 16$</p> <p>1 unit = $16/2 = 8$</p>

	<p>7 units = $8 \times 7 = 56$</p> <p>Keychain = $56 - 9 = 47$</p> <p>More $47 - 9 = 38$</p> <p>38 keychains = \$30.40</p> <p>1 Keychain = \$0.80</p>
17	<p>$1 - \frac{7}{2} = \frac{5}{12}$</p> <p>$65\text{cm}^2 = \frac{5}{12}$</p> <p>$\frac{1}{12} = 65 \div 5 = 13$</p> <p>Total Area = $13 \times 12 = 156\text{cm}^2$</p>



HENRY PARK PRIMARY SCHOOL
2022 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ ()

Parent's Signature

Class: Primary 6 _____

Marks:

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

Total Time for Booklets A and B: 1 hour

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

Follow all instructions carefully.

Answer all questions.

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

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

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

(20 marks)

1 The height of Mount Kraig is 350 000 m when rounded to the nearest thousand metres. Which of the following could be the actual height of Mount Kraig?

(1) 349 050 m

(2) 349 450 m

(3) 350 050 m

(4) 350 950 m

2 What is the value of $90 \div 4500$?

(1) 0.002

(2) 0.02

(3) 5

(4) 50

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

$$\frac{2}{11}, \frac{3}{10}, \frac{1}{5}$$

(1) $\frac{1}{5}, \frac{2}{11}, \frac{3}{10}$

(2) $\frac{2}{11}, \frac{1}{5}, \frac{3}{10}$

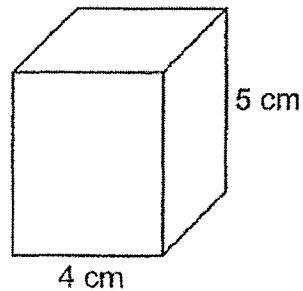
(3) $\frac{3}{10}, \frac{2}{11}, \frac{1}{5}$

(4) $\frac{3}{10}, \frac{1}{5}, \frac{2}{11}$

4 Express 4080 g in kg.

- (1) 4.008 kg
- (2) 4.08 kg
- (3) 40.08 kg
- (4) 40.8 kg

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

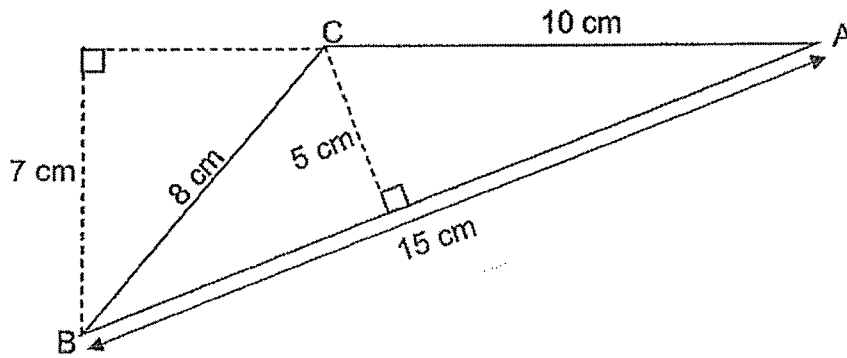


- (1) 20 cm^3
- (2) 80 cm^3
- (3) 100 cm^3
- (4) 125 cm^3

6 Mrs Ling was in school at 6.40 a.m. yesterday. She stayed in school for 9 hours and 40 minutes. What time did she leave the school yesterday?

- (1) 15 40
- (2) 15 20
- (3) 16 20
- (4) 16 40

7 Given that AC is the base of the triangle ABC, what is the height of the triangle?

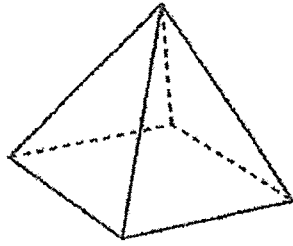


- (1) 5 cm
- (2) 7 cm
- (3) 8 cm
- (4) 15 cm

8 Express 0.003 as a percentage.

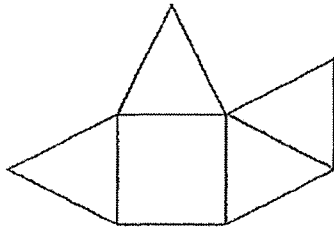
- (1) 0.03%
- (2) 0.3%
- (3) 3%
- (4) 30%

9 The figure below shows a pyramid.

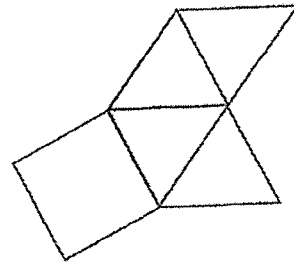


Which of the following is **not** a net of the pyramid?

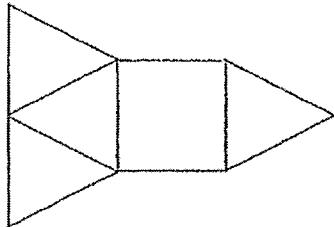
(1)



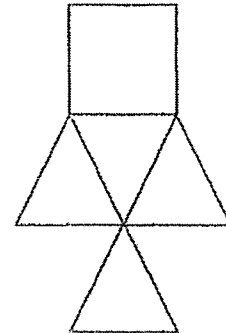
(2)



(3)

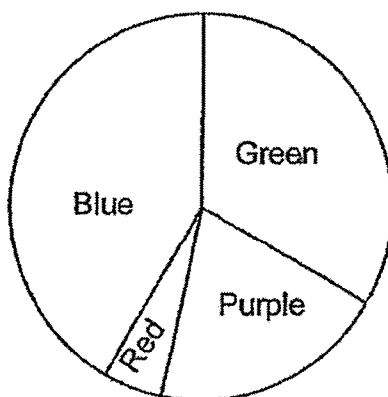


(4)



Use the information below to answer questions 10 and 11.

The pie chart below shows the number of different coloured pens a bookshop sold. $\frac{1}{3}$ of the pens sold were green. $\frac{1}{4}$ of the pens sold were either purple or red and the rest were blue. The bookshop sold 4 times as many purple pens as red pens.



10 What fraction of the pens sold were blue?

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

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

(3) $\frac{11}{30}$

(4) $\frac{17}{48}$

11 Given that the shop sold 20 green pens, how many red pens did it sell?

(1) 12

(2) 15

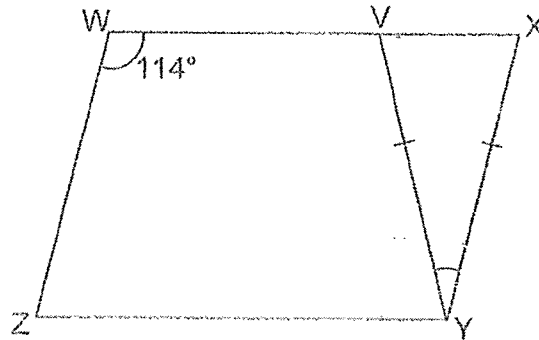
(3) 3

(4) 25

- 12 Bryan kept his black and white caps in two boxes. The number of black caps and white caps in the first box was in the ratio 2 : 1. The number of black caps and white caps in the second box was in the ratio 5 : 7. The two boxes had the same number of caps. What fraction of Bryan's caps were white?

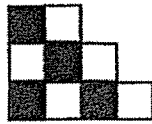
- (1) $\frac{1}{3}$
(2) $\frac{7}{12}$
(3) $\frac{8}{15}$
(4) $\frac{11}{24}$

- 13 WXYZ is a parallelogram. Find $\angle XYV$.



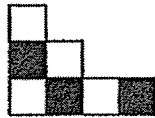
- (1) 57°
(2) 66°
(3) 48°
(4) 33°

- 14 Zi Xuan used identical black and white squares to form a symmetrical pattern on a large square board. The figure below shows part of the square board.



Which of the following pieces will complete the pattern on the square board?

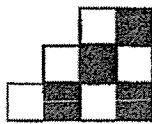
(1)



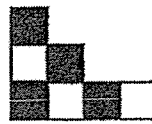
(2)



(3)



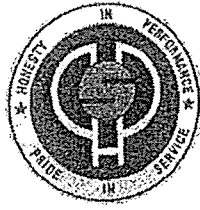
(4)



- 15 Joan, Siti and Xiuli had 60 beads each. Joan gave $\frac{2}{5}$ of her beads to Xiuli. Siti gave some of her beads to Xiuli. Xiuli had 3 times the total of the remaining beads Joan and Siti had. How many beads did Siti give Xiuli?

- (1) 20
 (2) 24
 (3) 51
 (4) 75

(Go on to BOOKLET B)

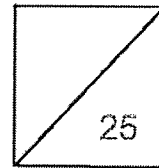


HENRY PARK PRIMARY SCHOOL
2022 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ()

Class: Primary 6 _____



Total Time for Booklets A and B: 1 hour

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

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

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

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(5 marks)

16 Each of the four cards shown below represents a 1-digit number.



The sum of all the digits of the four cards is a multiple of 8. What is the missing digit in the card shown above?

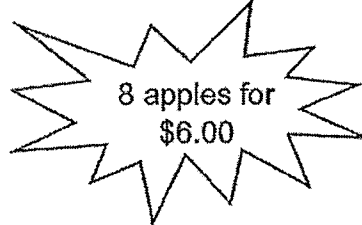
Ans: _____

17



Usual price: 95¢ per apple

SPECIAL OFFER:



Mrs Tan bought 8 apples during the special offer. Without the special offer, how much more would she have to pay for the 8 apples?

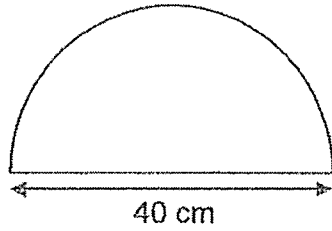
Ans: \$ _____

18 $3 : 12 = \boxed{?} : 16$

What is the missing number in the box?

Ans: _____

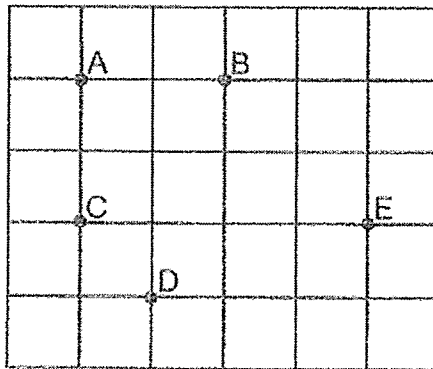
- 19 The semicircle below has a diameter of 40 cm. What is the area of the semicircle? Take $\pi = 3,14$



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Ans: _____ cm²

- 20 The square grid below shows the positions of points A, B, C, D and E.



Point _____ (a) _____ is south-west of point _____ (b) _____.

Ans: (a) _____

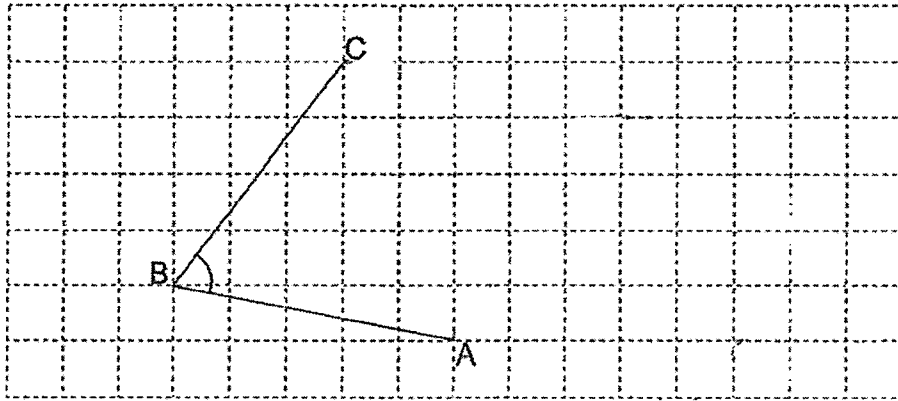
(b) _____

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

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(20 marks)

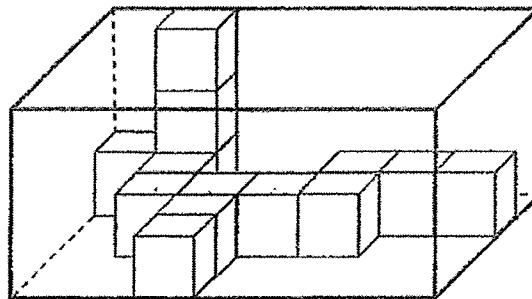
21 In the square grid below, AB and BC are straight lines.



- (a) Measure and write down the size of $\angle ABC$.
- (b) AB and BC form two sides of a parallelogram ABCD. Complete the drawing of the parallelogram ABCD within the grid and label point D. [1]

Ans: (a) _____ ° [1]

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



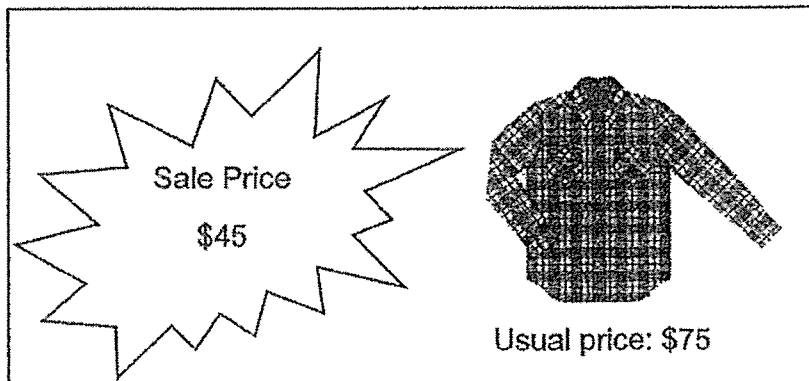
Ans: _____ cm³

- 23 Jacky had some stickers. He gave $\frac{1}{6}$ of the stickers each to his two sisters. He put aside $\frac{2}{3}$ of his remaining stickers to be shared equally among his brothers. Each of his brothers received $\frac{1}{9}$ of the stickers. How many brothers did Jacky have?

Do not write
in this space

Ans: _____

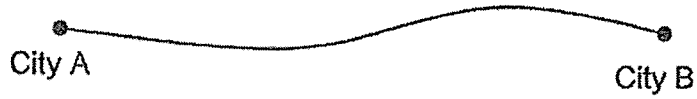
- 24 What is the percentage discount for the shirt shown?



The diagram is enclosed in a rectangular border. On the left, there is a jagged, starburst-shaped callout box containing the text "Sale Price" and "\$45". To the right of this callout is a line drawing of a long-sleeved, button-down shirt. Below the shirt, the text "Usual price: \$75" is written.

Ans: _____%

- 25 Mr Lee drove for 6 hours from City A to City B. In the first two hours, he drove at an average speed of 75 km/h. For the rest of the journey, he drove at an average speed of 60 km/h. What was his average speed for the whole journey?



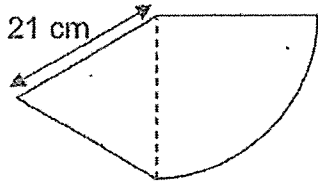
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Ans: _____ km/h

- 26 John had $24k$ marbles. Kelvin had 16 fewer marbles than John while Mike had half as many marbles as John. How many marbles do the 3 boys have in total? Give your answer in terms of k in the simplest form.

Ans: _____

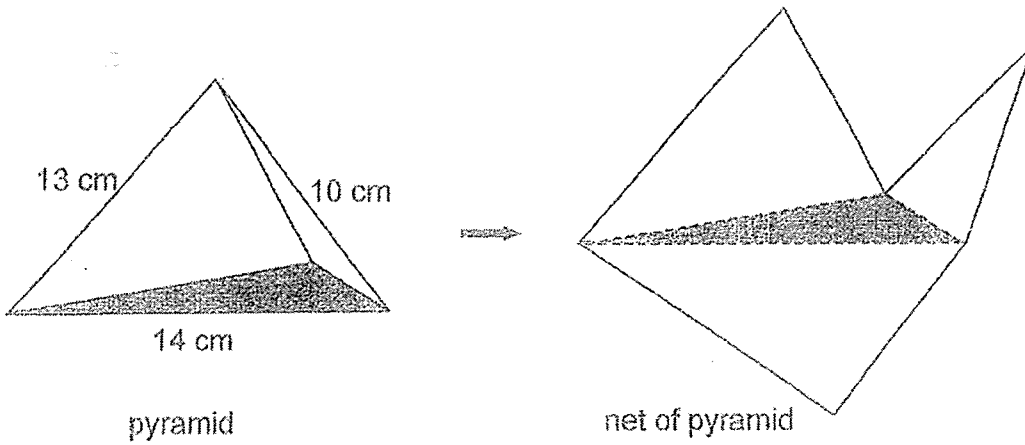
- 27 The figure below is made up of a quarter circle and an equilateral triangle. Find the perimeter of the figure. Take $\pi = \frac{22}{7}$



Do not write in this space

Ans: _____ cm

- 28 A pyramid and its net are shown below. The base of the pyramid in both diagrams are shaded. Find the perimeter of the net of the pyramid.



Ans: _____ cm

- 29 The table below shows the different amounts of money donated by a group of students. Part of the table is covered by an ink blot. $\frac{3}{4}$ of the group of students donated at least \$5.

Do not write in this space

Amount of money donated	\$0	\$2	\$5	\$8	\$10
Number of students	35	28	38		

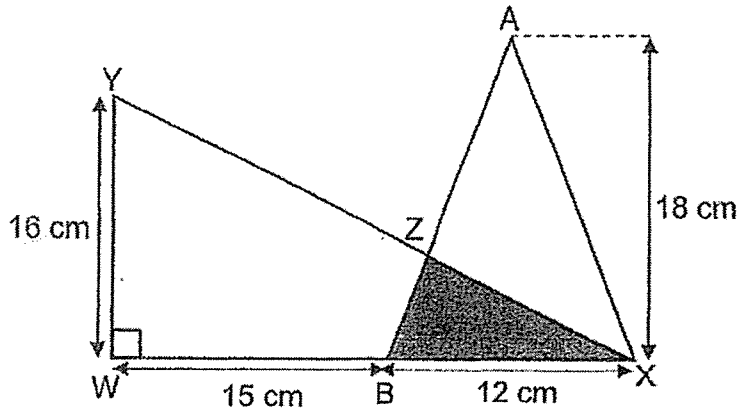
Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

Statement	True	False	Not possible to tell
Every student in the group donated some money.			
The group consisted of 252 students.			
The number of students who donated \$10 was the greatest.			

30

The figure below is made up of triangles WXY and ABX. The total unshaded area of the figure is 180 cm^2 . Find the shaded area BXZ.

Do not write in this space



Ans: _____ cm^2

End of Paper



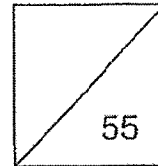


HENRY PARK PRIMARY SCHOOL
2022 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6
PAPER 2

Parent's Signature

Name: _____ ()

Class: Primary 6 _____



Time for Paper 2: 1 hour 30 minutes

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

Follow all instructions carefully.

Answer all questions.

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

Write your answers in this booklet.

You are allowed to use a calculator.

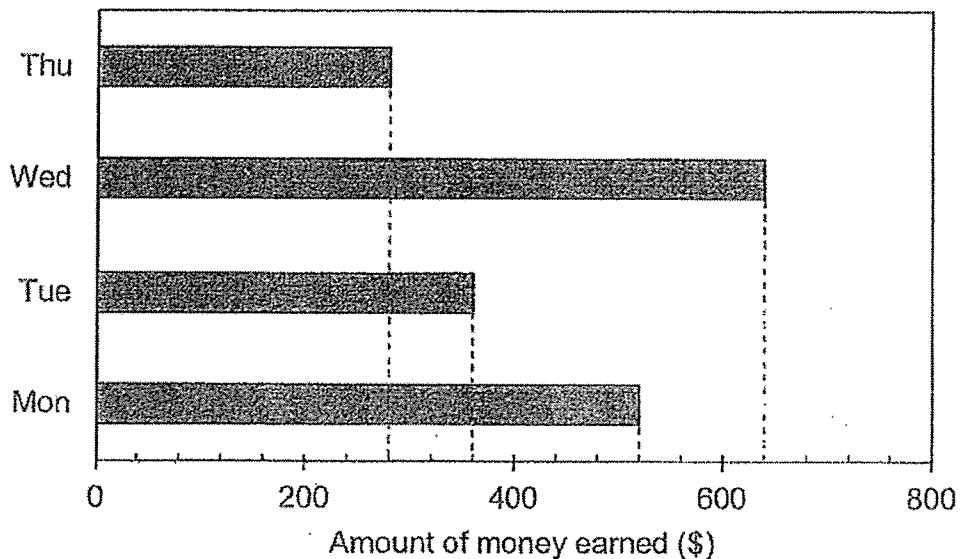
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

- 1 Ahmad had a sum of money. He could only buy 10 notebooks with all the money he had. He decided to buy 6 notebooks and 4 pens. He had \$2.40 left. Each pen cost \$0.80. How much money did Ahmad have at first?

Ans: \$ _____

- 2 The bar graph below shows the amount of money ABC clothing store earned from Monday to Thursday.

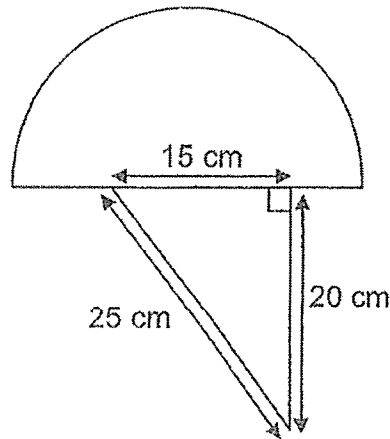


What is the average amount of money ABC clothing store earned from Monday to Thursday?

Ans: \$ _____

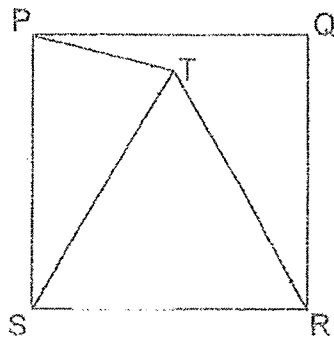
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- 3 The figure below shows a right-angled triangle and a semicircle of radius 14 cm. Use the calculator value of π to find the perimeter of the figure. Round your answer to 2 decimal places.



Ans: _____ cm

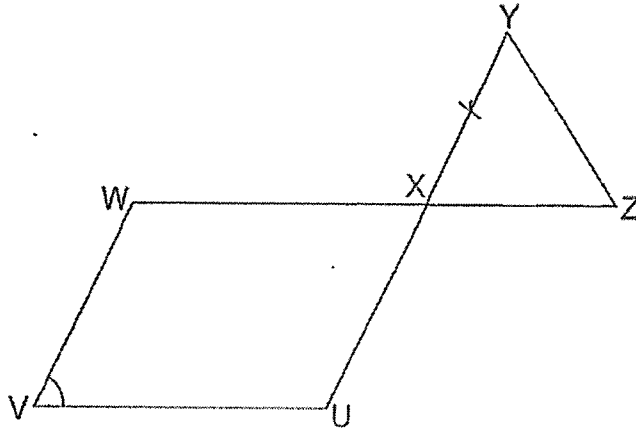
- 4 PQRS is a square. STR is an equilateral triangle. Find the value of $\angle QPT$.



Ans: _____^o

Please do not write in the margin.

- 5 In the figure below, $UVWX$ is a parallelogram and XYZ is an isosceles triangle where $XY = XZ$. UXY and WXZ are straight lines and the sum of $\angle YZX$ and $\angle XWV$ is 147° . Find $\angle UVW$.



Ans: _____^o

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

(45 marks)

- 6 Jane and Siti had a number of beads. Jane had 432 more beads than Siti. After Jane gave away $\frac{1}{4}$ of her beads and Siti gave away $\frac{5}{8}$ of her beads, Jane had 441 more beads than Siti. How many beads did Jane have at first?

Ans: _____ [3]

- 7 At a paint shop, there were some identical containers. 70% of the containers were completely filled with paint. The remaining 120 containers were empty. The total volume of paint in the containers was 1400 l. What was the volume of paint in one container? Give your answer in litres.

Ans: _____ [3]

- 8 Jen and Grace took part in a race and both of them started running from the same point at the same time. After 35 min, Jen completed the race, but Grace had only run $\frac{5}{7}$ of the distance. Given that both girls did not change their speeds throughout the race and that Jen ran at a constant speed of 36 m/min faster than Grace, find Grace's average speed for the first 35 min.

Ans: _____ [3]

- 9 The table below shows the number of plastic bottles collected by four classes for recycling.

Class	Number of plastic bottles
6A	11
6B	$8m$
6C	$40 - 3m$
6D	?

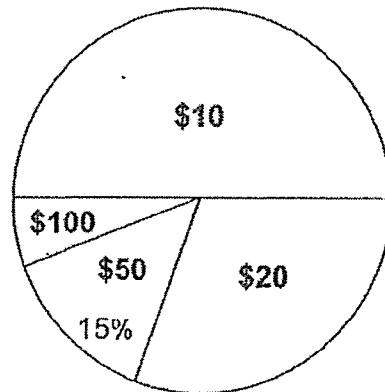
- (a) Find the total number of plastic bottles 6A, 6B and 6C collected. Express your answer in terms of m in the simplest form.

Ans: (a) _____ [1]

- (b) The total number of plastic bottles collected by the four classes is 209. Given $m = 13$, find the number of plastic bottles collected by 6D.

Ans: (b) _____ [2]

- 10 The pie chart below shows the number of \$10, \$20, \$50 and \$100-tickets sold by a concert organiser. $\frac{1}{2}$ of the number of tickets sold were \$10-tickets. $\frac{3}{10}$ of the number of tickets sold were \$20-tickets.



- (a) What fraction of the tickets sold were \$100-tickets?
Express your answer in the simplest form.

Ans: (a) _____ [1]

- (b) A total of \$10 810 was collected from the sale of all the tickets.
How much was collected from the sale of \$10-tickets?

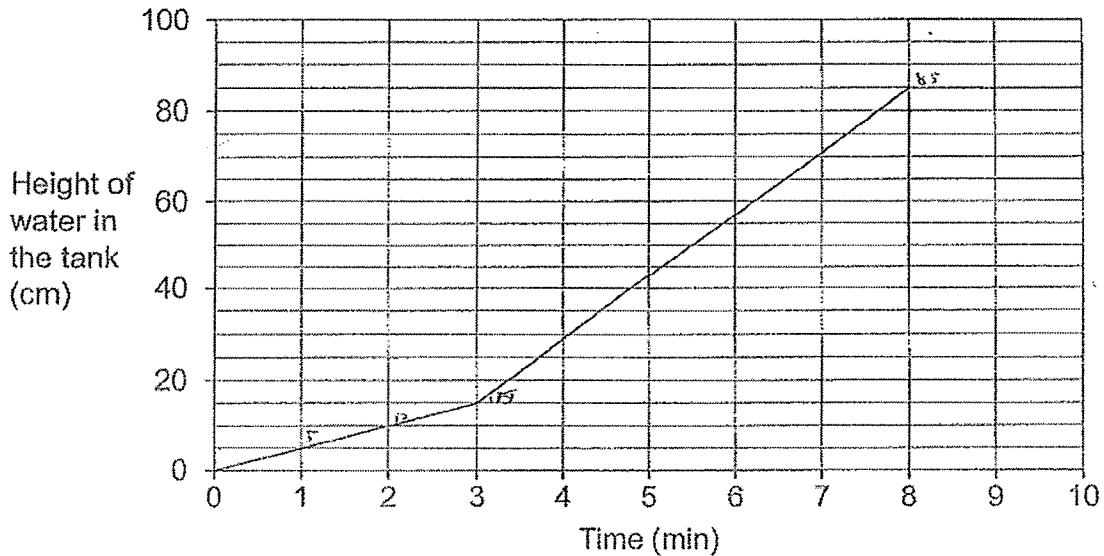
Ans: (b) _____ [3]

- 11 A money box contained some money at first. A took $\frac{1}{2}$ the amount of money and another \$1500 from the box. After that, B took $\frac{1}{4}$ of the remaining amount of money and another \$850 from the box. In the end, C took the rest of the money left in the box. Given that C took \$1400, find the amount of money in the box at first.

Ans: _____ [4]

- 12 Sam wanted to fill an empty tank measuring 125 cm long and 80 cm wide with water. He turned on Tap A first and after 3 minutes, he turned on Tap B. Both taps were turned off at the same time when the tank was filled to the brim without overflowing.

The line graph shows the amount of water in the tank over 10 minutes.



- (a) Find the volume of the tank.

Ans: (a) _____ [1]

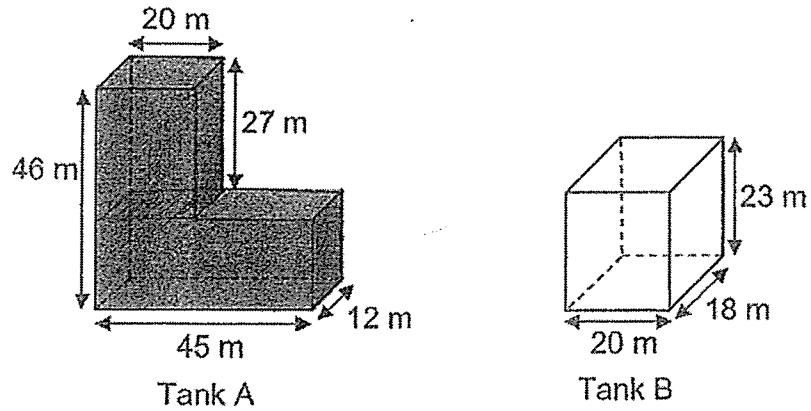
- (b) In one minute, how many litres of water flowed from Tap B?

Ans: (b) _____ [3]

- 13 Last year, the ratio of the number of men to the number of women who signed up for a marathon was 5 : 4. This year, the number of men who signed up for the marathon increased by 30% and the number of women who signed up for the marathon decreased by 50%. A total of 4913 men and women signed up for the marathon this year. What is difference between the total number of people who signed up for the marathon in the two years?

Ans: _____ [3]

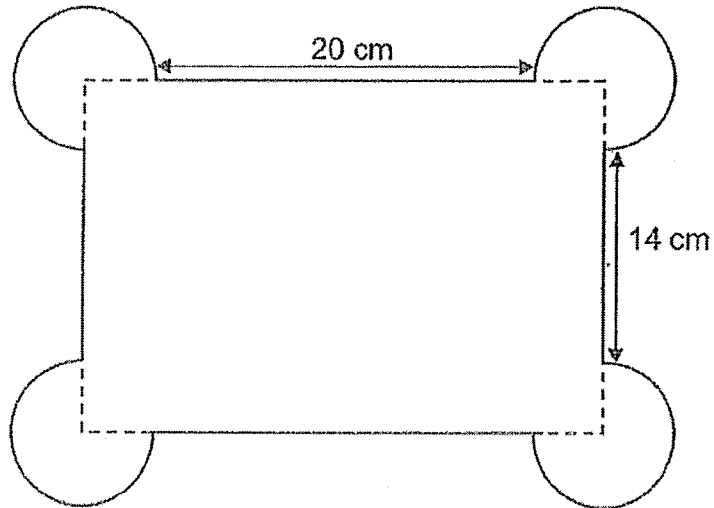
- 14 Two tanks, A and B, are shown below. Tank A was filled to the brim with water. Water was transferred from Tank A to Tank B until the height of the water level in both tanks are the same. What is the new height of water level in each tank?



Ans: _____ [3]

15

The figure below shows a rectangle with 4 identical three-quarter circles. The length and breadth of the rectangle is in the ratio 13 : 10. Taking $\pi = 3.14$,



(a) find the perimeter of the figure.

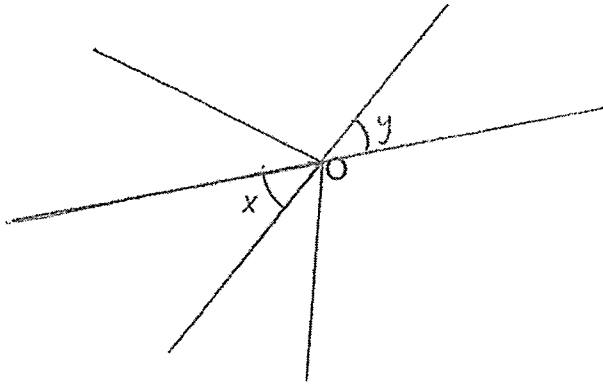
Ans: (a) _____ [3]

(b) find area of the figure.

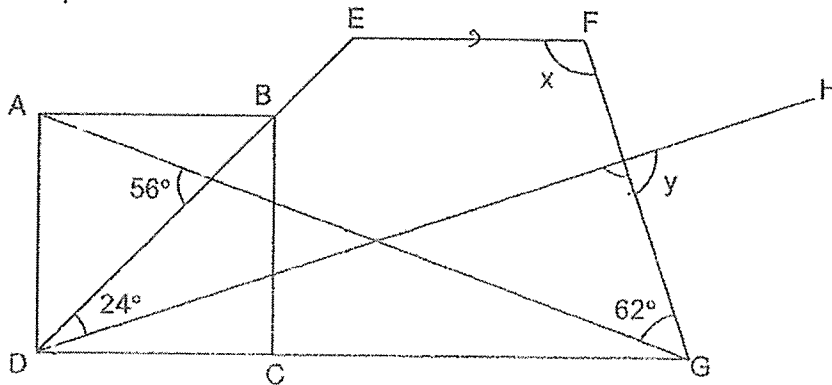
Ans: (b) _____ [2]

Please do not write in the margin.

- 16 (a) The figure below shows angles at a point O. Without using a protractor, draw another angle at O which is the same size as $\angle x$ in the figure below. Label the angle as y. [1]



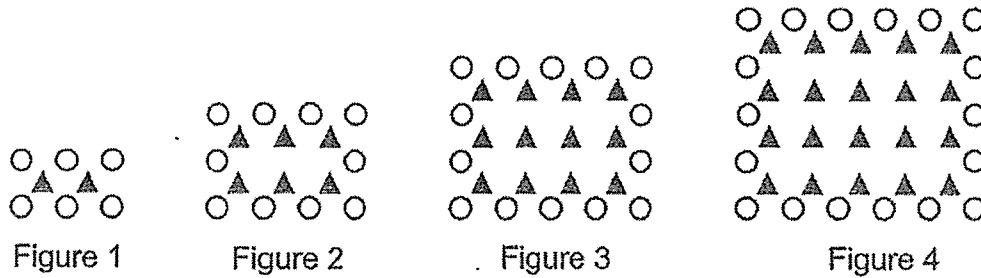
- (b) ABCD is a square and DEFG is a trapezium. AG and DH are straight lines. DG is parallel to EF. [2]



- (i) Find $\angle x$.

Ans: (ii) _____ [2]

- 17 Jamina uses circles and triangles to form figures that follow a pattern as shown below.



- (a) The table shows the number of triangles and circles for the first 4 figures. Complete the table for Figure 5. [1]

Figure Number	1	2	3	4	5
Number of triangles	2	6	12	20	
Number of circles	6	10	14	18	
Total number of triangles and circles	8	16	26	38	

- (b) A figure in the pattern has 240 triangles. What is the Figure Number?

Ans: (b) _____ [2]

- (c) What is the total number of triangles and circles in Figure 100?

Ans: (c) _____ [2]

End of Paper
Please do not write in the margin.

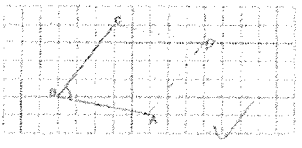
SCHOOL : HENRY PARK SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2022 PRELIM

PAPER 1 BOOKLET A

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

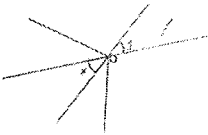
Q 11	Q12	Q13	Q14	Q15
3	4	3	4	3

PAPER 1 BOOKLET B

Q16) 2						
Q17) \$1.60						
Q18) 4						
Q19) 628						
Q20) a)C b)B						
Q21) 						
Q22) 105cm ³						
Q23) 4						
Q24) 40%						
Q25) 65 km/h						
Q26) 60k – 16						
Q27) 96cm						
Q28) 66cm						
Q29) <table border="1" style="width: 100%; height: 40px;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> <tr> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> </table>				—	—	—
—	—	—				

Q30) 72 cm ²

PAPER 2

Q1) \$14
Q2) \$450
Q3) 101.98cm
Q4) 15°
Q5) 82°
Q6) 744
Q7) 5
Q8) 90
Q9) a)51 + 5m b)93
Q10) a)1/20 b)\$2300
Q11) \$9000
Q12) a)850 000cm ³ b)90L
Q13) 289
Q14) 18.6 cm
Q15) a)124.52 cm b)604.78cm ²
Q16) a)  b)i) 107° ii)94°
Q17) a)30 / 22 / 52 b)15 c)10502

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



PRELIMINARY EXAMINATION 2022 PRIMARY 6 MATHEMATICS

PAPER 1 BOOKLET A

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.

Answer all questions.

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

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

Name: _____ ()

Class: Primary 6. _____

Date: 19 Aug 2022

This booklet consists of **8** printed pages including this page.

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

1 Which one of the following fractions is nearest to 1?

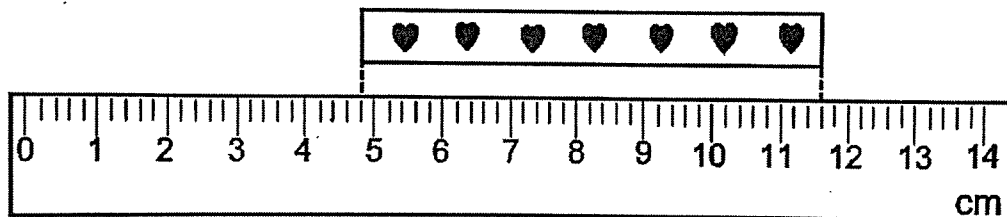
(1) $\frac{2}{3}$

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

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

(4) $1\frac{3}{10}$

2 What is the length of the ribbon below?



(1) 6.4 cm

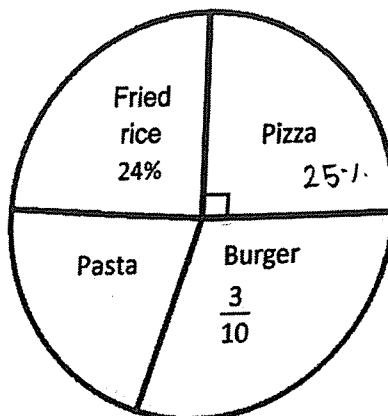
(2) 6.8 cm

(3) 6.9 cm

(4) 11.6 cm

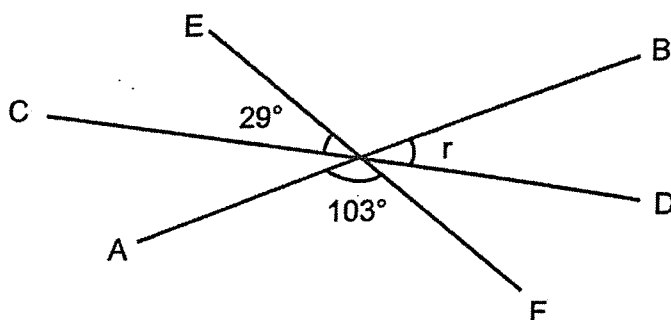
(Go on to the next page)

- 3 The pie chart below shows the favourite food of a group of children. What is the ratio of the number of children who like burger to the number of children who like pasta?



- (1) 1 : 7
 (2) 3 : 7
 (3) 6 : 5
 (4) 10 : 7

- 4 AB, CD and EF are straight lines. Find $\angle r$.



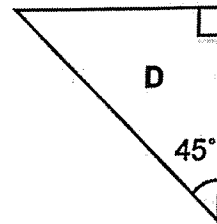
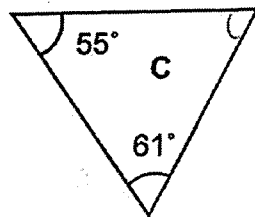
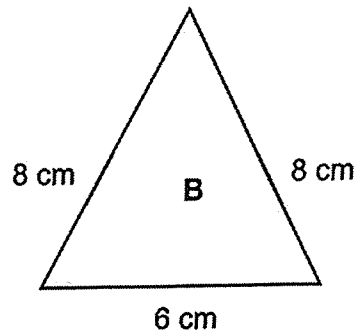
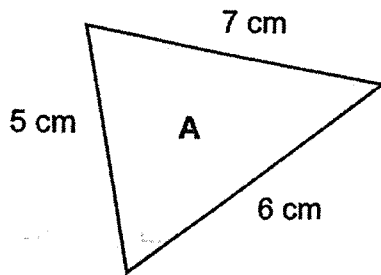
- (1) 29°
 (2) 48°
 (3) 61°
 (4) 77°

(Go on to the next page)

5 Express 1.8 as a percentage.

- (1) 0.018%
- (2) 0.18%
- (3) 1.8%
- (4) 180%

6 Which of the following are isosceles triangles?



- (1) A and B only
- (2) B and C only
- (3) B and D only
- (4) A, B and D only

(Go on to the next page)

- 7 The product of two numbers is 55. One of the numbers is 5.
Find the average of the two numbers.

- (1) 8
- (2) 10
- (3) 11
- (4) 16

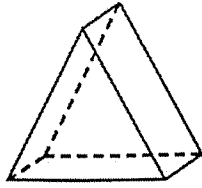
- 8 Adrian, Betty and Chandran shared 126 marbles in the ratio 2 : 4 : 3.
How many marbles did Betty have?

- (1) 14
- (2) 28
- (3) 42
- (4) 56

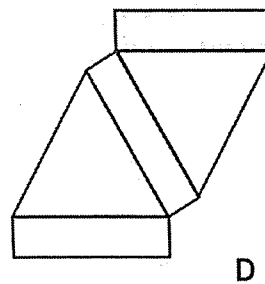
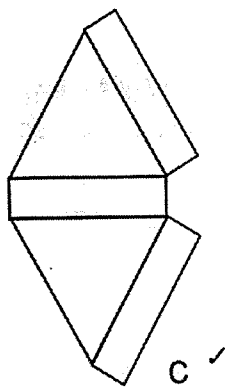
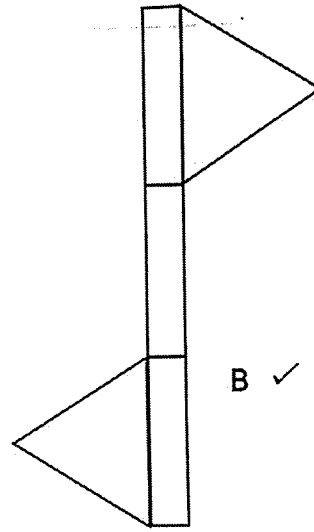
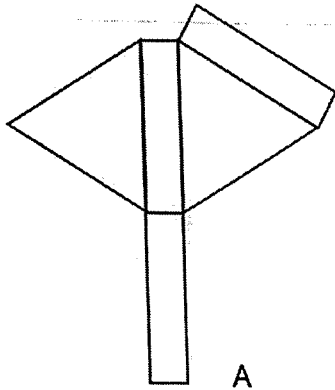
- 9 Mei Ling baked $5y$ tarts. She gave her mother 25 of them and packed the rest equally into 3 boxes. How many tarts were there in each box?

- (1) $\frac{5y}{3}$
- (2) $\frac{5y+25}{3}$
- (3) $\frac{5y}{3} - 25$
- (4) $\frac{5y-25}{3}$

10 The solid below is a prism.



Which of the following nets can be folded to form the solid above?



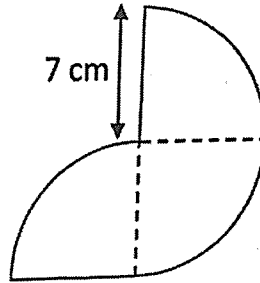
- (1) A and D only
- (2) B and C only
- (3) A, B and D only
- (4) B, C and D only

C20

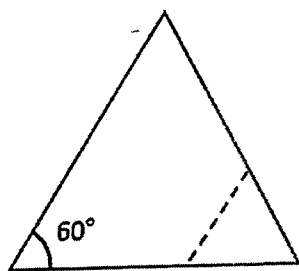
(Go on to the next page)

- 11 The figure below is made up of 3 identical quarter circles with radius 7 cm.

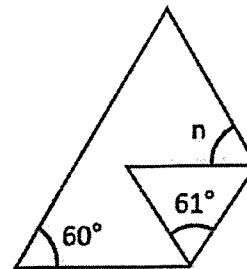
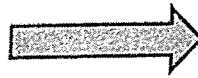
Find its perimeter. (Take $\pi = \frac{22}{7}$)



- (1) 47 cm
 (2) 75 cm
 (3) 115.5 cm
 (4) 129.5 cm
- 12 A piece of paper in the shape of an equilateral triangle is folded along the dotted line as shown. Find $\angle n$.



original



folded

- (1) 59°
 (2) 60°
 (3) 61°
 (4) 62°

(Go on to the next page)

- 13 Joanna and Elicia had an equal number of stickers at first. After Joanna gave away 30 of her stickers and Elicia bought another 12 stickers, Elicia had four times as many stickers as Joanna. How many stickers did each of them have at first?

- (1) 36
 (2) 42
 (3) 44
 (4) 56

- 14 Mrs Chan only had the following coins in her wallet.



She took three coins from her wallet and dropped them into a donation box. Which one of the following could not be the amount she donated?

- (1) \$0.35
 (2) \$0.75
 (3) \$1.15
 (4) \$1.65
- 15 There were $\frac{5}{7}$ as many red marbles as blue marbles in a jar. Dave took some blue marbles out of the jar and replaced them with the same number of red marbles. The number of red marbles became $\frac{5}{9}$ of all the marbles in the jar. Which of the following is a possible number of blue marbles that were replaced?

- (1) 9
 (2) 10
 (3) 36
 (4) 63

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2022 PRIMARY 6 MATHEMATICS

PAPER 1 BOOKLET B

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

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

Name: _____

Class: Primary 6. _____

Date: 19 Aug 2022

Paper 1 Booklet B	/ 25
----------------------	------

This booklet consists of 9 printed pages including this page.

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

Do not write in this space.

16 Write down all the common multiples of 7 and 5 that are smaller than 120.

Ans: _____

17 Find the value of $2.7 \div 90$.

Ans: _____

18 Find the value of $\frac{2}{3} + \frac{4}{7}$.

Give your answer as a mixed number in the simplest form.

Ans: _____

(Go on to the next page)

- 19 Find the value of $\frac{9w-7}{5}$ when $w = 8$.

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write in
this space.

Ans: _____

- 20 Megan took 45 minutes to travel from Point A to Point B at an average speed of 72 km/h. Find the distance between Point A and Point B.

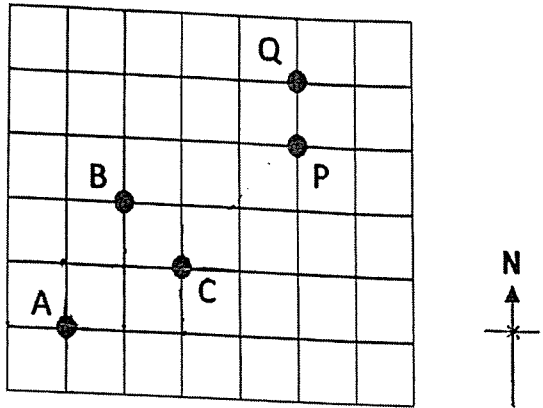
Ans: _____ km

(Go on to the next page)

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

Do not write in this space.

21



Based on the square grid above, fill in the blanks with A, B, C, P or Q.

(a) Point _____ is south of point _____

(b) Point _____ is north-east of point _____

22 The table shows the charges for bicycle rental.

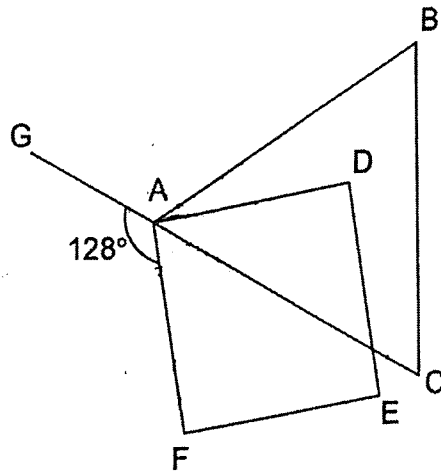
Bicycle for Rental	
For the first 1 hour	\$6.00
For every additional 30 minutes or part thereof	\$2.50

Jane rented a bicycle from 5.30 p.m. to 7.45 p.m.
How much did she pay?

Ans: \$ _____

(Go on to the next page)

- 23 ABC is an equilateral triangle and ADEF is a square.
GAC is a straight line. Find $\angle BAD$.



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write in
this space.

Ans: _____ $^\circ$

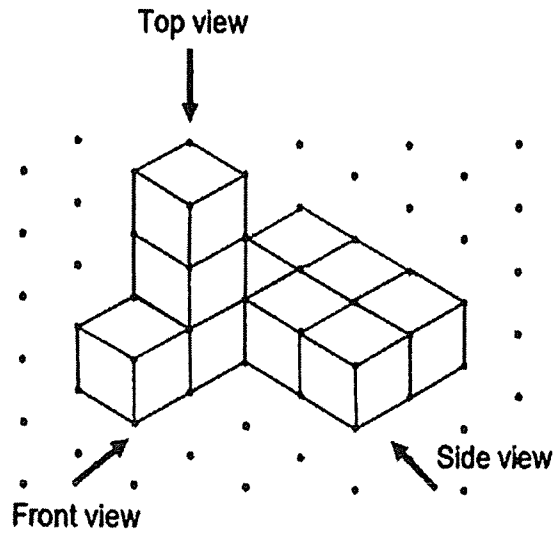
- 24 An empty tank has a rectangular base measuring 30 cm by 20 cm.
Water from 5 bottles is emptied into the tank without spillage.
Each bottle contains 1.5 l of water. What is the height of water in the tank?

Ans: _____ cm

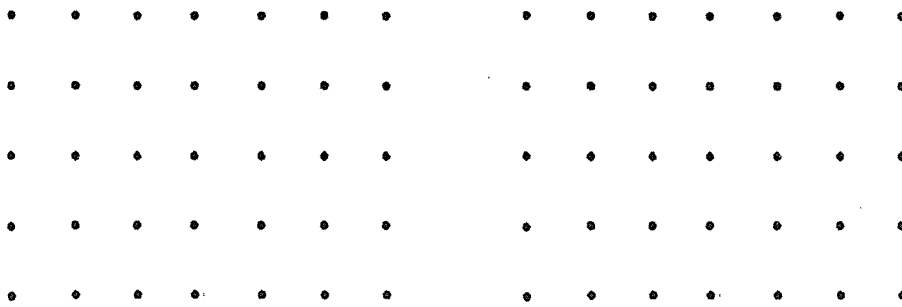
(Go on to the next page)

- 25 The solid below is made up of 10 cubes.
 Draw the front view and top view (as seen from the front view) of the solid in the grid below.

Do not write in this space.

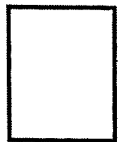


Ans:

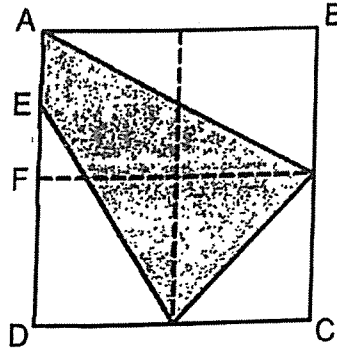


Front View

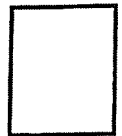
Top View



- 26 The figure is made up of 4 identical squares. $AE = EF$.
What fraction of the figure is shaded?

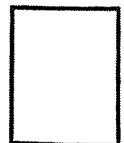


Ans: _____



- 27 Alan bought some stalks of flowers. 60% of them are roses and the rest are orchids. 50% of the roses are red roses. There are 24 red roses. How many stalks of orchids are there?

Ans: _____



- 28 Kim baked 259 more cookies than Li Min. After each of them sold some cookies, Kim had $\frac{2}{5}$ of her cookies left and Li Min had $\frac{3}{4}$ of her cookies left. Both Kim and Li Min had the same number of cookies left. How many cookies did Li Min bake at first?

Do not write in this space.

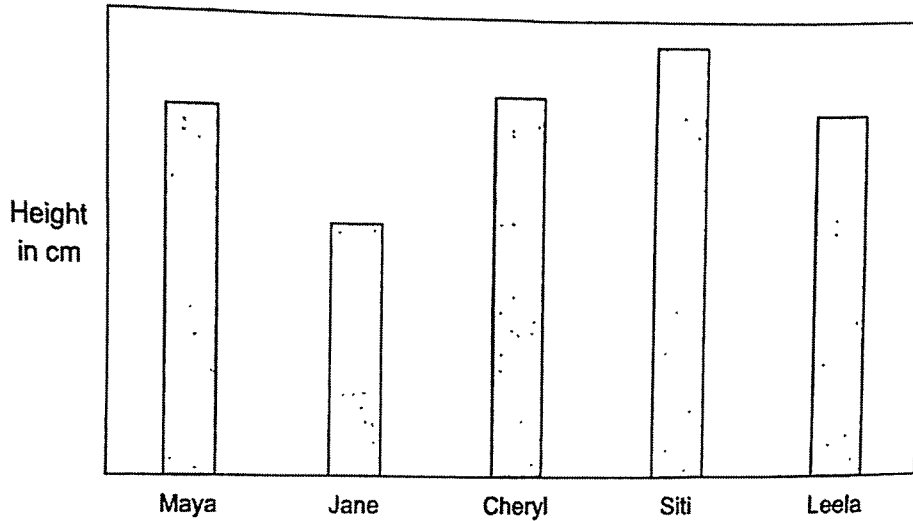
Ans: _____

- 29 A bookshop had 600 pens to sell over two weeks. In the first week, the ratio of the number of pens sold to the number of pens unsold was 1 : 2. In the second week, the ratio of the number of pens sold to the number of pens unsold was 5 : 3. How many pens did the bookshop sell in the second week?

Ans: _____

(Go on to the next page)

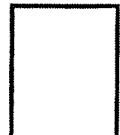
- 30 The bar graph below shows the height of 5 girls.



Do not write in this space.

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

Statement	True	False	Not possible to tell
(a) Jane is 15 cm shorter than Maya.			
(b) The average height of the 5 girls is more than Jane's height but less than Siti's height.			
(c) The ratio of Jane's height to Siti's height is 1 : 2.			



END OF PAPER

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2022 PRIMARY 6 MATHEMATICS

PAPER 2

Duration: 1h 30 min

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

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

Name: _____ ()

Class: Primary 6. 1

Date: 19 August 2022

Parent's Signature: _____

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

This booklet consists of 18 printed pages including this page.

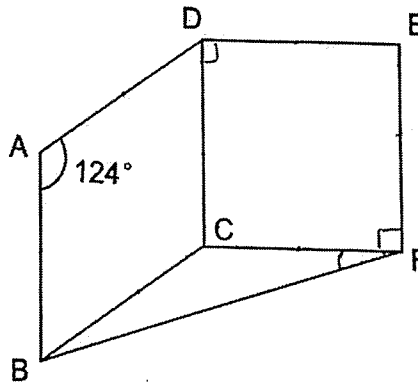
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

- 1 Prawns are sold at the supermarket at \$1.35 per 100 g. Kelly bought 3.5 kg of prawns. How much did she pay?

Ans: \$ _____

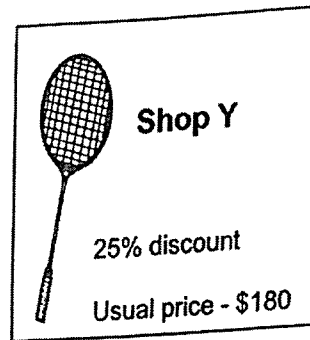
- 2 ABCD is a rhombus and CDEF is a square. $\angle BAD$ is 124° . Find $\angle BFC$.



Ans: _____°

(Go on to the next page)

- 3 John saw two different advertisements for two identical rackets sold at \$180 before discount.

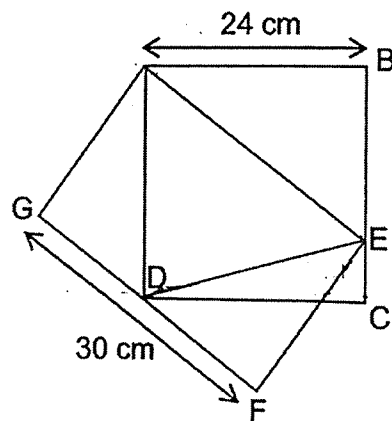


How much money did John save by buying from the cheaper shop?

Ans: \$ _____

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write in
this space

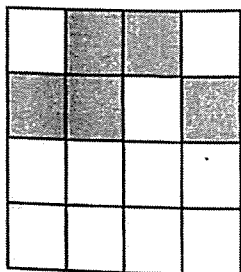
- 4 ABCD is a square and AEF is a triangle. AB = 24 cm and GF = 30 cm. Point E lies on BC while Point D lies on FG. Find the length of AG.



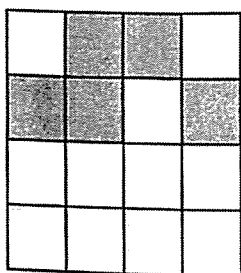
Ans: _____ cm

(Go on to the next page)

- 5 The figure below shows part of a symmetric figure.

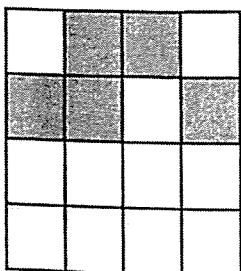


- (a) Using the given dotted line as the line of symmetry, complete the symmetric figure by shading the correct square(s) below. [1]

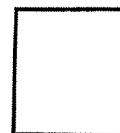


- (b) Jane used a **different** line of symmetry that required her to shade **only two squares** to complete a symmetric figure. Which two squares did Jane shade?

Shade in the figure below to show your answer. [1]



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this space



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

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6 A pen costs $\$p$. A notebook costs $\$2$ more than the pen.

- (a) What is the cost of 3 pens and 2 notebooks?
Express your answer in terms of p in its simplest form.

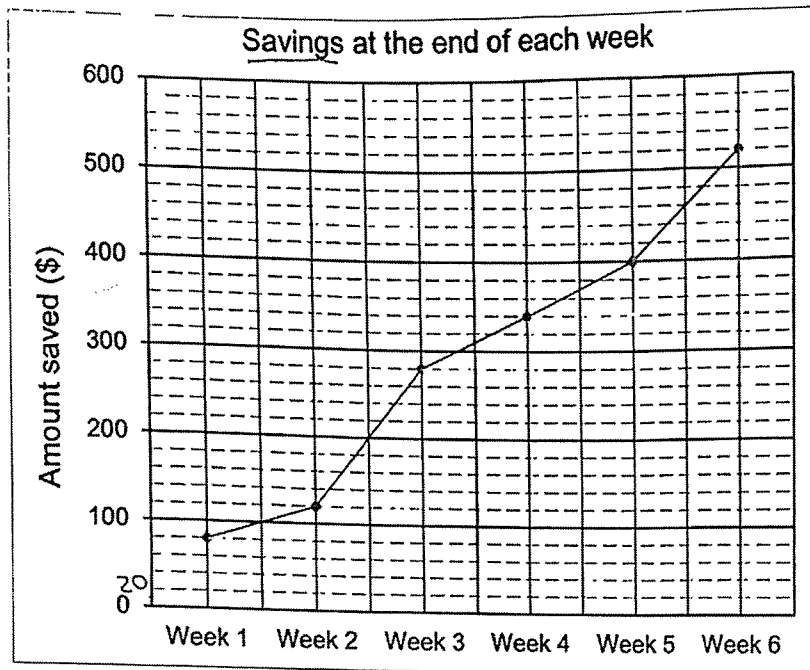
Ans: (a) _____ [1]

- (b) Lee Lian paid $\$22.50$ for 3 pens and 2 notebooks.
Find the cost of one notebook.

Ans: (b) _____ [2]

(Go on to the next page)

- 7 Su Ling wanted to buy a laptop with her savings.
The line graph below shows her savings at the end of each week.



- (a) In which week did Su Ling save the most?

Ans: (a) _____ [1]

- (b) At the end of week 6, Su Ling only managed to save $\frac{1}{4}$ of the amount she needed to buy the laptop. How much more does she need to save?

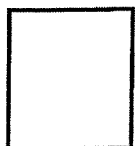
Ans: (b) _____ [2]

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- 8 Alex and Ben started cycling at the same time from the start of a 6.12 km cycling path. Both did not change their speeds from the start to finish. Alex cycled at 340 m/min. When he reached the end of the path, Ben was 450 m behind him. Find Ben's speed in m/min.

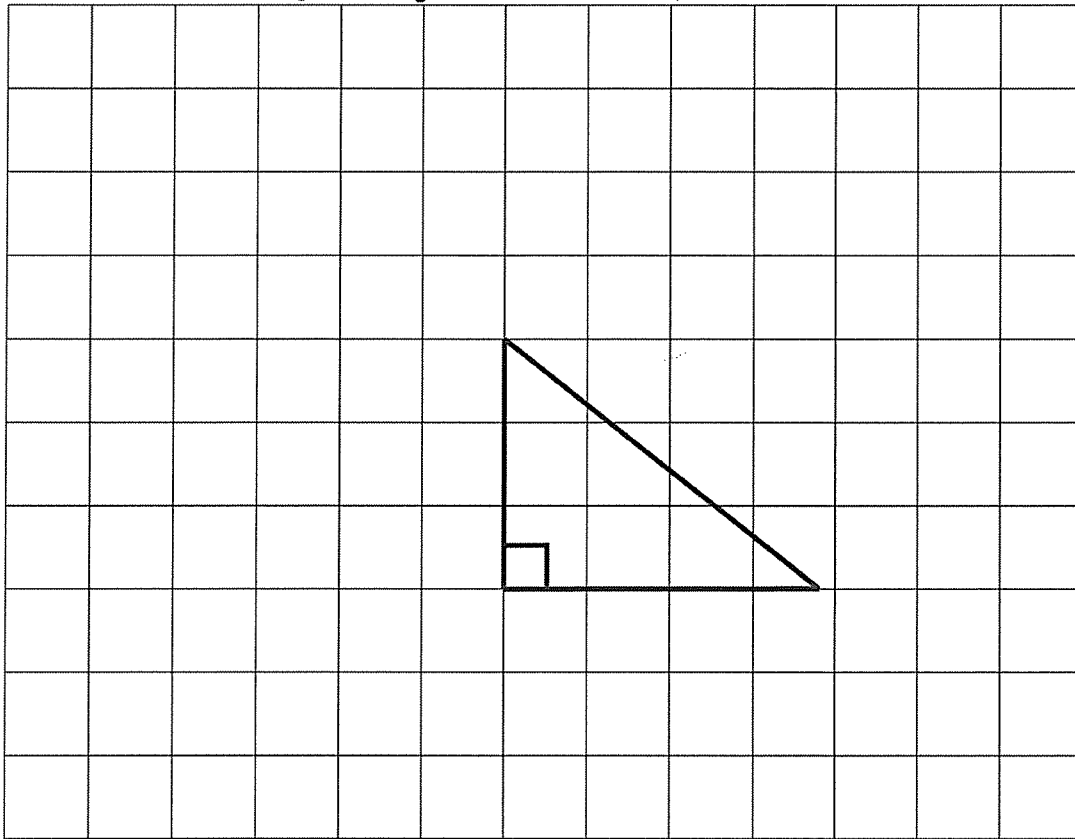
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Ans: _____ [3]



(Go on to the next page)

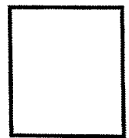
9 A right-angled triangle is drawn in the square grid below.



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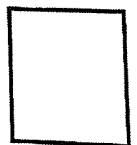
(a) Draw 3 more such triangles to form a parallelogram with the largest possible perimeter.

[2]



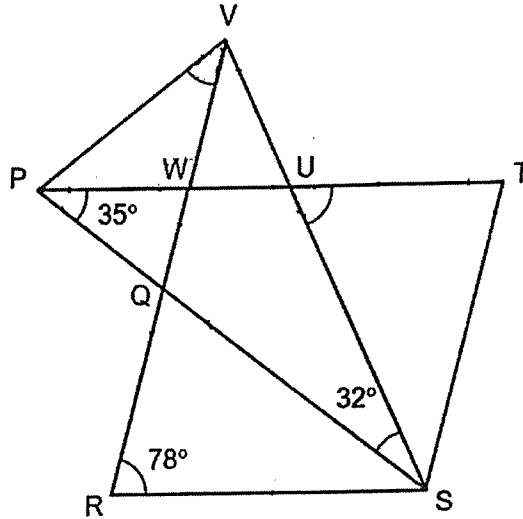
(b) Measure and write the length of the longest side of the parallelogram.

Ans: (b) _____ [1]



- 10 PSV is an isosceles triangle, $PS = VS$. RSTW is a rhombus. PT and RV are straight lines. $\angle WPQ = 35^\circ$ and $\angle PSV = 32^\circ$.

(a) Find $\angle TUS$.



Ans: (a) _____ [2]

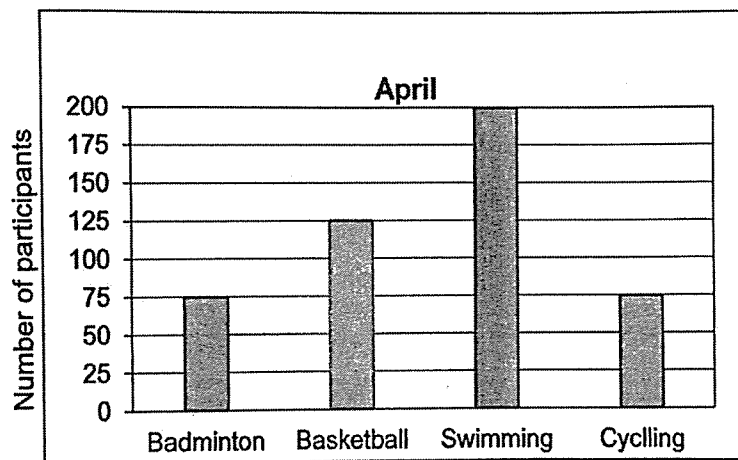
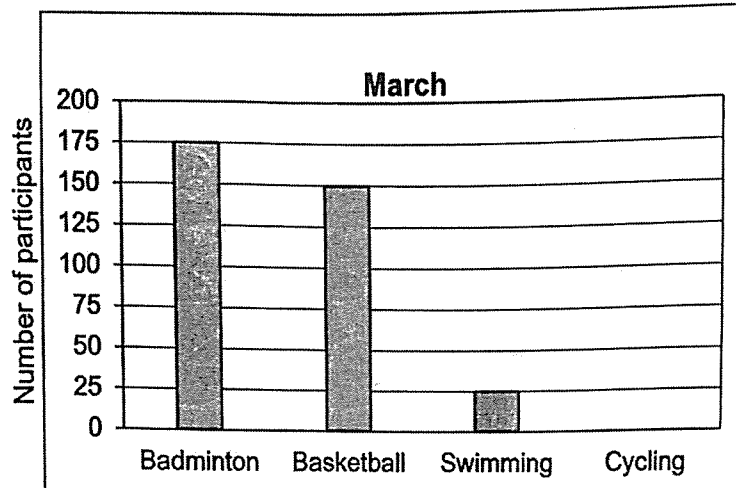
(b) Find $\angle PVR$.

Ans: (b) _____ [2]

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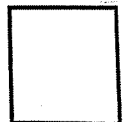
- 11 The two bar graphs below show the number of members in a sports club who took part in 4 types of sports in March and April. The bar for the number of members who participated in Cycling in March has not been drawn.

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- (a) In March, the ratio of the number of people who took part in Basketball to the number of people who took part in Cycling was 3 : 2. How many people took part in Cycling in March?

Ans: (a) _____ [1]



(Go on to the next page)

- (b) What was the percentage decrease in the number of people who took part in Badminton from March to April?
Give your answer correct to 2 decimal places.

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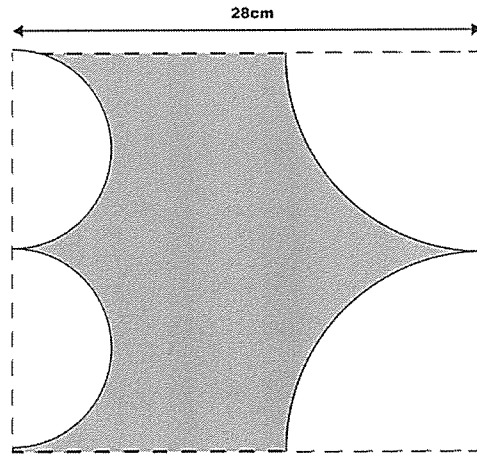
Ans: (b) _____ [2]

- (c) An entrance fee was charged to those who took part in swimming. A total of \$528.75 was collected in March and April. How much was the entrance fee?

Ans: (c) _____ [1]

(Go on to the next page)

- 12 Two identical semicircles and two identical quadrants are cut out from a square piece of grey paper as shown below. Taking $\pi = \frac{22}{7}$,



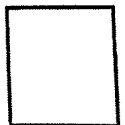
- (a) find the perimeter of the remaining paper.

Ans: (a) _____ [2]



- (b) find the area of the remaining paper.

Ans: (b) _____ [2]

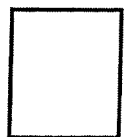


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- 13 The average height of a group of children was 129.6 cm. One of the children's height was wrongly recorded as 162 cm when it should have been 126 cm. As a result, the average height calculated became 132.6 cm. How many children were there in the group?

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Ans: _____ [3]



(Go on to the next page)

- 14 Mariam baked some strawberry, apple and pear tarts. There were 12 more strawberry tarts than pear tarts and 20 more apple tarts than strawberry tarts. She sold $\frac{3}{8}$ of the apple tarts and half of the strawberry tarts. She had 145 tarts left.

(a) How many pear tarts did she bake?

Ans: (a) _____ [2]

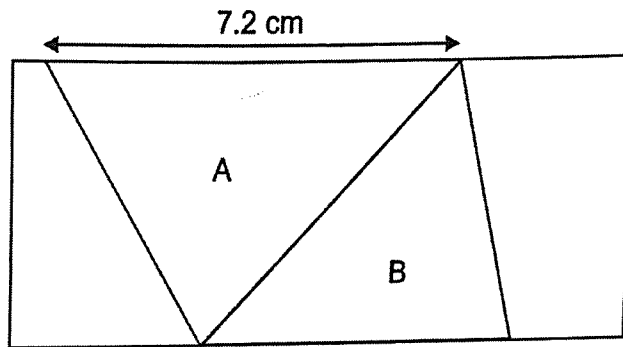
How many tarts did she sell altogether?

Ans: (b) _____ [2]

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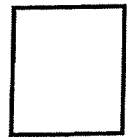
(Go on to the next page)

- 15 In the rectangle below, the area of triangle A is $\frac{1}{3}$ the area of the rectangle. The area of triangle B is $\frac{1}{4}$ the area of the rectangle. The area of triangle A is 5.85 cm^2 more than the area of triangle B.



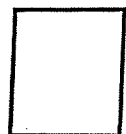
- (a) Find the area of the rectangle.

Ans: (a) _____ [1]



- (b) Find the perimeter of the rectangle.

Ans: (b) _____ [3]

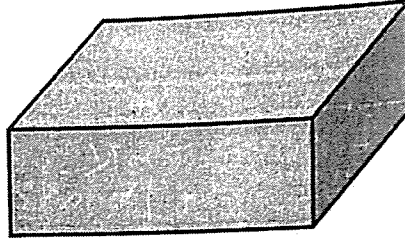


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- 16 The wooden block as shown in Diagram A was dipped completely into a pail of paint.

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Diagram A



Then, it was cut along the dotted lines as shown in Diagram B to form the solid as shown in Diagram C. The solid formed could be divided into 6 identical cubes.

Diagram B

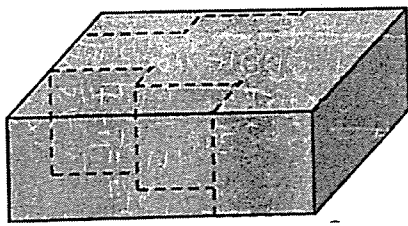
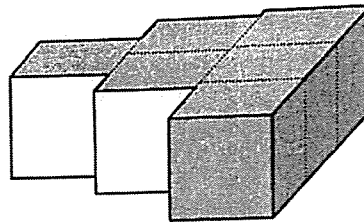


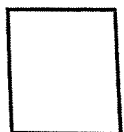
Diagram C



The total unpainted area of the solid in Diagram C was 337.5 cm^2 .

- (a) Find the volume of the wooden block at first.

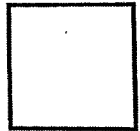
Ans: (a) _____ [3]



- (b) What percentage of the wooden block is the solid formed in Diagram C? Give your answer correct to 1 decimal place.

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Ans: (b) _____ [2]



(Go on to the next page)

- 17 A deck of cards is numbered 1 to 50. Pamela draws 3 cards from it. The sum of the numbers on any of the 2 cards are 60, 28 and 58.

(a) Find the 3 numbers.

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Ans: (a) _____ [3]

- (b) She draws a fourth card and the average of the 4 numbers is 20. What is the number on the fourth card?

Ans: (b) _____ [2]

END OF PAPER

SCHOOL : MGS PRIMARY SCHOOL
 LEVEL : PRIMARY 6
 SUBJECT : MATH
 TERM : 2022 SA2

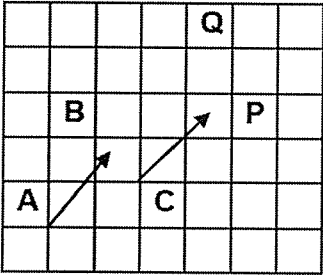
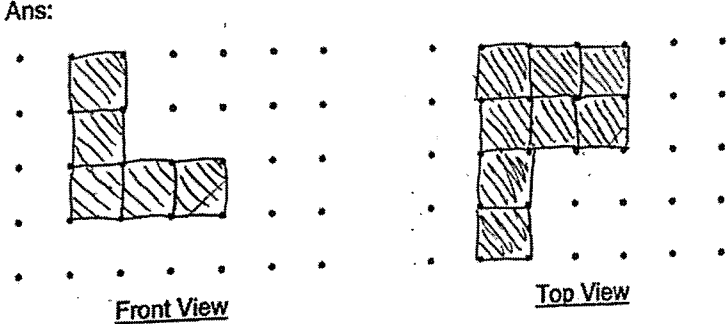
PAPER 1 BOOKLET A

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

Q 11	Q12	Q13	Q14	Q15
1	4	3	4	2

PAPER 1 BOOKLET B

Q16)	35 , 70 , 105
Q17)	$= 2.7 \div 9 \div 10$ $= 0.3 \div 10$ $= 0.03$
Q18)	$\frac{2}{3} + \frac{4}{7}$ $= \frac{14}{21} + \frac{12}{21}$ $= \frac{26}{21}$ $= 1 \frac{5}{21}$
Q19)	$9w = 8 \times 9$ $= 72$ $72 - 7 = 65$ $65 \div 5 = 13$
Q20)	Distance = speed x time $45 \text{ min} = \frac{3}{4} \text{ hour}$ $= 72 \times \frac{3}{4}$ $= 54 \text{ km}$

Q21)	 <p>a) Point P is south of point Q b) Point P is north-east of point C</p>
Q22)	<p>Total time = 135 minute First hour (60 minute) = \$6.00 Next 75 minute = \$2.50 x 3 = \$7.50</p> <p>Total = \$7.50 + \$6.00 = \$13.50</p>
Q23)	<p>$\angle GAC = 180^\circ - 128^\circ = 52^\circ$ $\angle FAD = 90^\circ - 52^\circ = 38^\circ$ $\angle BAD = 60^\circ - 38^\circ = 22^\circ$</p>
Q24)	<p>$1.5 \times 5 = 7.5$ litre = 7500 cm³ $30 \times 20 = 600$ $7500 \div 600 = 12.5$ cm</p>
Q25)	<p>Ans:</p>  <p style="text-align: center;"><u>Front View</u> <u>Top View</u></p>
Q26)	<p>$C - \frac{1}{2} \times 4u = 2u$ $B - \frac{1}{2} \times 2u = 1u$ $A - \frac{1}{2} \times 3u = 1.5u$ Shaded = $\frac{7}{16}$</p>

Q27) ** rose : orchid
 60% : 40%

$$\begin{array}{c} / \quad \backslash \\ 24 \quad 24 \end{array}$$

60% = 48
 10% = $48 \div 6 = 8$
 40% = $4 \times 8 = 32$

Q28)

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

$$7u = 259$$

$$1u = 259 \div 7$$

$$= 37$$

Li Min @ first = 8u
 $8u = 37 \times 8$
 $= 296$

Kim
 $\frac{2}{5} \times 3 = \frac{6}{15}$

Li Min
 $\frac{3}{4} \times 2 = \frac{6}{8}$

Q29) Method 1

First week	2 nd week
Sold : Unsold : Total	Sold : Unsold : Total
1 : 2 : 3	5 : 3 : 8
200 : 400 : 600	250 : 150 : 400

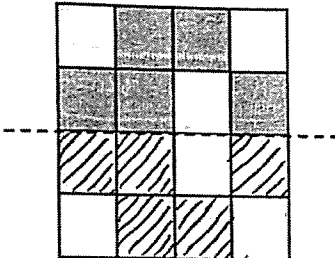
$8u = 400$
 $1u = 400 \div 8$
 $= 50$
 $5u = 5 \times 50 = 250$

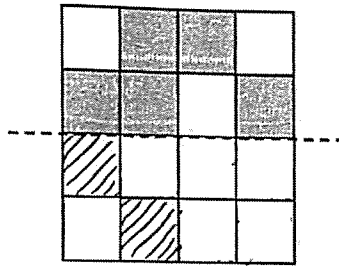
Q30)

Statement	True	False	Not possible to tell
(a) Jane is 15 cm shorter than Maya.			/
(b) The average height of the 5 girls is more than Jane's height but less than Siti's height.	/		
(c) The ratio of Jane's height to Siti's height is 1 : 2.		/	

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PAPER 2

Q1)	$100g \rightarrow \$1.35$ $1g \rightarrow \$1.35 \div 100$ $= \$0.0135$ $3500g = \$0.0135 \times 3500$ $= \$47.25$
Q2)	$\angle FCB = 360^\circ - 90^\circ - 124^\circ$ $= 146^\circ$ $\angle BFC = (180^\circ - 146^\circ) \div 2$ $= 17^\circ$
Q3)	<i>shop W</i> $\$180 - \$50 = \$130$ (discounted Price) <i>shop Y</i> $100\% = \$180$ $25\% = \$180 \div 4 = \45 $\$180 - \$45 = \$135$ $\$135 - \$130 = \$5$
Q4)	Area of square = $24 \times 24 = 576$ Area of rectangle = $576 \div 30 = 19.2$ cm
Q5)	<p>a)</p>  <p>b)</p>



Q6)

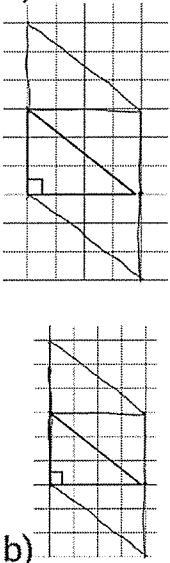
- a) Pen = \$p
 Notebook = \$(p+2)
 3 pen = \$3p
 2 notebooks = \$(2p+4)
 Total = \$(5p + 4)
- b) 3 pens + 2 notebooks = \$22.50
 1pen = \$p
 1 notebook = \$p+2
 5p = \$22.50 - 4 = \$18.50
 1p = \$18.50 ÷ 5 = \$ 3.70
 1 notebook = \$3.70 + 2 = \$5.70

Q7)

- a) Week 3
- b) $\frac{1}{4} = 520$
- Amount of money she still needs to save = $1 - \frac{1}{4} = \frac{3}{4}$
 $\frac{3}{4} = 520 \times 3 = \1560

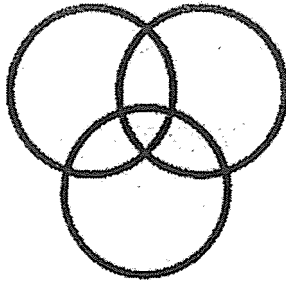
Q8)

$6.12\text{km} = 6120\text{m}$
Time taken for Alex to complete path
 $= D \div S = 6120 \div 340 = 18$
Alex = 18 minutes Ben = 450m behind
 $6120 - 450 = 5670$ (*distance Ben travelled after 18 minutes*)
18 minutes = 5670m
Time = D ÷ S = 5670 ÷ 18 = 315m/minute

Q9)	<p>a)</p>  <p>b)</p>
Q10)	<p>a) $\angle SVP = (180^\circ - 32^\circ) \div 2 = 74^\circ$ $\angle WPV = 74^\circ - 35^\circ = 39^\circ$ $\angle TUS = \angle VUP = 180^\circ - 74^\circ - 39^\circ = 67^\circ$</p> <p>b) $\angle TWR = (360^\circ - 78^\circ - 78^\circ) \div 2 = 102^\circ$ $\angle PWQ = 180^\circ - 102^\circ = 78^\circ$ $\angle VWP = 180^\circ - 78^\circ = 102^\circ$ $\angle PVR = 180^\circ - 102^\circ - 39^\circ = 39^\circ$</p>
Q11)	<p>a) Basketball : cycling 3 : 2</p> <p>$3u = 150$ $1u = 150 \div 3$ $= 50$ $2u = 50 \times 2$ $= 100$</p> <p>b) $\text{Percentage decrease} = \frac{\text{percentage decrease}}{\text{original}} \times 100\%$ Badminton March = 175 April = 75 $175 - 75 = 100$ $\frac{100}{175} \times 100\% = 57.14\%$</p> <p>c) People who took part in swimming $= 25 + 200$ $= 225$ 225 people = \$528.75 Entrance Fee Per person = $\\$528.75 \div 225$ $= \\$2.35$</p>

Q12)	<p>a) $\frac{1}{2} \times \frac{22}{7} \times 14 = 22$ $\frac{1}{4} \times \frac{22}{7} \times 14 \times 2 = 22$ $14 + 22 + 22 + 14 + 22 + 22 = 116\text{cm}$</p> <p>b) <i>area of whole paper</i> = $28 \times 28 = 784$ <i>area of 2 semicircles</i> = $\frac{22}{7} \times 7 \times 7 = 154$ <i>area of semicircle</i> = $\frac{1}{2} \times \frac{22}{7} \times 7 \times 7 = 77$ $784 - (77 \times 2) - (154 \times 2) = 322\text{ cm}^2$</p>
Q13)	<p><i>different in height</i> = $162 - 126 = 36$ <i>different in average</i> = $132.6 - 129.6 = 3$ <i>no of children in the group</i> = $36 \div 3 = 12$</p>
Q14)	<p>a) $4u + 6 + 5u + 20 + 8u = 145$ $17u = 145 - 26$ $= 119$ $1u = 119 \div 17$ $= 7$</p> <p>b) 67</p>
Q15)	<p>a) $1u = 5.85\text{cm}^2$ $? = 12u$ $12u = 5.85 \times 12$ $= 70.2\text{ cm}^2$</p> <p>b) $8 \times 5.85 = 46.8$ $46.8 \div 7.2 = 6.5$ $70.2 \div 6.5 = 10.8$ $2 \times (10.8 + 6.5) = 34.6\text{ cm}$</p>
Q16)	<p>a) $6\text{ faces} = 337.5\text{ cm}^2$ $1\text{ face} = 337.5 \div 6 = 56.25\text{ cm}^2$ $\text{Length} = \sqrt{56.25} = 7.5$ $\text{Vol of block} = (3 \times 7.5) \times (3 \times 7.5) \times 7.5 = 3796.875\text{ cm}^3$</p> <p>b) $\frac{6}{9} \times 100\% = 66.7\%$</p>
Q17)	<p>a) 13, 15, 45 b) $13 + 15 + 45 = 73$</p>

	$80 - 73 = 7$
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南侨小学

NAN CHIAU PRIMARY SCHOOL
PRELIMINARY EXAMINATION
2022
MATHEMATICS PAPER 1
PRIMARY 6
BOOKLET A

Name / Index #		()
Class	Primary 6 _____	
Date	19 August 2022	
Duration for Booklets A and B	1h	
Marks	Paper 1 Booklet A	20
	Paper 1 Booklet B	25
	Paper 2	55
	Total	100
Parent's Signature		

- | | |
|--------------------------|---|
| Instructions to students | <ol style="list-style-type: none">1. Do NOT open this booklet until you are told to do so.2. Follow all instructions carefully.3. Answer all questions.4. Shade your answers in the Optical Answer Sheet provided.5. The use of calculators is NOT allowed. |
|--------------------------|---|

This paper consists of 5 pages altogether.

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 the digit 9 in 485 093?

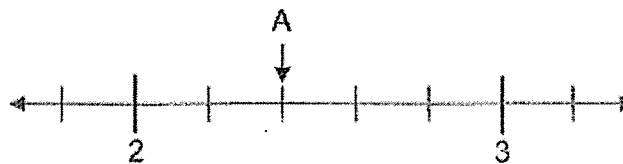
- (1) 9000
- (2) 900
- (3) 90
- (4) 9

2 Arrange the following numbers from the smallest to the largest.

5	5.6	5.06
---	-----	------

- | | <u>Smallest</u> | | <u>Largest</u> |
|-----|-----------------|---|----------------|
| (1) | 5.06 | , | 5.6 |
| (2) | 5.6 | , | 5.06 |
| (3) | 5 | , | 5.06 |
| (4) | 5 | , | 5.6 |

3 In the number line, what is the mixed number represented by A?



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

4 Find the sum of 305 and 139. Round the answer to the nearest hundred.

- (1) 400
- (2) 440
- (3) 444
- (4) 500

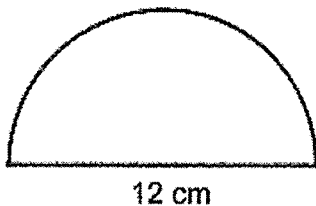
5 3 ones, 8 hundredths and 1 thousandth is _____.

- (1) 3.81
- (2) 3.801
- (3) 3.108
- (4) 3.081

6 Mrs Nathan took 30 minutes to drive from her house to her office. Her average driving speed was 90 km/h. What was the distance from her house to her office?

- (1) 27 km
- (2) 45 km
- (3) 120 km
- (4) 180 km

7 The figure shows a semicircle of diameter 12 cm.
What is the perimeter of the figure? Leave your answer in π .

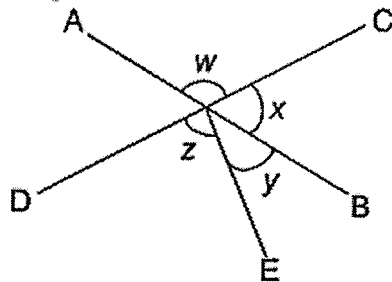


- (1) 6π cm
- (2) 18π cm
- (3) $(6\pi + 12)$ cm
- (4) $(12\pi + 12)$ cm

8 A school concert started at 3.40 p.m. and ended at 5.25 p.m.
How long was the concert?

- (1) 1 h 5 min
- (2) 1 h 15 min
- (3) 1 h 30 min
- (4) 1 h 45 min


9 AB and CD are straight lines.



Which of the following is true?

- (1) $\angle W = \angle X + \angle Y$
- (2) $\angle Z = \angle W + \angle X$
- (3) $\angle W + \angle X + \angle Y = 180^\circ$
- (4) $\angle X + \angle Y + \angle Z = 180^\circ$

10 The following table shows the time taken by four students to complete a Mathematics test. One of the recorded data is covered by an ink blot.

Name	Time taken in minutes
Anna	
Belinda	80
Colin	74
Danny	70

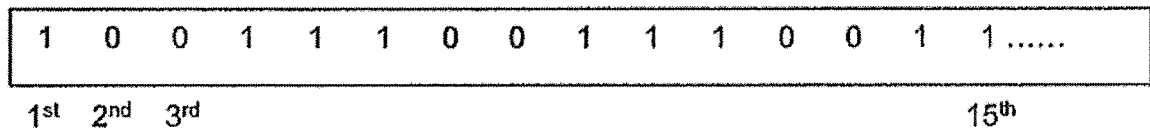
The average time taken by the four students was 72 minutes.
What was the time taken by Anna to complete the test?

- (1) 36
- (2) 64
- (3) 72
- (4) 74

- 11 Mary had \$350. She spent the same amount of money each day. After 5 days, she was left with $\frac{4}{5}$ of her money. How much did she spend each day?

- (1) \$14
- (2) \$15
- (3) \$56
- (4) \$70

- 12 A repeated pattern is formed using the digits 1 and 0. The first 15 numbers are shown below.

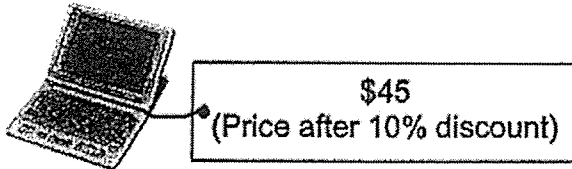


What is the sum of the first 99 numbers?

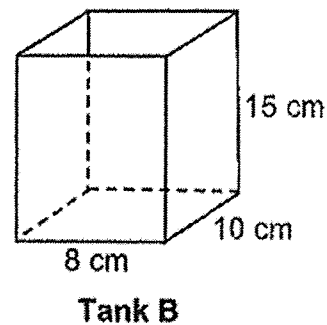
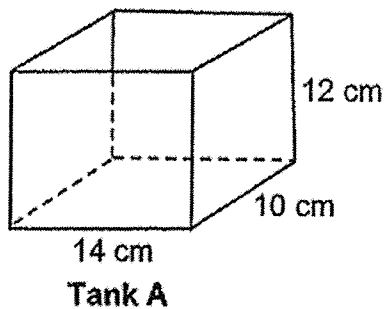
- (1) 57
 - (2) 59
 - (3) 60
 - (4) 62
- 13 Mrs Lim has a jug which contains 5 l of water. She uses the water to fill some identical cups to the brim. The capacity of each cup is $\frac{4}{5}$ l. At most, how many such cups can she fill to the brim?

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

- 14 The price of an e-dictionary was \$45 after a discount of 10%. Rina was then given an additional discount of \$9. What was the total percentage discount given to Rina for the e-dictionary?



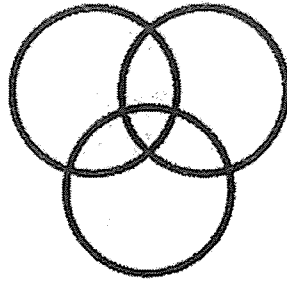
- (1) 18%
(2) 20%
(3) 28%
(4) 30%
- 15 Fadilah pours the same amount of water into two empty tanks A and B shown below.



Tank A is half-filled with water. What is the height of water in Tank B?

- (1) 5.6 cm
(2) 6 cm
(3) 7.5 cm
(4) 10.5 cm

End of Paper 1 Booklet A



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NAN CHIAU PRIMARY SCHOOL
PRELIMINARY EXAMINATION
2022
MATHEMATICS PAPER 1
PRIMARY 6
BOOKLET B

Name / Index #		()
Class	Primary 6 _____	
Date	19 August 2022	
Duration for Booklets A and B	1h	
Marks	Booklet B	25
Parent's Signature		

- | | |
|--------------------------|---|
| Instructions to students | <ol style="list-style-type: none">1. Do NOT open this booklet until you are told to do so.2. Follow all instructions carefully.3. Answer all questions.4. Write your answers in this booklet.5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.6. Do not use correction fluid/tape or highlighters.7. The use of calculators is NOT allowed. |
|--------------------------|---|

This paper consists of 10 pages altogether.

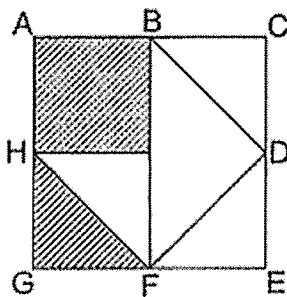
Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write
in this space

16 Write down all the common factors of 20 and 36 that are greater than 1.

Ans: _____

17 Square ACEG is made up of 4 small triangles, 1 large triangle and 1 small square. $AB = BC = CD$. What fraction of the square ACEG is shaded?



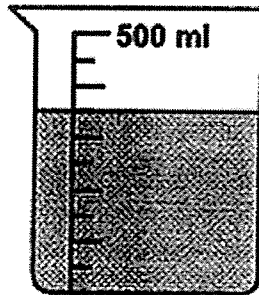
Ans: _____

18 Express $5\frac{4}{11}$ as a decimal. Give your answer correct to 1 decimal place.

Ans: _____

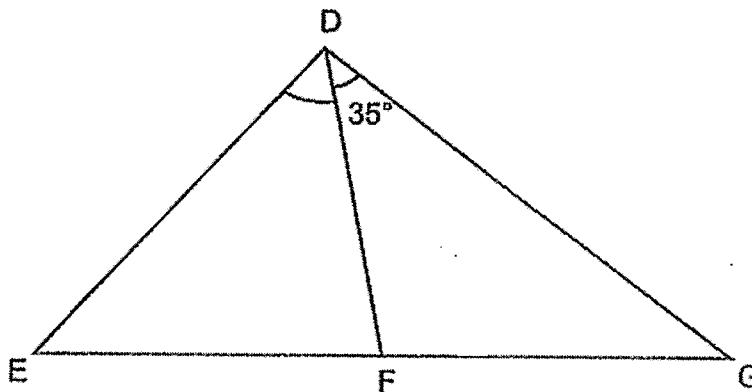
- 19 A container contained some water at first as shown below.
Harry used 0.06 l of water from the container. How much water was left?

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in this space



Ans: _____ l

- 20 In the figure below, DFE and DFG are isosceles triangles. $FD = FE = FG$.
 $\angle FDG = 35^\circ$. Find $\angle FDE$.

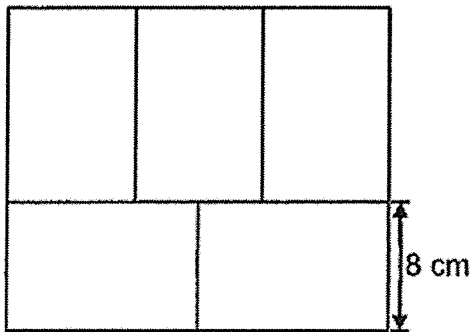


Ans: _____ °

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

Do not write
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- 21 The figure below is made up of 5 identical rectangles.
The breadth of one rectangle is 8 cm. What is the area of the figure?



Ans: _____ cm²

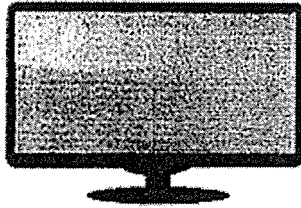
- 22 Samantha has some blue, pink and white beads.
 $\frac{7}{10}$ of the beads are blue. There are twice as many pink beads as white beads. What fraction of the beads is white?

Ans: _____

- 23 Shop A and shop B sold an identical television each at the same price, after the discounts shown below. What was the usual price of the television sold by shop A?

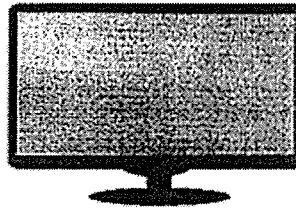
Do not write
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Shop A



40% Discount
Usual Price: ?

Shop B



20% Discount
Usual Price: \$1500

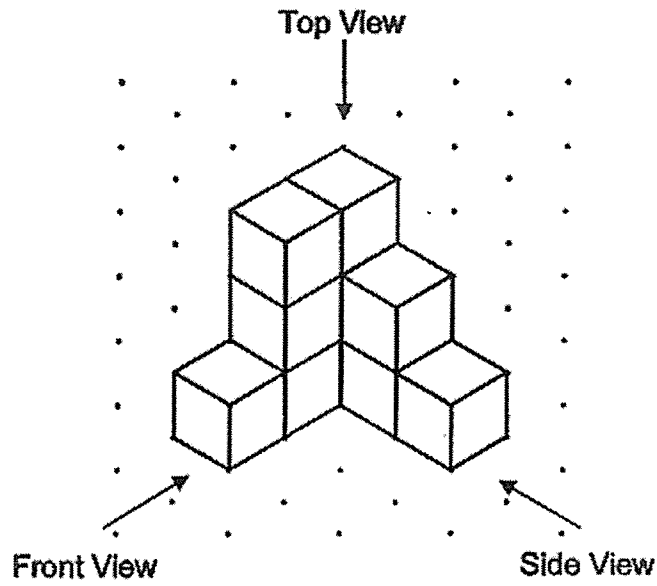
Ans: \$ _____

- 24 Matthew spent a total of \$15 on some rulers and pens. He bought 27 pens at 9 pens for \$y. He bought the rulers at \$2 each. How many rulers did he buy?

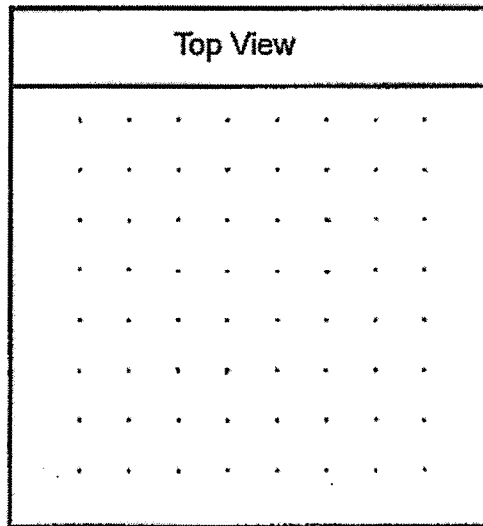
Ans: _____

25 Jason builds a solid using 10 unit cubes and glued them together.

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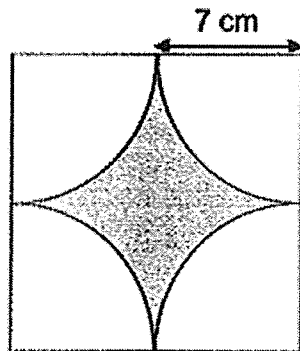
(a) Draw the top view on the grid below.



(b) Find the smallest number of unit cubes Jason can add to the solid to form a cubical solid.

Ans: (b) _____

- 26 The figure below is made up of 4 identical quadrants and a square.
What is the area of the shaded part? (Take $\pi = \frac{22}{7}$)

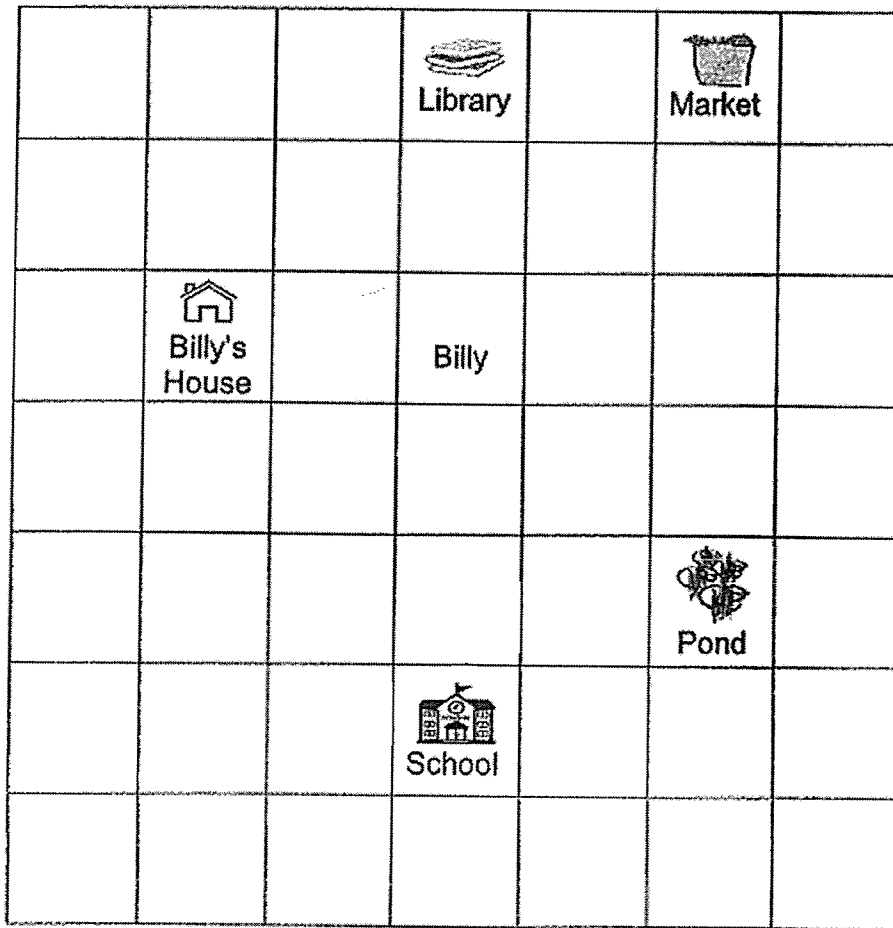


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in this space

Ans: _____ cm²

- 27 Billy's house, the library, the market, the pond and his school are located as shown in the square grid below.

Do not write in this space



- (a) Billy is facing the pond. Where will he be facing after he turns 135° anti-clockwise?

Ans: (a) _____

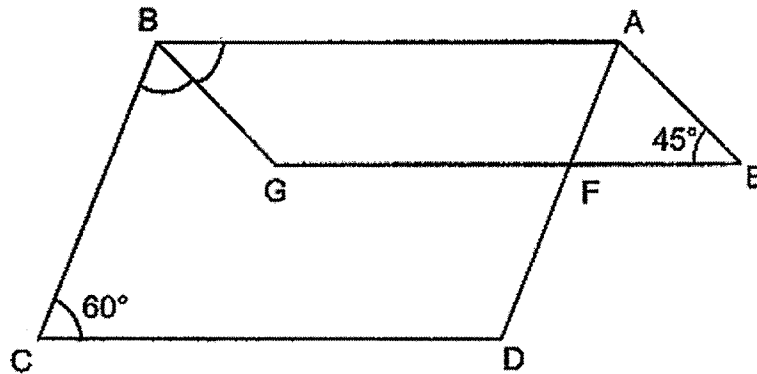
- (b) A shopping mall will be built at a location south-east of Billy's house and north of the school. Put a tick (✓) in the square where the shopping mall will be built.

--

28

The diagram below shows two parallelograms ABCD and ABGE.
 $\angle AEG = 45^\circ$ and $\angle BCD = 60^\circ$.

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(a) Find $\angle ABG$.

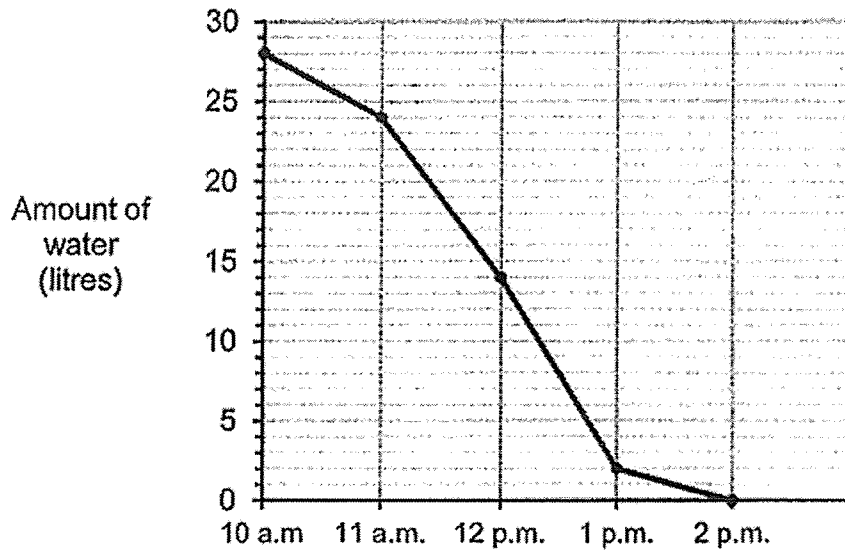
Ans:(a) _____^o

(b) Find $\angle CBG$.

Ans: (b) _____^o

- 29 The line graph shows the amount of water in a tank from 10 a.m. to 2 p.m.
 The tank was $\frac{1}{4}$ filled with water at 10 a.m. Water flowed out of the tank from 10 a.m. to 2 p.m.

Do not write
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- (a) During which one hour interval was the flow of water out of the tank the greatest?

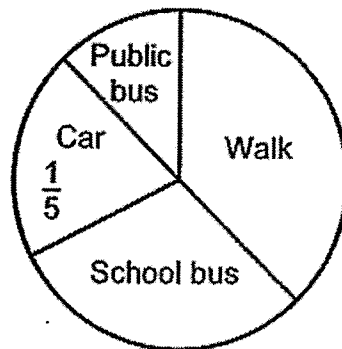
Ans: (a) _____ to _____

- (b) At 11 a.m., what fraction of the tank was filled with water ?

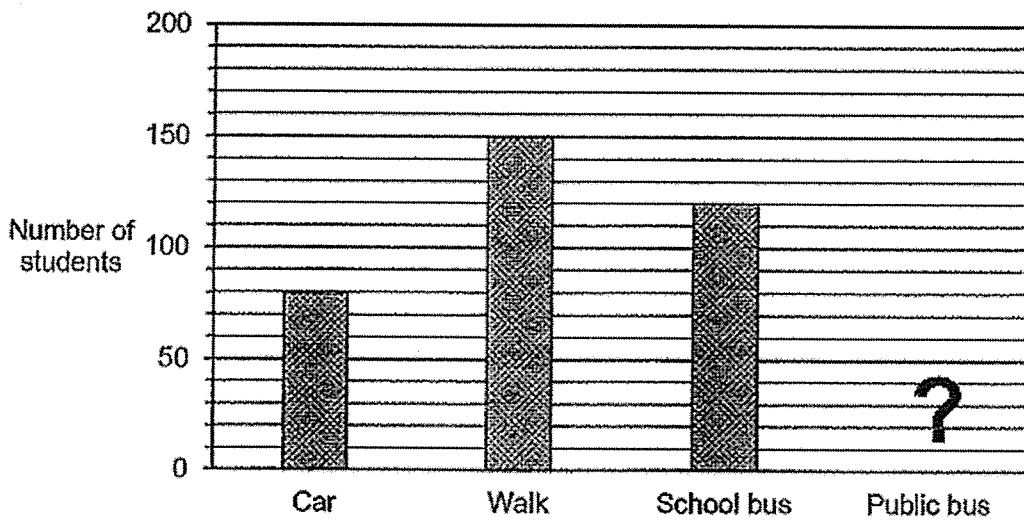
Ans: (b) _____

30 The pie chart shows how a group of students travel to school.

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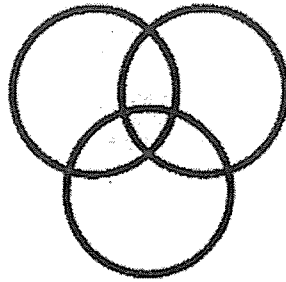
The bar graph also represents how the same group of students travel to school. The bar for the number of students who travel to school by public bus has not been drawn.



Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
There are 400 students altogether.			
$\frac{3}{5}$ of the students walk to school.			
50 students take public bus to school.			

End of Paper 1 Booklet B



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**NAN CHIAU PRIMARY SCHOOL
PRELIMINARY EXAMINATION
2022
MATHEMATICS PAPER 2
PRIMARY 6**

Name / Index #		()
Class	Primary 6 _____	
Date	19 August 2022	
Duration for Paper 2	1h 30min	
Marks	Paper 2	55
Parent's Signature		

Instructions to students	<ol style="list-style-type: none">1. Do NOT open this booklet until you are told to do so.2. Follow all instructions carefully.3. Answer all questions.4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.5. Do not use correction fluid/tape or highlighters.6. The use of an approved calculator is allowed.
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This paper consists of 15 pages altogether.

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

Do not write in this space

- 1 (a) Use all the digits 3, 4, 5, 8 to form the greatest multiple of 5.

Ans: (a) _____

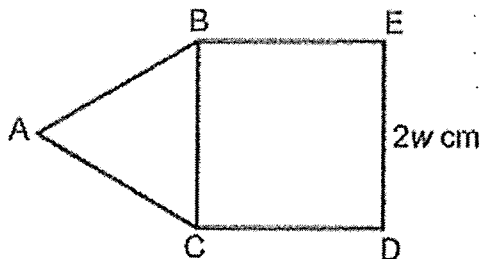
- (b) Use all the digits 3, 4, 5, 8 to form the smallest odd number between 4000 and 5000.

Ans: (b) _____

- 2 The number of red balloons is $\frac{2}{11}$ of the number of blue balloons. There are 1953 more blue balloons than red balloons. How many red balloons are there?

Ans: _____

- 3 The figure is made up of an equilateral triangle ABC and a square BCDE. DE = 2w cm. The perimeter of the figure is 140 cm. Find the value of w.

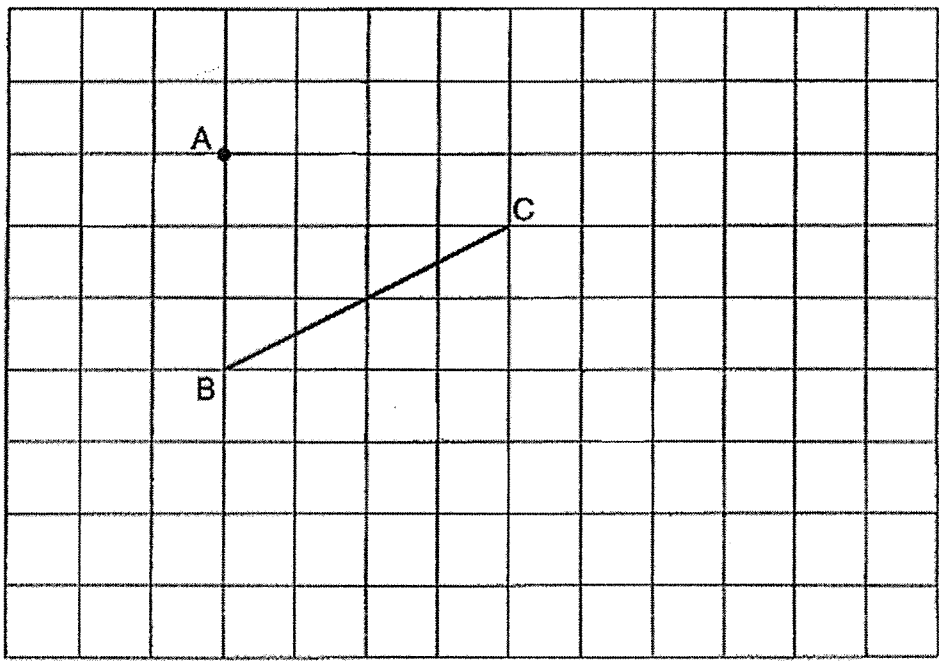


Ans: _____

4 In the square grid below, line BC has been drawn.

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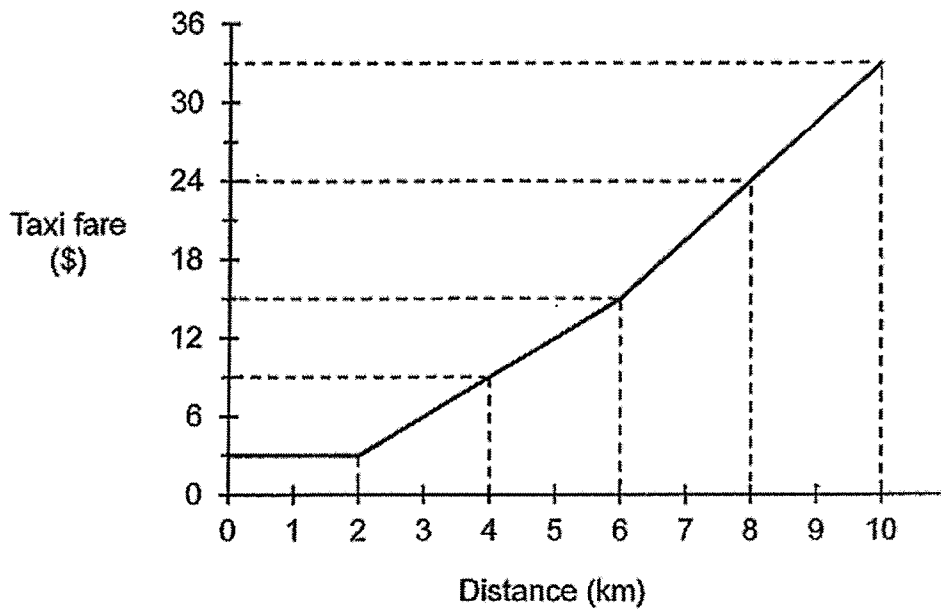
- (a) Draw a line parallel to line BC, passing through Point A.
- (b) Draw a right-angled triangle BCD, such that line $BC = CD$ and BC is perpendicular to line CD.



Score:

5 The graph shows the fare a taxi company charges for the first 10 kilometres.

Do not write
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John took a taxi and travelled for 9 km. How much did he pay?

Ans: \$ _____

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

Do not write
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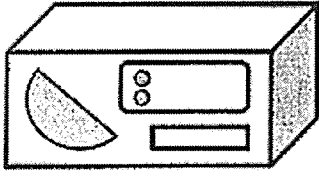
- 6 Simon could buy 9 notebooks and 54 pencils with \$64.80. With that same amount of money, he could buy 24 notebooks. He then decided to buy only pencils. What was the most number of pencils Simon could buy with \$64.80?

Ans: _____ [3]

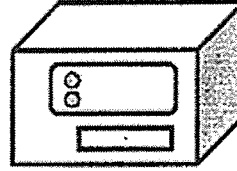
7 Two machines, X and Y, cut shapes at the rate shown below.

Do not write
in this space

Machine X
12 pieces per second



Machine Y
20 pieces every 3 seconds

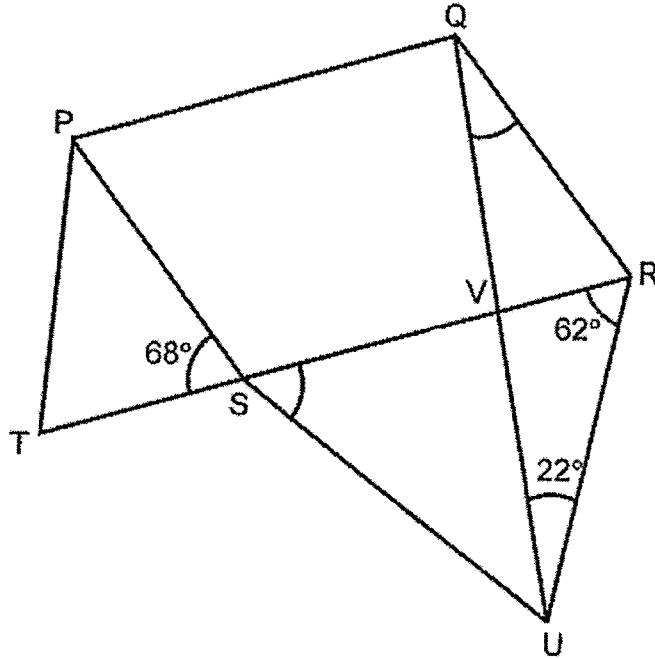


Machine X started cutting the shapes at 08 00 and it stopped at 08 30.
Machine Y cut shapes for 45 minutes.
How many shapes were cut in total by the two machines?

Ans: _____ [3]

- 8 PQRS is a parallelogram. TSR and QVU are straight lines.
 PST and SRU are isosceles triangles. $PT = PS$ and $SR = SU$.

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(a) Find $\angle RSU$.

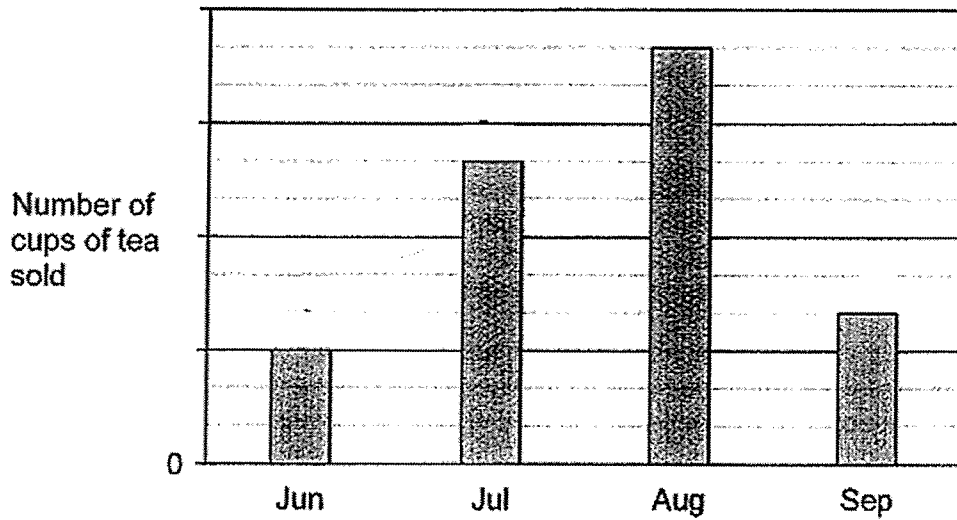
Ans: (a) _____ [1]

(b) Find $\angle UQR$.

(b) _____ [2]

- 9 The bar graph shows the number of cups of tea sold by a shop from June to September. The number of cups of tea sold is not shown on the scale.

Do not write
in this space



- (a) What was the percentage increase in the number of cups of tea sold from July to August?

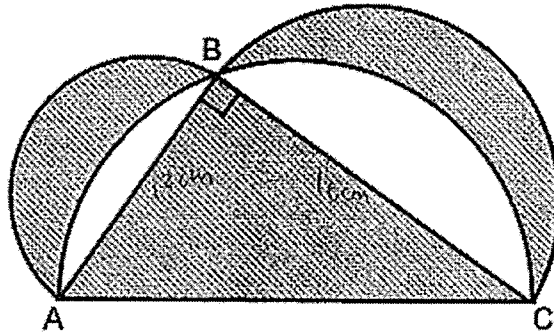
Ans: (a) _____ [1]

- (b) The average number of cups of tea sold per month from June to September was 845. How many cups of tea were sold in September?

(b) _____ [2]

- 10 In the figure below, the diameters of three different semicircles form the sides of a right-angled triangle ABC. $AB = 12$ cm, $BC = 16$ cm and $AC = 20$ cm. Find the total area of the shaded parts. (Take $\pi = 3.14$)

Do not write
in this space



Ans: _____ [4]

- 11 Anne, Beth and Crystal bought a present for their friend. The ratio of the amount Anne paid to the total amount Beth and Crystal paid was 3 : 5. The ratio of the amount Crystal paid to the total amount Anne and Beth paid was 2 : 3. Crystal paid \$21 more than Beth.
Who paid the least for the present? How much did she pay for the present?

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in this space

Ans: _____ paid the least.

Amount paid: _____ [3]

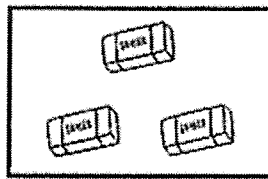
- 12 Mrs Raja made some pineapple tarts and nutella tarts. She sold $\frac{7}{10}$ of her tarts. 75% of the tarts sold were nutella tarts. She sold 350 pineapple tarts. 30% of the unsold tarts were pineapple tarts. How many pineapple tarts were not sold?

Do not write
in this space

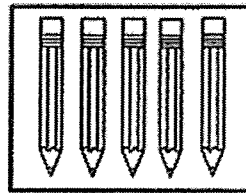
Ans: _____ [3]

13 In a shop, erasers and pencils are sold only in boxes.

Do not write
in this space



Box of 3 erasers
\$5.20 per box



Box of 5 pencils
\$6.65 per box

- (a) Mrs Lim wants to get 40 erasers and 78 pencils for her students. What is the least amount of money she will need to spend on the erasers and pencils?

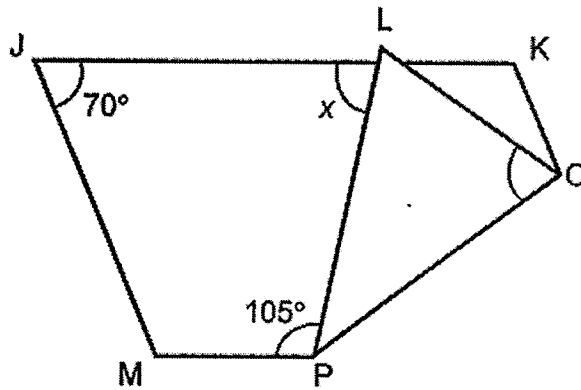
Ans: (a) _____ [2]

- (b) Mr Wong spent \$328.30 to buy a total of 57 boxes of erasers and pencils. How many boxes of pencils did he buy?

(b) _____ [2]

14 JKLM is a parallelogram, folded along line OP.

Do not write
in this space



(a) Find $\angle x$.

Ans: (a) _____ [1]

(b) Find $\angle LOP$.

(b) _____ [2]

(c) Circle the words that describe Triangle LOP correctly in the following statement:

Triangle LOP (is / is not) an isosceles triangle because $\angle LOP$ (is / is not) the same as $\angle PLO$.

[1]

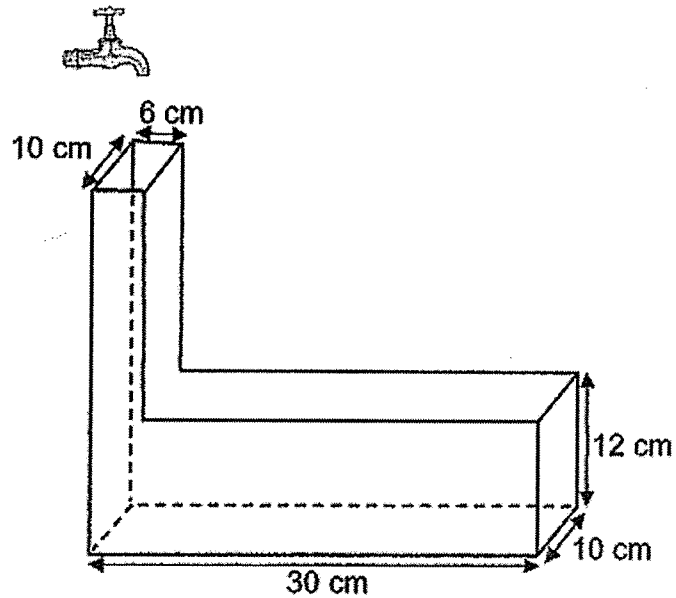
- 15 Mrs Sim baked some cookies and packed all the cookies in 14 small boxes and 3 large boxes. She filled each small box with the same number of cookies and each large box with the same number of cookies. There were 4 more cookies in each large box than in each small box. $\frac{7}{9}$ of the cookies baked were packed in the small boxes. How many cookies were there in each small box?

Do not write
in this space

Ans: _____ [5]

- 16 The figure below shows an empty container. A tap was turned on and water flowed into the container at a rate of 0.8 litres per minute. The tap was turned off 6 minutes later.

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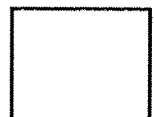


- (a) Find the height of the water level from the base of the container.

Ans: (a) _____ [3]

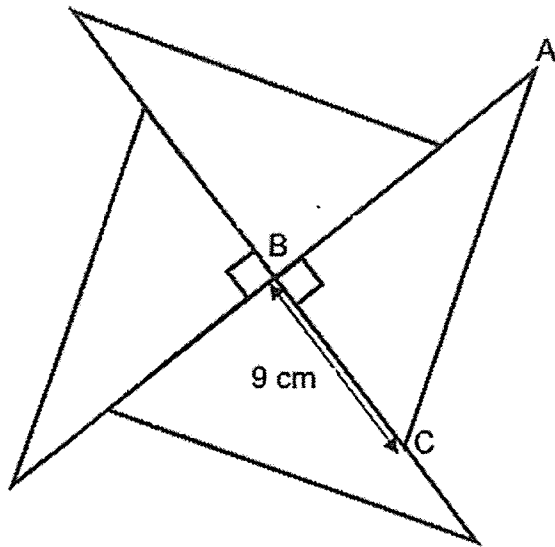
- (b) All the water was then poured into a cubical tank with a base area of 289 cm^2 . How much more water was needed to fill the tank to its brim?

(b) _____ [2]



- 17 Four identical right-angled triangles are used to form the figure shown below. $BC = 9$ cm. The perimeter of the figure is 72 cm.

Do not write
in this space



- (a) Find the perimeter of each right-angled triangle.

Ans: (a) _____ [2]

- (b) AC is 6 cm shorter than the total lengths of AB and BC. Find the area of the figure.

(b) _____ [3]

End of Paper

SCHOOL : NAN CHIAU PRIMARY SCHOOL
 LEVEL : PRIMARY 6
 SUBJECT : MATHEMATICS
 TERM : 2022 PRELIM

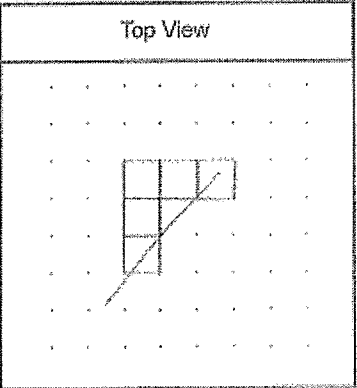
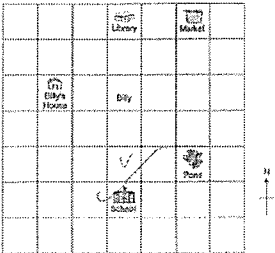
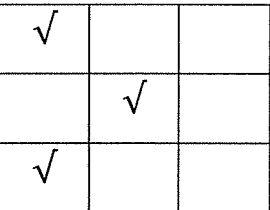
PAPER 1 BOOKLET A

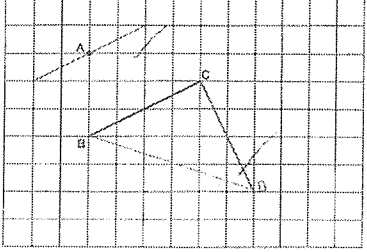
Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	3	1	1	4	2	3	4	4	2

Q 11	Q12	Q13	Q14	Q15
1	2	3	3	4

PAPER 1 BOOKLET B

Q16)	2, 4
Q17)	$\frac{3}{8}$
Q18)	5, 4
Q19)	0.29ℓ
Q20)	$180 - 35 \times 2 = 110$ $180 - 110 = 70$ $(180 - 70) \div 2 = 55^\circ$
Q21)	$8 \times 3 \div 2 = 12$ $12 + 8 = 20$ $8 \times 3 = 24$ $20 \times 24 = 480\text{cm}^2$
Q22)	$\frac{1}{10}$
Q23)	$1500 \times \frac{80}{100} = 1200$ $1200 \times \frac{100}{60} = \2000
Q24)	$\left(\frac{15 - 3y}{2}\right)$

Q25)	<p>a)</p>  <p>Top View</p> <p>b) 17</p>
Q26)	<p>$7 \times 7 \times \frac{22}{7} = 154$</p> <p>$14 \times 14 = 196$</p> <p>$196 - 154 = 42\text{cm}^2$</p>
Q27)	<p>a) library</p> <p>b)</p> 
Q28)	<p>a) 45°</p> <p>b) $180 - 60 = 120$</p> <p>$120 - 45 = 75^\circ$</p>
Q29)	<p>a) 12pm to 1pm</p> <p>b) $\frac{3}{14}$</p>
Q30)	

Q1)	a) 8435 b) 4385
Q2)	$11 - 2 = 9$ $1953 \div 9 = 217$ $217 \times 2 = 434$
Q3)	$140 \div 5 = 28$ $28 \div 2 = 14$
Q4)	
Q5)	$(33 - 24) \div 2 = 4.5$ $24 + 4.5 = \$28.50$
Q6)	$64.8 \div 24 = 2.7$ $64.8 - 2.7 \times 9 = 40.5$ $40.5 \div 54 = 0.75$ $64.8 \div 0.75 = 86.4$ ≈ 86
Q7)	$720 \times 30 = 21600$ $60 \div 3 = 20$ $20 \times 20 = 400$ $400 \times 45 = 18000$ $21600 + 18000 = 39600$
Q8)	a) $180 - 62 \times 2 = 56^\circ$ b) $180 - 68 = 112$ $180 - 112 = 68$ $180 - 68 - 62 - 22 = 28^\circ$
Q9)	a) $\frac{11 - 8}{8} \times 100\% = 37.5\%$ b) $845 \times 4 = 3380$ $3380 \div (3 + 8 + 11 + 4) = 130$ $730 \times 4 = 520$

Q10)	$12 \times 16 \div 2 = 96$ $20 \div 2 = 10$ $10 \times 10 \times \pi \div 2 = 50\pi$ $12 \div 2 = 6$ $6 \times 6 \times \pi \div 2 = 18\pi$ $16 \div 2 = 8$ $18\pi + 8 \times 8 \times \pi \div 2 = 50\pi$ $50\pi - (50\pi - 96) + 96 = 192cm^2$
Q11)	$3 : 5 = 15 : 25$ $2 : 3 = 16 : 24$ $25 - 16 = 9$ C : A : B $16 : 15 : 9$ $16 - 9 = 7$ $21 \div 7 = 3$ $3 \times 9 = 27$ Ans : <u>Beth</u> paid the least. Amount paid : <u>\$27</u>
Q12)	$100 - 75 = 25$ $\frac{7}{10} \times \frac{25}{100} = \frac{7}{40}$ $1 - \frac{7}{10} = \frac{3}{10}$ $\frac{3}{10} \times \frac{30}{100} = \frac{9}{100}$ $350 \div 7 \times 40 \div 100 \times 9 = 180$
Q13)	a) $40 \div 3 = 13R1$ $13 + 1 = 14$ $14 \times 5.2 = 72.8$ $78 \div 5 = 15R3$ $15 + 1 = 16$ $16 \times 6.65 + 72.8 = \179.20 b) $5.20 \times 57 = 296.4$ $328.3 - 296.4 = 31.9$ $6.65 - 5.2 = 1.45$ $31.9 \div 1.45 = 22$
Q14)	a) $180 - 70 = 110$ $360 - 110 - 70 - 105 = 75^\circ$

	<p>b) $(180 - 105) \div 2 = 37.5$ $180 - 37.5 - 70 = 72.5^\circ$</p> <p>c) is not / is not</p>
Q15)	<p>$\frac{7}{9} \div 14 \times 3 = \frac{1}{6}$ $1 - \frac{7}{9} = \frac{2}{9}$ $\frac{2}{9} - \frac{1}{6} = \frac{1}{18}$ $4 \times 3 = 12$ $(12 \times 8) \div 6 \div 3 = 12$</p>
Q16)	<p>a) $0.8\ell = 800m\ell$ $800 \times 6 = 4800$ $4800 - 12 \times 10 \times 30 = 1200$ $1200 \div 10 \div 6 = 20$ $20 + 12 = 32cm$</p> <p>b) $298 \times 17 - 4800 = 113cm^3$</p>
Q17)	<p>a) $(72 + 8 \times 9) \div 4 = 36cm$ b) $(36 + 6) \div 2 - 9 = 12$ $12 \times 9 \times 2 = 216cm^2$</p>



**NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2022
PRIMARY 6**

**MATHEMATICS
PAPER 1
(BOOKLET A)**

Total Time for Booklets A and B: 1 hour

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

Name : _____ ()

Class : 6 _____

Date : 24 August 2022

Parent's Signature : _____

This booklet consists of 8 printed pages and 2 blank pages.

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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 Round 56 354 to the nearest 1000.

- (1) 56 000
- (2) 56 300
- (3) 56 400
- (4) 57 000

2 In 18.624, which digit is in the tenths place?

- (1) 1
- (2) 2
- (3) 6
- (4) 8

3 Arrange the following numbers from the smallest to the largest.

7	7.3	7.03	
---	-----	------	--

- | | <u>Smallest</u> | , | <u>Largest</u> | , | |
|-----|-----------------|---|----------------|---|------|
| (1) | 7 | , | 7.03 | , | 7.3 |
| (2) | 7.3 | , | 7 | , | 7.03 |
| (3) | 7.3 | , | 7.03 | , | 7 |
| (4) | 7.03 | , | 7.3 | , | 7 |

4 Express $\frac{1}{8}$ as a decimal.

(1) 0.125

(2) 1.25

(3) 12.5

(4) 125

5 In a marathon, there are 40 Malay participants, 70 Chinese participants and 30 Indian participants. What is the ratio of the number of Malay participants to the total number of Chinese and Indian participants?

(1) 2 : 5

(2) 2 : 7

(3) 4 : 3

(4) 4 : 7

6 John is thinking of a number. 40% of the number is 36. What is the number?

(1) 9

(2) 18

(3) 54

(4) 90

- 7 Aini spent \$40 in school in January. In February, she spent \$32 in school. Find the percentage decrease in her spending.
- (1) 8 %
 - (2) 20 %
 - (3) 25 %
 - (4) 72 %
- 8 Simplify $9 + 5d - 3d + 4$.
- (1) $5 + 2d$
 - (2) $5 + 8d$
 - (3) $13 + 2d$
 - (4) $13 + 8d$
- 9 Which of the following is the most likely mass of a calculator shown below?
- (1) 5 g
 - (2) 15 g
 - (3) 150 g
 - (4) 1500 g



10 Which of the following is the same as 8050 cm?

- (1) 8 m 5 cm
- (2) 8 m 50 cm
- (3) 80 m 5 cm
- (4) 80 m 50 cm

11 Below are the operating hours of ABC Dental Clinic.

ABC Dental Clinic

Opens Monday to Friday
Closed on weekends

8.30 a.m. to 12.30 p.m.

2.30 p.m. to 4.30 p.m.

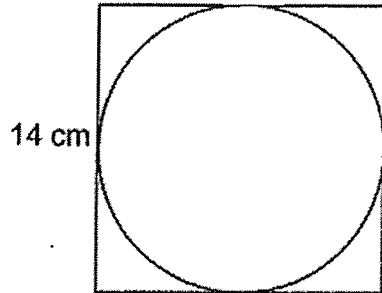
7 p.m. to 9.15 p.m.

How long is the clinic open on Wednesday?

- (1) 9 h 15 min
- (2) 8 h 15 min
- (3) 7 h 15 min
- (4) 6 h 15 min

- 12 The figure shows a circle inside a square of side 14 cm.

Find the area and perimeter of the circle. Take $\pi = \frac{22}{7}$.

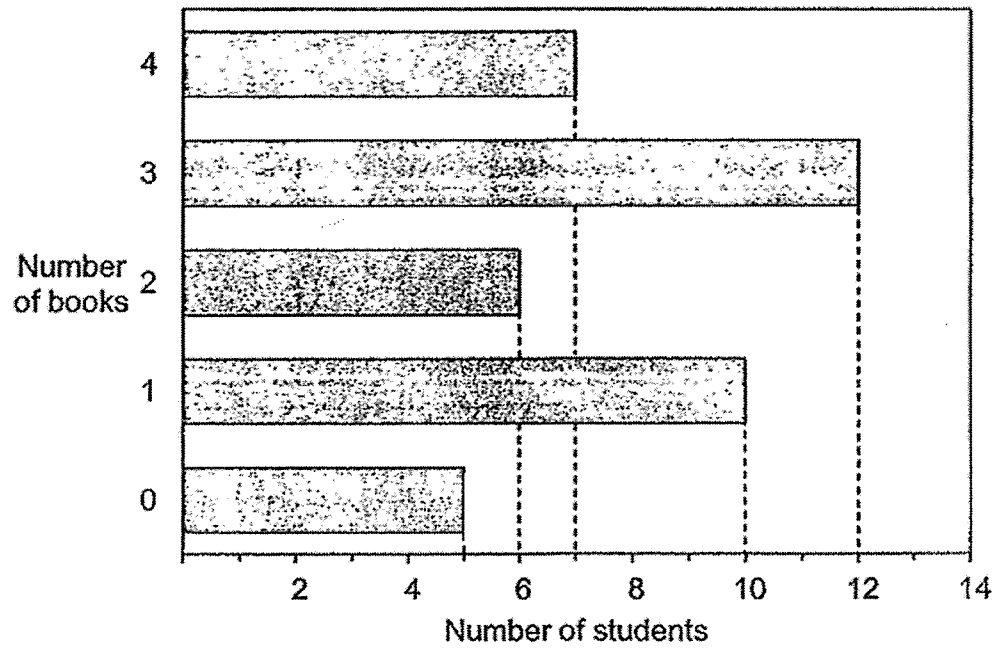


	<u>Area</u>	<u>Perimeter</u>
(1)	154 cm ²	44 cm
(2)	154 cm ²	22 cm
(3)	44 cm ²	154 cm
(4)	22 cm ²	154 cm

- 13 Mrs Lim had $\frac{2}{5}$ ℓ of syrup. She mixed the syrup with $\frac{9}{10}$ ℓ of water to make fruit punch. The fruit punch was poured into bottles, each containing $\frac{1}{5}$ ℓ. How much fruit punch was left?

- (1) $\frac{1}{10}$ ℓ
- (2) $\frac{1}{2}$ ℓ
- (3) $\frac{3}{10}$ ℓ
- (4) $\frac{11}{10}$ ℓ

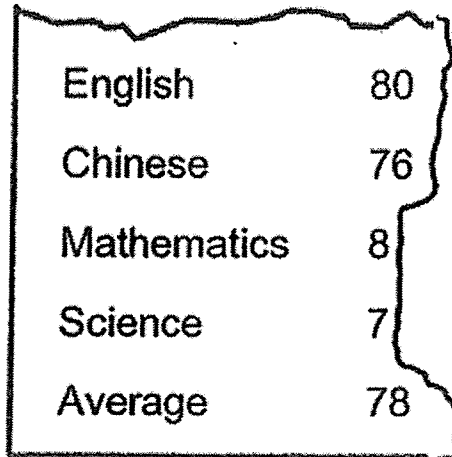
- 14 The graph below shows the number of books that the students in Class 6A read in a week.



Find the total number of books read by students who read more than 2 books.

- (1) 19
- (2) 25
- (3) 64
- (4) 76

- 15 Halim's result slip was accidentally torn. His average mark for 4 subjects is 78. Part of his Mathematics and Science marks are missing. What is the greatest possible difference between Halim's Mathematics and Science mark?



English	80
Chinese	76
Mathematics	8
Science	7
Average	78

- (1) 19
(2) 16
(3) 10
(4) 4

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ERRATA

Name : _____ ()

Class : 6 _____

Replace Page 7 Question 13 with the following question

- 13 Mrs Lim had $\frac{1}{10}$ ℓ of syrup. She mixed the syrup with $\frac{4}{5}$ ℓ of water to make fruit punch. The fruit punch was poured into bottles, each containing $\frac{1}{5}$ ℓ. How much fruit punch was left?

(1) $\frac{1}{10}$ ℓ

(2) $\frac{1}{2}$ ℓ

(3) $\frac{7}{10}$ ℓ

(4) $\frac{4}{5}$ ℓ



NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2022
PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS 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. Write your answers in this booklet.
6. The use of calculators is **NOT** allowed.

Marks Obtained

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

Name : _____ ()

Class : 6 _____

Date : 24 August 2022

Parent's Signature: _____

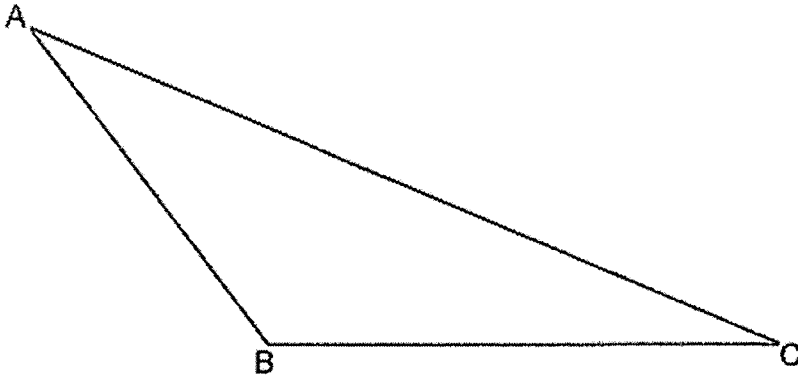
This booklet consists of 12 printed pages and 2 blank pages.

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

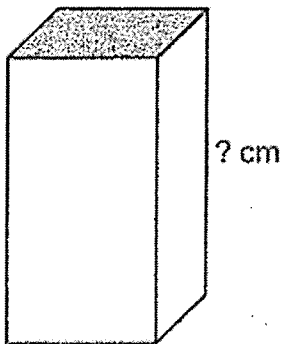
Do not write
in this space

16 Measure and write down the size of $\angle ABC$.



Ans : _____ °

17 The volume of the cuboid is 96 cm^3 . The area of the shaded face is 8 cm^2 . Find the height of the cuboid.



Ans : _____ cm

(Go on to the next page)

18 Figure A and B are nets of solids.

Do not write
in this space

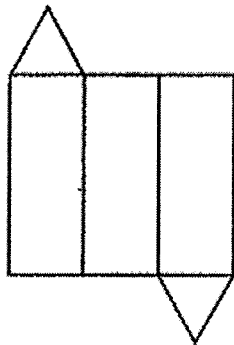


Figure A

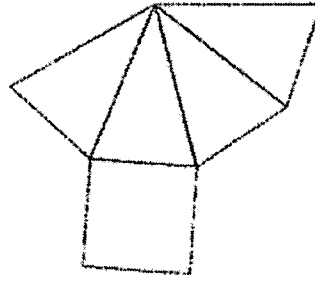


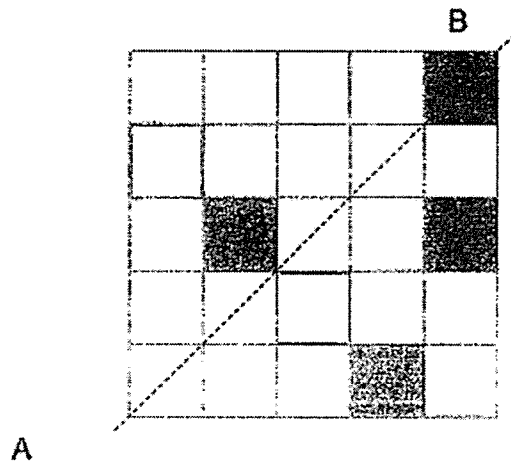
Figure B

Circle the words that describe the figures above.

Figure A is a net of a (prism / pyramid).

Figure B is a net of a (prism / pyramid).

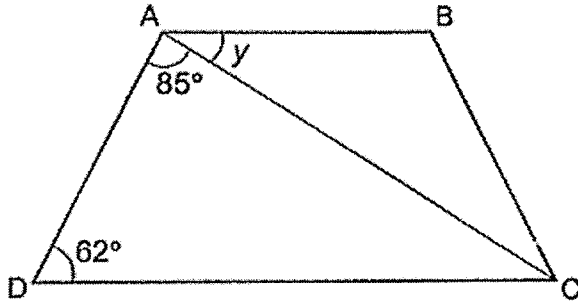
19 There are 4 shaded squares in the figure. Shade 3 more squares to form a symmetric figure with AB as the line of symmetry.



A

B

20 ABCD is a trapezium with AB parallel to DC. Find $\angle y$.



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in this space

Ans : _____ °

(Go on to the next page)

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

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21 (a) Find the value of $\frac{2}{7} \div 4$.

Give your answer in fraction in the simplest form.

Ans : (a) _____

(b) Find the value of $2 \div 9$.
Give your answer correct to 1 decimal place.

Ans : (b) _____

22 (a) Which fraction is smaller?

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$\frac{4}{9}$	$\frac{2}{3}$
---------------	---------------

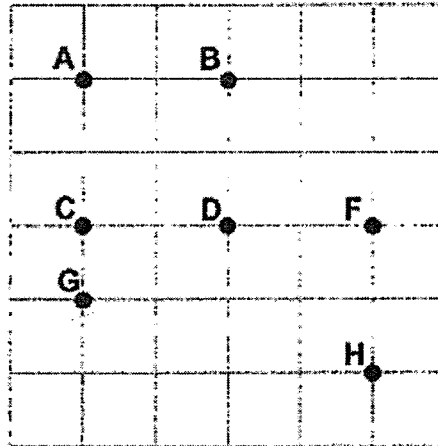
Ans : (a) _____

(b) Arrange $\frac{5}{9}$, $\frac{2}{3}$, $\frac{9}{8}$ in decreasing order.

Ans : (b) _____ , _____ , _____

(Go on to the next page)

23 The square grid shows the positions of points A, B, C, D, E, F, G and H.



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(a) In which direction is point A from point D?

Ans : (a) _____

(b) Winnie is at point B facing East at first. She turns 135° clockwise. Which point is she facing after the turn?

Ans : (b) _____



- 24 A box contains red, green, blue and black markers.
 $\frac{3}{8}$ of the markers are red. $\frac{3}{10}$ of the remaining markers are green. The number of blue and black markers are equal.
What fraction of the markers in the box are blue?

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Ans : _____

- 25 John is t years old. His mother is 25 years older than him.

- (a) How old is John's mother?
Express your answer in terms of t .

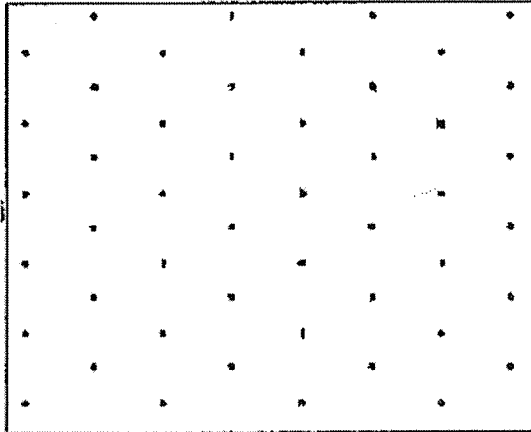
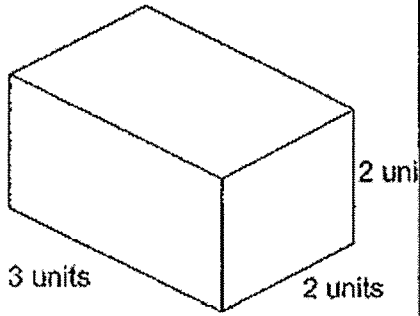
Ans : (a) _____ years old

- (b) What is their total age when $t = 10$?

Ans : (b) _____ years old

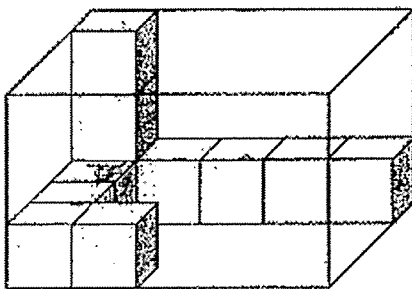
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26 Draw the following cuboid on the isometric grid.



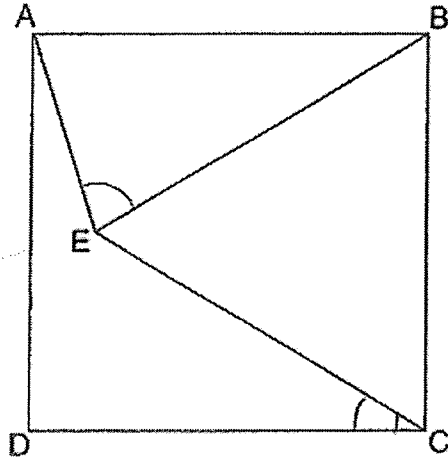
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27 The figure shows a rectangular glass box filled with unit cubes.
How many more unit cubes are needed to fill the box completely?



Ans : _____

- 28 In the figure, ABCD is a square. BCE is an equilateral triangle.
Find $\angle AEB$.

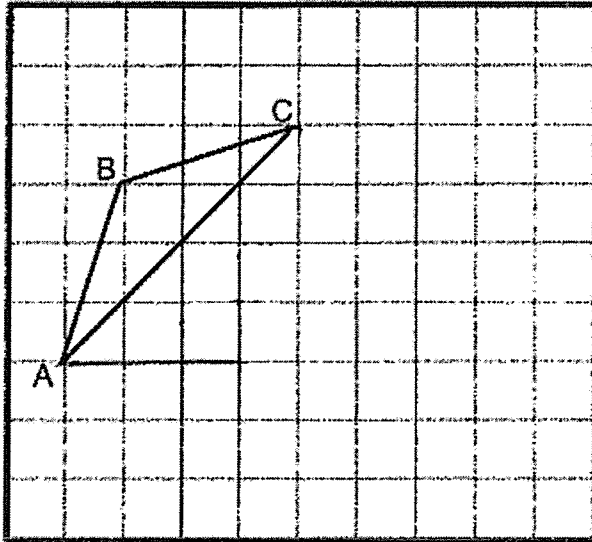


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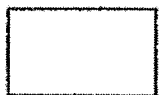
Ans : _____ °

29 A triangle ABC is drawn on a square grid.

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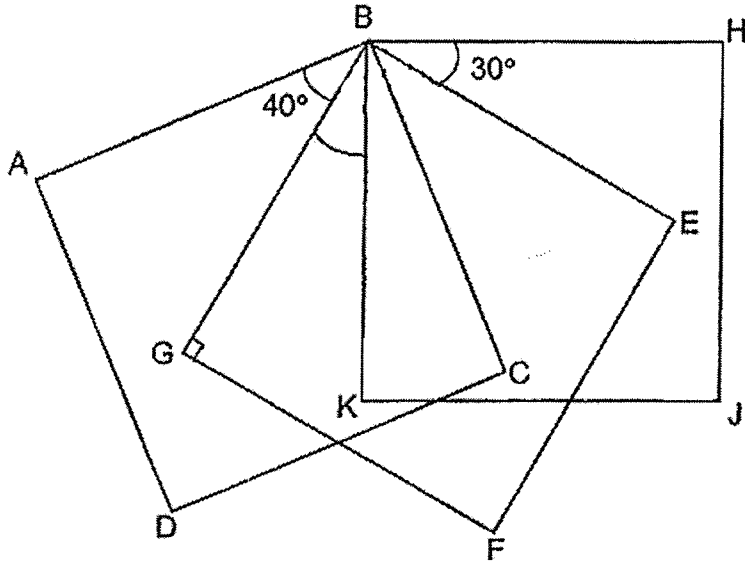


- (a) Using triangle ABC, draw rhombus ABCD.
- (b) Draw a triangle ACE such that area of ABC is $\frac{1}{3}$ of the area of ACE.
Triangle ACE must not overlap with triangle ABC.



- 30 The figure below is made up of 3 identical squares, ABCD, BEFG and BHJK. $\angle ABG = 40^\circ$ and $\angle HBE = 30^\circ$. Find $\angle KBC$.

Do not write in this space



Ans : _____ °

End of Paper

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**NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2022
PRIMARY 6**

**MATHEMATICS
Paper 2**

Total Time for Paper 2: 1 hour 30 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. Write your answers in this booklet.
6. The use of an approved calculator is allowed.

Marks Obtained

Total	Max Mark
	55

Name : _____ ()

Class : 6 _____

Date : 24 August 2022

Parent's Signature : _____

This booklet consists of 16 printed pages and 2 blank page.

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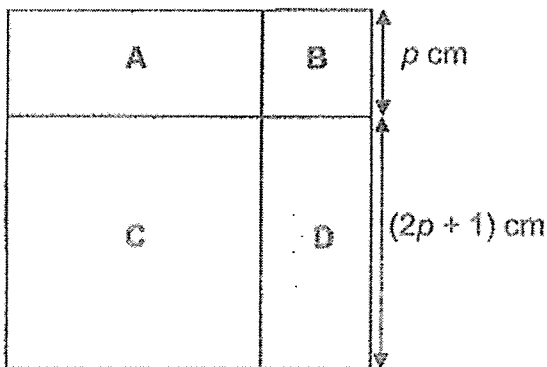
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the space provided. For questions which require units, give your answers in the units stated. (10 marks)

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- 1 The mass of a watermelon is 4.82 kg. The mass of a pineapple is 2.65 kg lighter than the mass of the watermelon.
What is the total mass of the two fruits?

Ans: _____ kg

- 2 The figure shows a square divided into two rectangles A and D and two squares B and C. The perimeter of rectangle A is 14 cm.
Find the value of p .



Ans: $p =$ _____ cm

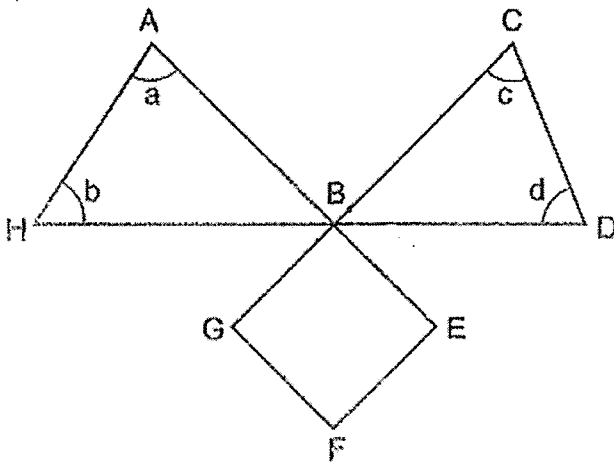
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- 3 Mrs Lee had a sum of money to spend. She spent $\frac{1}{2}$ of her money plus \$2 on a notebook. Next, she spent $\frac{1}{4}$ of her remaining money on a drink and she was left with \$9. How much money did she have at first?

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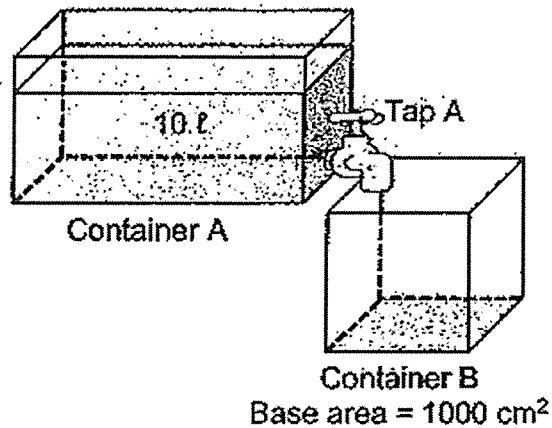
Ans: \$ _____

- 4 The figure below is made of a square BEFG and 2 triangles ABH and CBD. ABE, HBD and GBC are straight lines. Find the value of $\angle a + \angle b + \angle c + \angle d$.



Ans: _____°

- 5 The figure below shows 2 containers, A and B.
Container A contains 10 l of water.
Container B has a base area of 1000 cm^2 and was empty at first.



When Tap A is turned on, the height of water in container B increases by 2 cm per minute. What is the volume of the water left in container A after Tap A is turned on for 2 minutes?

Ans: _____ l

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(Go on to the next page)

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

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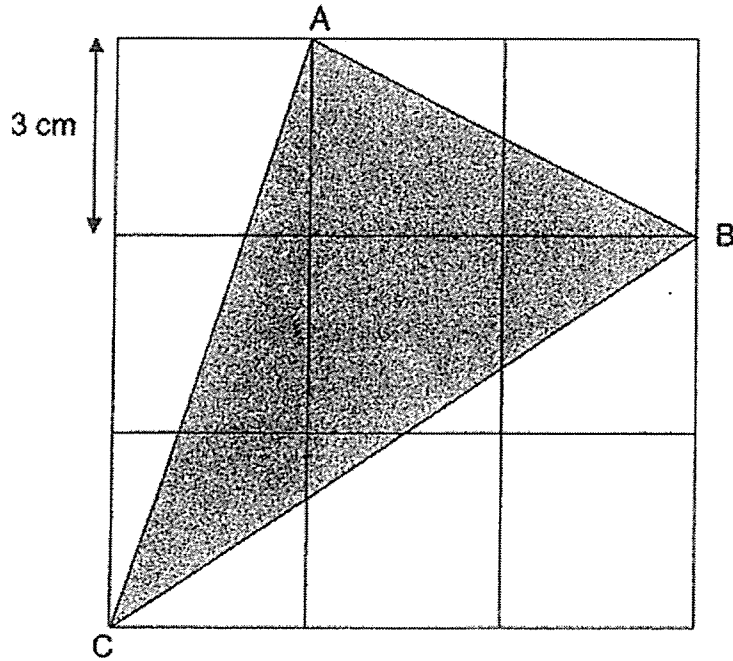
- 6 Muffins are sold in boxes of 6, 8 and 15. John bought 12 boxes of 6 muffins and some boxes of 8 and 15 muffins. He bought a total of 188 muffins. How many boxes of 15 muffins did John buy?

Ans: _____ [3]

- 7 A red T-shirt is sold at a 15% discount and a blue T-shirt at a 30% discount. Both shirts have the same price before the discount. The discounted price of the red T-shirt is \$6 more than the discounted price of the blue T-shirt. What is the price of a red T-shirt before the discount?

Ans: _____ [3]

- 8 The figure below is made up of 9 squares of sides 3 cm. Triangle ABC is shaded.



Do not write
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- (a) Find the area of unshaded part.

Ans: (a) _____ [2]

- (b) Find the area of shaded part.

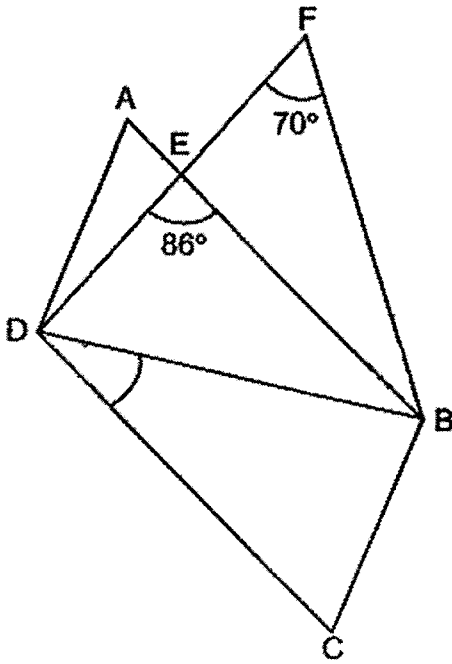
Ans: (b) _____ [1]



(Go on to the next page)

- 9 In the figure below, ABCD is a parallelogram and DBF is an isosceles triangle with $FD = FB$. $\angle DFB = 70^\circ$ and $\angle DEB = 86^\circ$. Find $\angle BDC$.

Do not write
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Ans: _____ [3]



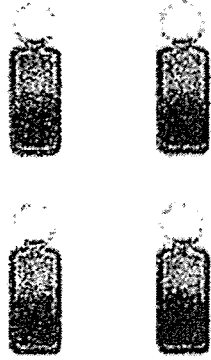

- 10 The ratio of the number of apples to the number of pears in a supermarket was 5 : 6. $\frac{1}{4}$ of the apples and 171 pears were rotten. The rotten apples and pears were thrown away. In the end, there was an equal number of apples and pears left. How many apples were there at first?

Do not write
in this space

Ans: _____ [4]

- 11 James bought key chains and trading cards at the prices shown below.

Do not write
in this space

	
Key Chain 4 for \$17	Trading Card 3 for \$8

He bought an equal number of keychains and trading cards. He spent \$76 more on keychains than trading cards. How many key chains did he buy?

Ans: _____ [3]



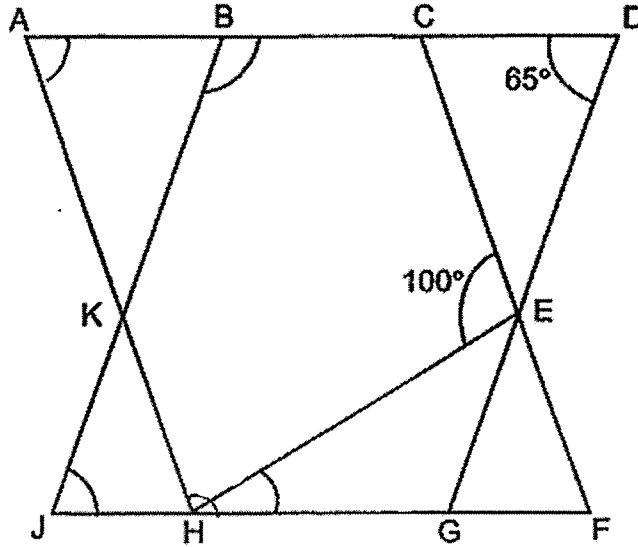
- 12 Town A and B are 400 km apart. Alex left Town A for Town B travelling at a constant speed of 65 km/h. At the same time, Ben left Town B for Town A, travelling at a constant speed of 85 km/h. Both of them took the same route. How long did they take to pass each other? Leave your answers in hours and minutes.

Do not write
in this space

Ans: _____ [3]

- 13 In the figure below, $ACFH$ and $BDGJ$ are identical parallelograms. EFH is a triangle. $ABCD$ and $JHGF$ are straight lines. Given that $\angle CDE = 65^\circ$ and $\angle CEH = 100^\circ$,

Do not write in this space



- (a) Find $\angle BJH$.

Ans: (a) _____ [1]

- (b) Find $\angle DBJ$.

Ans: (b) _____ [1]

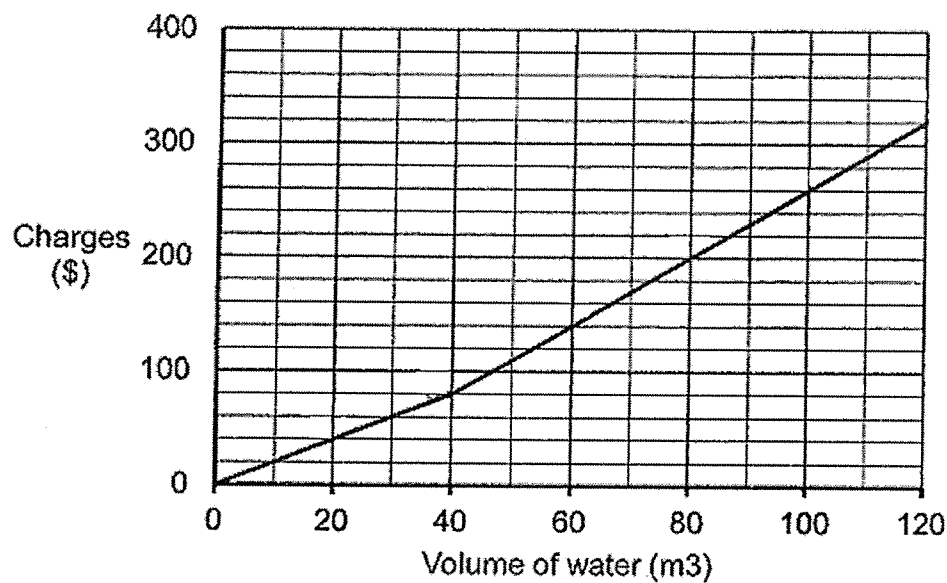
- (c) Find $\angle EHF$.

Ans: (c) _____ [2]



14. The graph shows the charges for water usage.

Do not write
in this space



- (a) Find the charges when 40 m³ of water is used.

Ans: (a) _____ [1]

- (b) The Lee family paid \$260 for the volume of water used in July. What was the volume of water used?

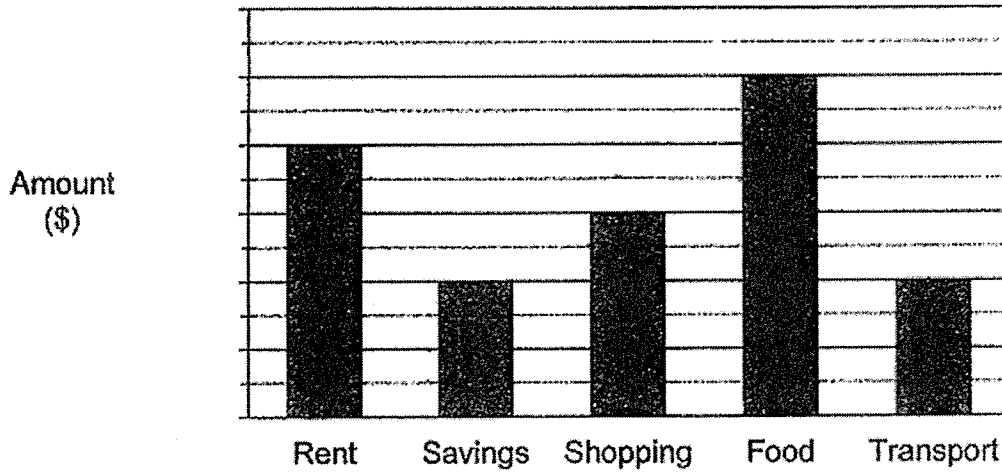
Ans: (b) _____ [1]

- (c) How much is the charge for every cubic metre of water after 40 m³?

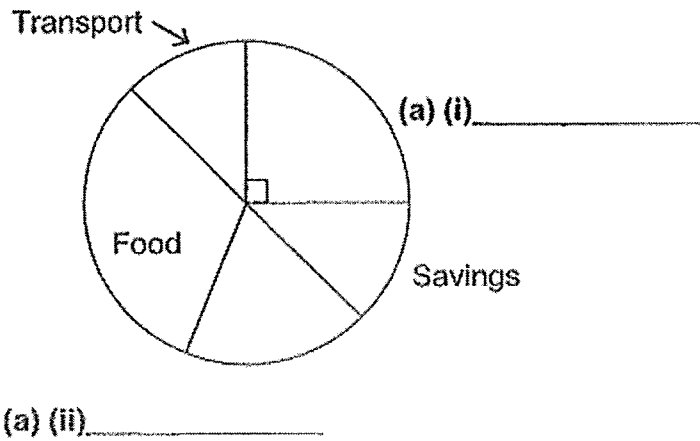
Ans: (c) _____ [2]

- 15 The bar graph below represent how Bryan used his money in September. The amount of money is not shown on the scale in the bar graph below.

Do not write in this space



How Bryan used his money in September is also represented in the pie chart below.



- (a) Label the pie chart by writing 'Shopping' and 'Rent' in the blanks above.
[1m]

- (b) Each of the statements below is either true, false or impossible to tell from the information given. For each statement, put a tick (\checkmark) to indicate your answer.

Do not write
in this space

Statement	True	False	Not possible to tell
The amount spent on rent is twice the amount spent on transport.			
The ratio of the amount spent on shopping to the amount spent on food is 3 : 4.			

[2]

- (c) What fraction of his money did he spend on shopping?

Ans: (c) _____ [2]

16 Mrs Chan used white and grey coloured papers to form figures that follow a pattern as shown below.

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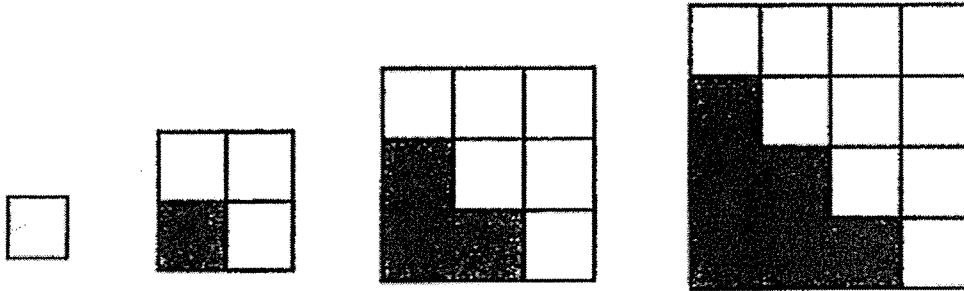


Figure 1

Figure 2

Figure 3

Figure 4

The table below shows the number of white and grey coloured papers for the first four figures.

(a) Fill in the table for Figure 5.

Figure Number	1	2	3	4	5
Number of white coloured paper	1	3	6	10	
Number of grey coloured paper	0	1	3	6	
Total number of paper	1	4	9	16	

[3]

(b) How many white and grey coloured papers are there in Figure 20 altogether?

(b) _____ [1]

(c) A figure in the pattern has a total of 1444 white and grey coloured papers. What is the Figure Number?

(c) _____ [1]



- 17 Figure A and B are made up of identical quarter circles.

Do not write
in this space

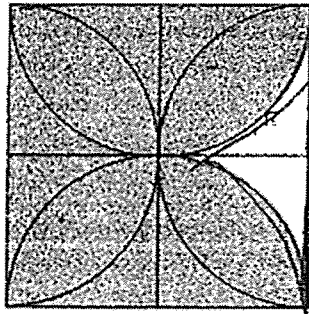


Figure A

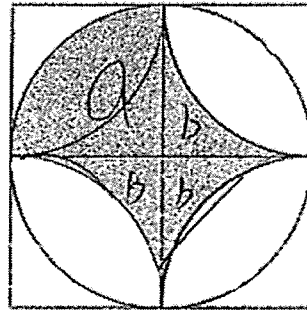


Figure B

The perimeter of the shaded part of Figure A is 140 cm more than the perimeter of the unshaded part of A.

Find the area of the total shaded part in Figure B. Take $\pi = \frac{22}{7}$.

Ans: _____ [5]



End of Paper

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**NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2022
MATHEMATICS
PRIMARY 6**

Paper 1

1)	1	6)	4	11)	2
2)	3	7)	2	12)	1
3)	1	8)	3	13)	1
4)	1	9)	3	14)	3
5)	1	10)	4	15)	2

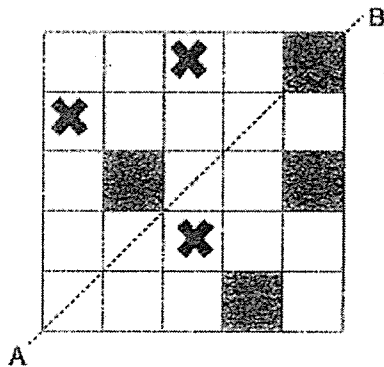
Section B (20 marks)

Questions 16 to 20 carry 1 mark each.

Questions 21 to 30 carry 2 marks each.

(For Q21 to Q30, 1 mark will be awarded for the final method mark even if the answer is wrong. A2 will be awarded for the correct answers as some pupils might do the questions mentally.)

16)	$127 \pm 1^\circ$
17)	12
18)	Figure A \rightarrow prism Figure \rightarrow pyramid
19)	Refer to picture
20)	33



Note: Q21 to 30 carry 2 marks each

21. a) $\frac{1}{14}$

b) 0.2

22. a) $\frac{4}{9}$

b) $\frac{9}{8}, \frac{2}{3}, \frac{5}{9}$

23. a) North- West

b) C

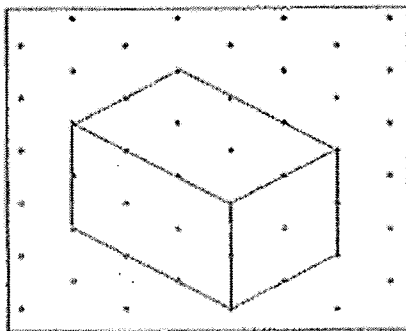
24. $\frac{7}{10} \times \frac{5}{8} = \frac{7}{16}$ (blue and black)

$$\frac{7}{16} \div 2 = \frac{7}{32}$$

25. a) $(t + 25)$ years old or $(25 + t)$ years old

b) 45 years

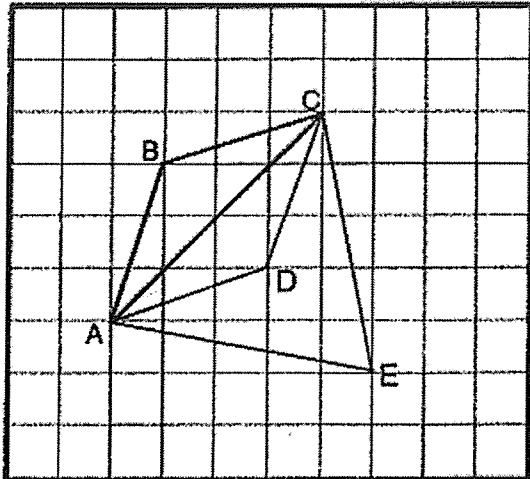
26.



27. $5 \times 4 \times 3 = 60$
 $60 - 11 = 49$

28. $90^\circ - 60^\circ = 30^\circ$
 $180^\circ - 30^\circ = 150^\circ$
 $150^\circ \div 2 = 75^\circ$

29.



30. $\angle GBK = \angle HBE = 30^\circ$

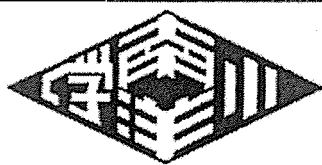
$$\angle KBC = 90^\circ - 40^\circ - 30^\circ = 20^\circ$$

Paper 2

1.	$4.82 - 2.65 = 2.17$ $4.82 + 2.17 = 6.99$								
2.	$2p + 1 + 2p + 1 + p + p = 6p + 2$ $6p + 2 = 14$ $p = (14 - 2) \div 6$ $= 2$								
3.	$9 + 3 = 3$ $2 + 3 \times 4 = 14$ $14 \times 2 = 28$								
4.	$180^\circ + 180^\circ = 360^\circ$ (sum of 2 triangles) $360^\circ - 90^\circ = 270^\circ$								
5.	$2 \times 2 \times 1 = 4$ $10 - 4 = 6$								
6.	$12 \times 6 = 72$ $188 - 72 = 116$ Using guess and check method, <table border="1" data-bbox="359 1041 1157 1120"> <thead> <tr> <th>6 muffins</th> <th>8 muffins</th> <th>15 muffins</th> <th>total</th> </tr> </thead> <tbody> <tr> <td>$12 \times 6 = 72$</td> <td>$7 \times 8 = 56$</td> <td>$4 \times 15 = 60$</td> <td>188</td> </tr> </tbody> </table>	6 muffins	8 muffins	15 muffins	total	$12 \times 6 = 72$	$7 \times 8 = 56$	$4 \times 15 = 60$	188
6 muffins	8 muffins	15 muffins	total						
$12 \times 6 = 72$	$7 \times 8 = 56$	$4 \times 15 = 60$	188						
7.	$85\% - 70\% = 15\%$ $15\% \rightarrow \$6$ $5\% \rightarrow \$2$ $100\% \rightarrow \$2 \times 20 = \40								
8.	a) $(\frac{1}{2} \times 3 \times 9) + (\frac{1}{2} \times 3 \times 6) + (\frac{1}{2} \times 6 \times 9) = 49.5 \text{ cm}^2$ b) $9 \times 9 = 81$ $81 - 49.5 = 31.5 \text{ cm}^2$								
9.	$\angle FDB = (180^\circ - 70^\circ) \div 2$ $= 55^\circ$ $\angle BDC = \angle EBD = 180^\circ - 55^\circ - 86^\circ$ $= 39^\circ$								

10.	$A : P = 5 : 6$ $= 20 : 24$ $RA = 20 \times \frac{1}{4} = 5$ $RP = 24 - 15 = 9$ $9 \text{ units} = 171$ $1 \text{ unit} = 19$ $20 \text{ units} = 19 \times 20$ $= 380$
11.	$1 \text{ set of 12 keychains} \rightarrow \$17 \times 3 = \$51$ $1 \text{ set of 12 trading cards} \rightarrow \$8 \times 4 = \$32$ $\text{Difference of 1 set} = \$51 - \$32 = \19 $\$76 \div \$19 = 4$ $4 \times 12 = 48$
12.	$65 + 85 = 150$ $400 \div 150$ $= 2\frac{2}{3} \text{ h} = 2\text{h } 40 \text{ min}$
13. (a)	$\angle BJH = 65^\circ$
(b)	$\angle DBJ = 180^\circ - 65^\circ = 115^\circ$
(c)	$\angle EHF = 100^\circ - 65^\circ = 35^\circ$
14. (a)	\$90
(b)	100 m^3
(c)	M1 for identifying the correct corresponding x and y value $(200 - 140) / (80 - 60)$ $= \$3$

15. (a)	Rent
(aii)	Shopping
(bi)	true
(bii)	false
(c)	$\frac{6}{32} = \frac{3}{16}$
16. (a)	(i) 15 (ii) 10 (iii) 25
(b)	$(20 \times 20) = 400$
(c)	$38 \times 38 = 1444$
17.	$4r = 140$ $35 \times 35 = 1225$ $\frac{1}{4} \times \frac{22}{7} \times 35 \times 35 = 962.5$ $1225 - 962.5 = 262.5$ $35 \times 35 + 962.5 = 1750 \text{ cm}^2$



NANYANG PRIMARY SCHOOL

**PRELIMINARY EXAMINATION
2022**

PRIMARY 6

**MATHEMATICS
PAPER 1
(BOOKLET A)**

Total Duration for Booklets A and B: 1 hour

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

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

Name: _____ ()

Class: Primary 6 ()

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

1 Round 748 850 to the nearest hundred.

(1) 748 800

(2) 748 900

(3) 748 950

(4) 749 000

2 10 hundredths and 75 thousandths is _____

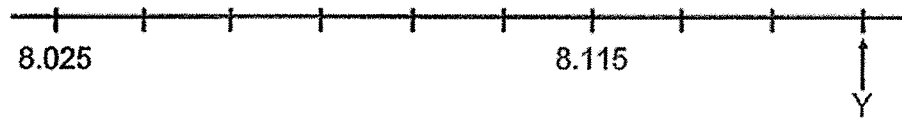
(1) 0.085

(2) 0.175

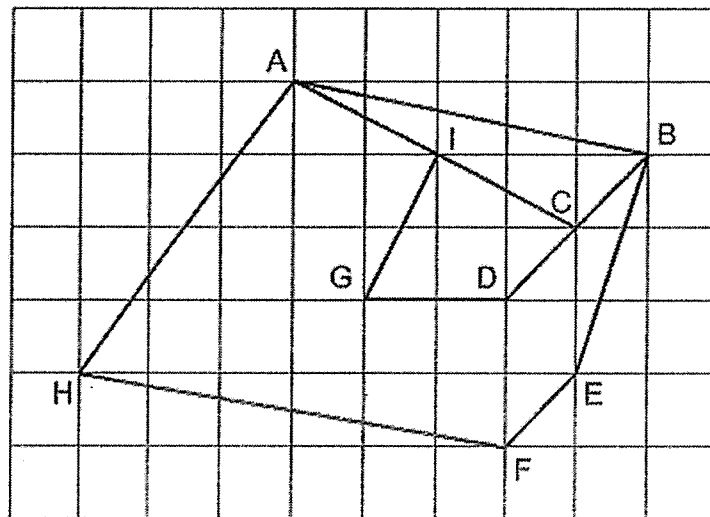
(3) 0.760

(4) 0.850

- 3 In the number line below, what is the value of Y as indicated by the arrow?

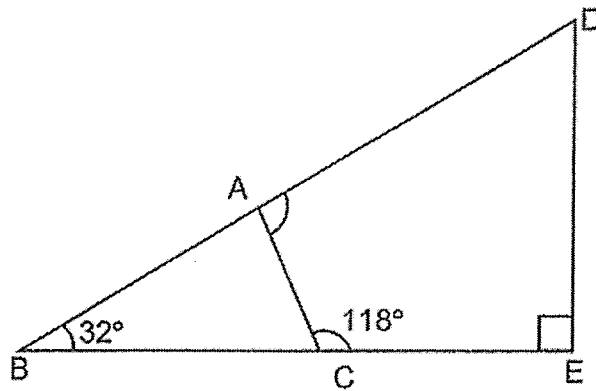


- (1) 8.130
 - (2) 8.145
 - (3) 8.160
 - (4) 8.175
- 4 Which pair of lines in the square grid are parallel?

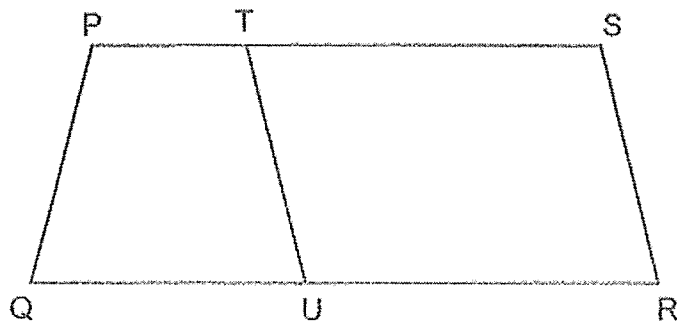


- (1) AH and BE
- (2) GI and AC
- (3) AB and HF
- (4) BD and EF

- 5 BCE and DAB are straight lines. Find $\angle DAC$.



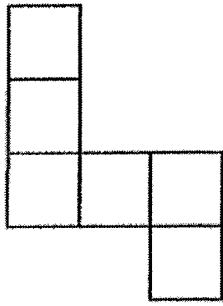
- (1) 148°
 - (2) 94°
 - (3) 86°
 - (4) 62°
- 6 PQRS is a trapezium and RSTU is a parallelogram.



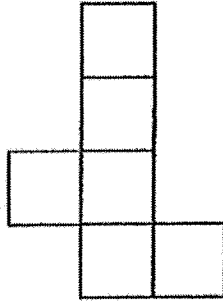
Which of the following pair of angles gives a sum of 180° ?

- (1) $\angle QPT$ and $\angle PTU$
- (2) $\angle TSR$ and $\angle UTS$
- (3) $\angle TUR$ and $\angle TSR$
- (4) $\angle PQU$ and $\angle URS$

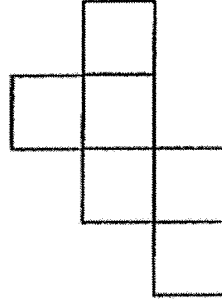
7 Which two of the following are nets of a cube?



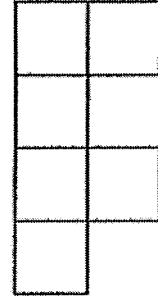
A



B



C



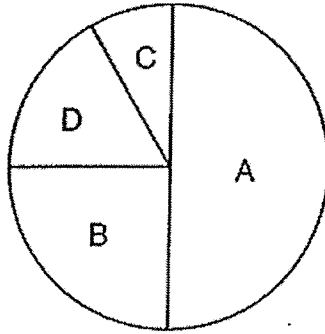
D

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

8 Huiling had \$ z . Ravi had twice as much money as Huiling. Jas had \$5 more than Ravi. If Jas had \$10, how much money did Huiling have?

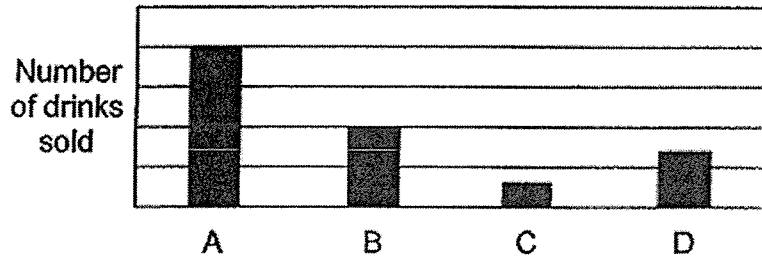
- (1) \$30
- (2) \$7.50
- (3) \$3
- (4) \$2.50

- 9 The pie chart shows the number of four types of drinks sold in the school canteen.

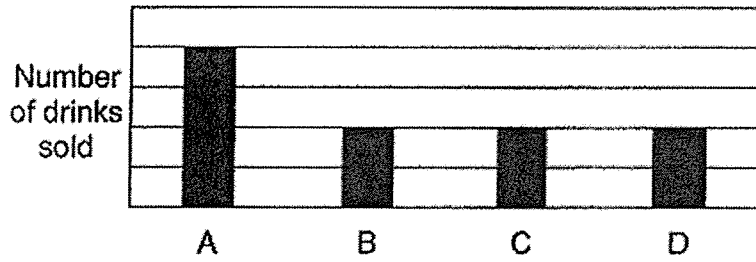


Which bar graph best represents the information in the pie chart?

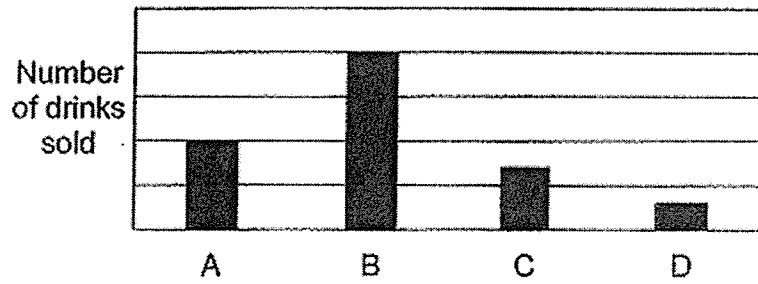
(1)



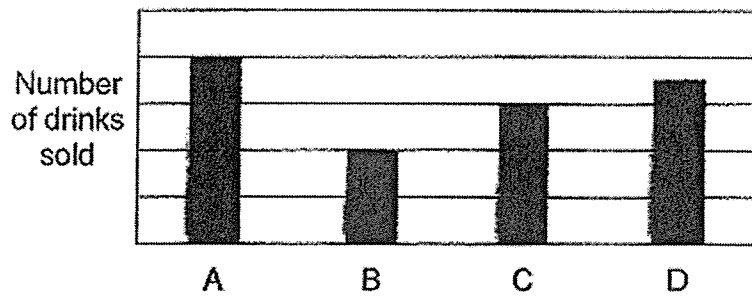
(2)



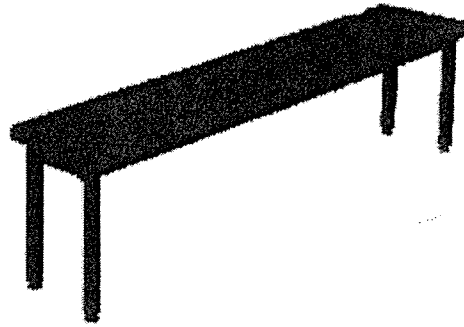
(3)



(4)



- 10 Which of the following is likely to be the length of a bench in the school canteen?



- (1) 1.8 cm
(2) 18 cm
(3) 1.8 m
(4) 18 m
- 11 Which of the following fractions is closest to $\frac{4}{5}$?

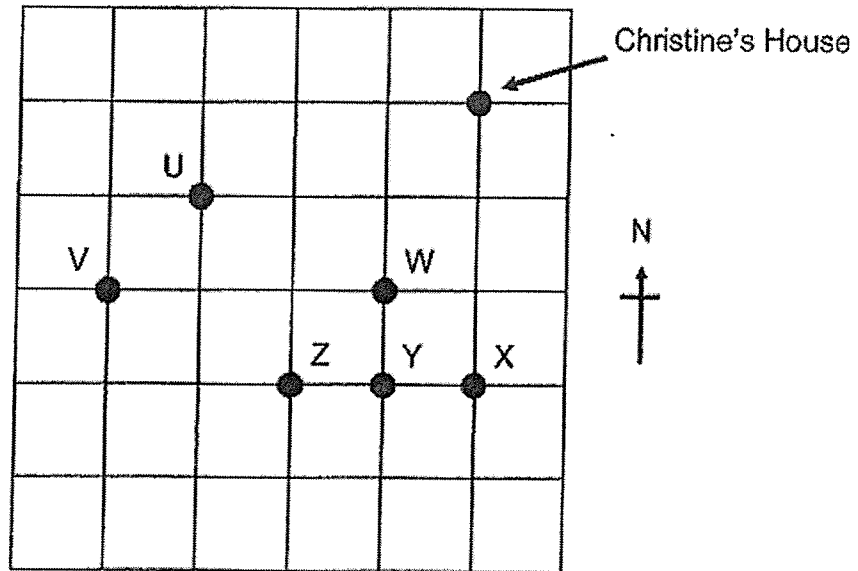
(1) $\frac{3}{5}$

(2) $\frac{5}{6}$

(3) $\frac{7}{9}$

(4) $\frac{9}{10}$

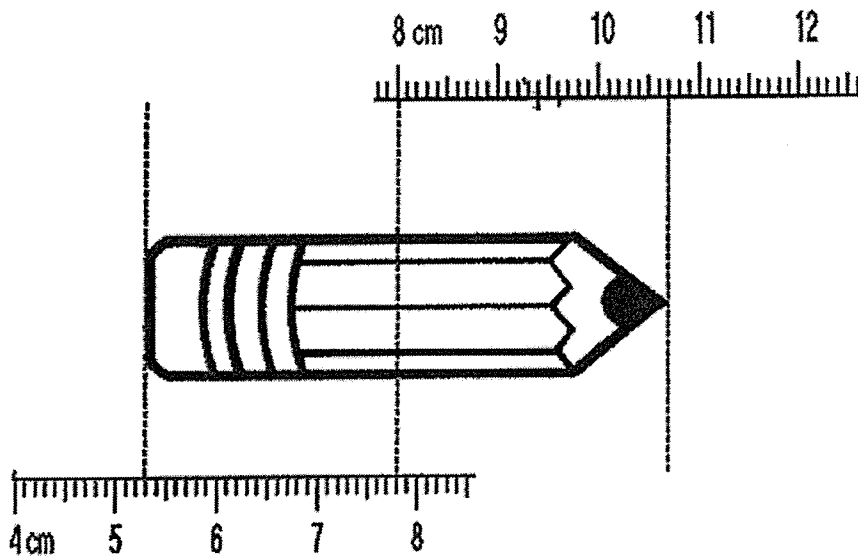
- 12 The square grid shows the positions of the buildings U, V, W, X, Y and Z.



Christine stands at a location south-west of her house and east of a building. When facing south-east from Christine's location, she sees a building. What is that building?

- (1) Building W
- (2) Building X
- (3) Building Y
- (4) Building Z

13 What is the length of the pencil shown below?



- (1) 5.2 cm
- (2) 5.4 cm
- (3) 5.6 cm
- (4) 10.7 cm

- 14 Viv, Wendy and Xinyi each had some beads. They each used the same number of beads to make a necklace. Viv used $\frac{1}{3}$ of her beads, Wendy used $\frac{7}{8}$ of her beads and Xinyi used $\frac{3}{4}$ of her beads. What was the ratio of the number of beads Viv had at first to the number of beads Wendy had at first to the number of beads Xinyi had at first?

- (1) 1 : 7 : 3
(2) 3 : 8 : 4
(3) 8 : 21 : 18
(4) 63 : 24 : 28

- 15 The first 7 numbers of a number pattern are given below.

4, 16, 8, 32, 16, 64, 32, ...
1st 7th

What is the 13th number?

- (1) 128
(2) 256
(3) 512
(4) 1024



NANYANG PRIMARY SCHOOL

**PRELIMINARY EXAMINATION
2022**

PRIMARY 6

**MATHEMATICS
PAPER 1
(BOOKLET B)**

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO PUPILS

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

Name: _____ ()

Class: Primary 6 ()

Booklet B

/ 25

Please sign and return the examination paper the next day. Any queries should be raised at the same time when returning paper.

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

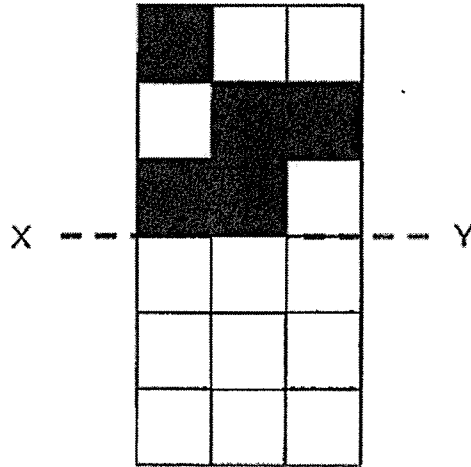
- 16 Mr Ahmad had 2 bags of marbles. One of the bag contained 6 red marbles and 3 blue marbles. The other bag contained 2 red marbles and 4 yellow marbles. What fraction of the total marbles from both bags were red marbles?

Ans: _____

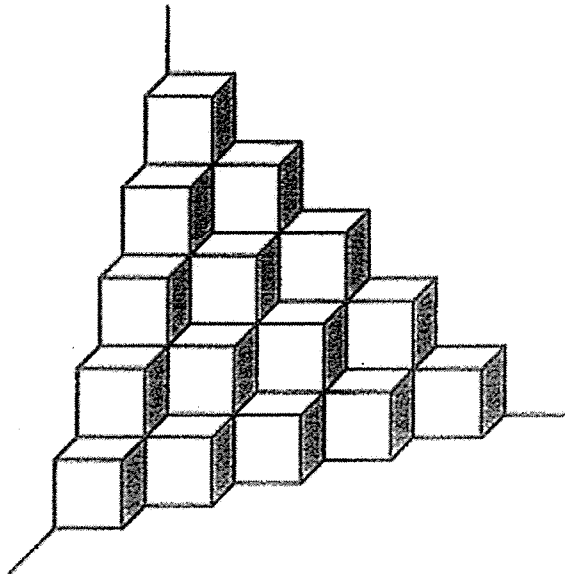
- 17 Find the value of $3.707 \text{ l} + 1.373 \text{ l}$
Express the answer in litres and millilitres.

Ans: _____ l _____ ml

- 18 There are 5 shaded squares in the figure. Shade 5 more squares to form a symmetric figure with XY as the line of symmetry.

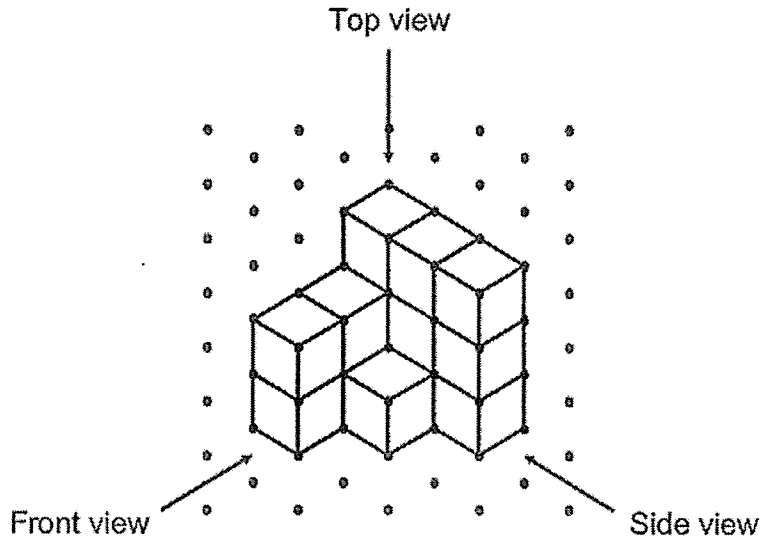


- 19 The solid below is made up of 1-cm cubes. What is the volume of the solid?



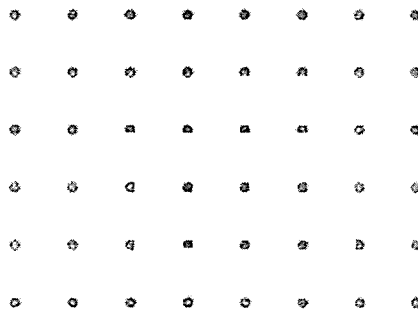
Ans: _____ cm^3

- 20 Paminder stacked 14 unit cubes and glued them together to form the solid below.



Draw the side view of the solid on the grid below.

Side View



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

- 21 A faulty traffic light had its red light blinking every 2 seconds, its amber light blinking every 3 seconds and its green light blinking every 8 seconds. If all three lights blink now, how many seconds later will they all blink together again?

Ans: _____ s

22 Mr Liew paid \$78.59 for a pair of shoes and \$19.90 for a towel.

(a) How much did he spend altogether? Round the answer to the nearest dollar.

Ans: (a) \$ _____

(b) Find the cost of 30 such towels.

Ans: (b) \$ _____

23 A day camp lasted 8 h 20 min. The day camp started 1 h 45 min before the snack break. Snack break was at 11.30 a.m. What time did the day camp end? Give your answer in 24-hour clock.

Ans: _____

- 24 In 2021, Maggie saved 20% of her monthly salary of \$3000 each month. In 2022, Maggie received an increase in her monthly salary and she saved \$180 more per month. What was the percentage increase in Maggie's monthly savings?

Ans: _____%

- 25 There were 1338 big buns and 7982 small buns in a factory. The buns were packed into bags. Each bag contained 1 big bun and 6 small buns. What was the greatest number of bags that could be packed?

Ans: _____

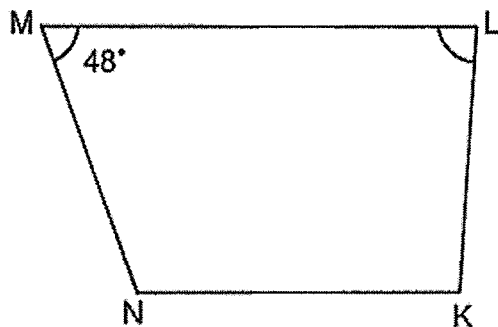
- 26 Mrs Chen sold $\frac{1}{3}$ of her apples on Monday. She sold $\frac{2}{3}$ of the remaining apples on Tuesday. Mrs Chen had 14 apples left after selling apples on Monday and Tuesday. How many apples did Mrs Chen have at first?

Ans: _____

- 27 Mary had a roll of ribbon with a total length of 1 m. She cut off $\frac{1}{5}$ m of the ribbon. The remaining length of the ribbon was cut into shorter pieces of length $\frac{1}{8}$ m each. At most, how many pieces of $\frac{1}{8}$ -m long ribbon did Mary have in the end?

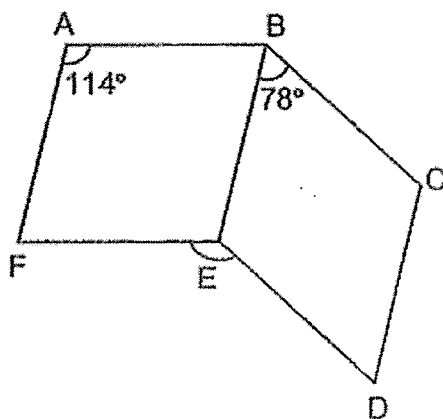
Ans: _____

- 28 In the figure below, KLMN is a trapezium and LM is parallel to KN.
 $\angle LMN = 48^\circ$ and $\angle MNK$ is $\frac{3}{2}$ times of $\angle MLK$. Find $\angle MLK$.



Ans: _____^o

- 29 ABEF and BCDE are parallelograms. $\angle FAB = 114^\circ$ and $\angle EBC = 78^\circ$.
 Find $\angle DEF$.



Ans: _____^o

- 30 Pam Bakery uses m kg of sugar each month. Pam Bakery uses 30 kg more sugar than Sweet Bakery each month. If $m = 100$, how many kilograms of sugar do Pam Bakery and Sweet Bakery use in total for one year?

Ans: _____ kg

End of Paper



NANYANG PRIMARY SCHOOL

**PRELIMINARY EXAMINATION
2022**

**PRIMARY 6
MATHEMATICS
PAPER 2**

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

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

Name: _____ ()

Class: Primary 6 ()

Parent's Signature: _____

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


Please sign and return the examination paper the next day. Any queries should be raised at the same time when returning paper.

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

- 1 The original price of a book was \$ k . David bought 15 such books. After he was given a discount of \$10, he paid a total of \$110. What was the original price of one such book?

Ans: \$ _____

- 2 The table below shows the charges for renting a bicycle.

	Days	Time	Charge
	Mon to Fri	7 a.m. to 5 p.m.	\$4 per hour
		5 p.m. to 9 p.m.	\$8 per hour
Sat and Sun	7 a.m. to 9 p.m.	\$12 per hour	

On Friday, Mr Wu rented a bicycle and returned it at 6 p.m. He paid a total of \$24. For how many hours did he rent the bicycle?

Ans: _____ h

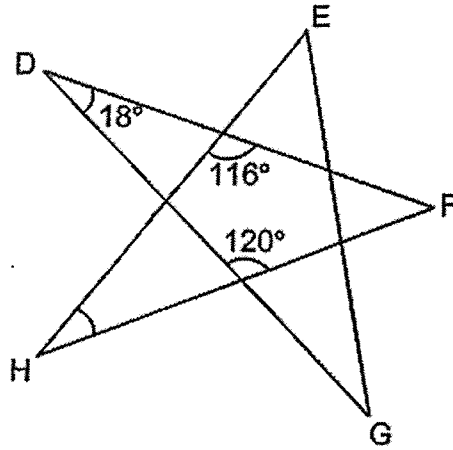
- 3 Ji Min saved some money in April. She saved \$2.50 per day for 20 days. She then saved \$3.10 per day for the rest of the month. What was the average amount of money she saved per day in April? (There are 30 days in April.)

Ans: \$ _____

- 4 Dana bought an oven from Shop A at 15% discount during a sale. The price of the oven was \$800 before discount at Shop A. Hailey bought an identical oven from Shop B at 20% discount and paid the same amount as Dana. What was the price of the oven before discount at Shop B?

Ans: \$ _____

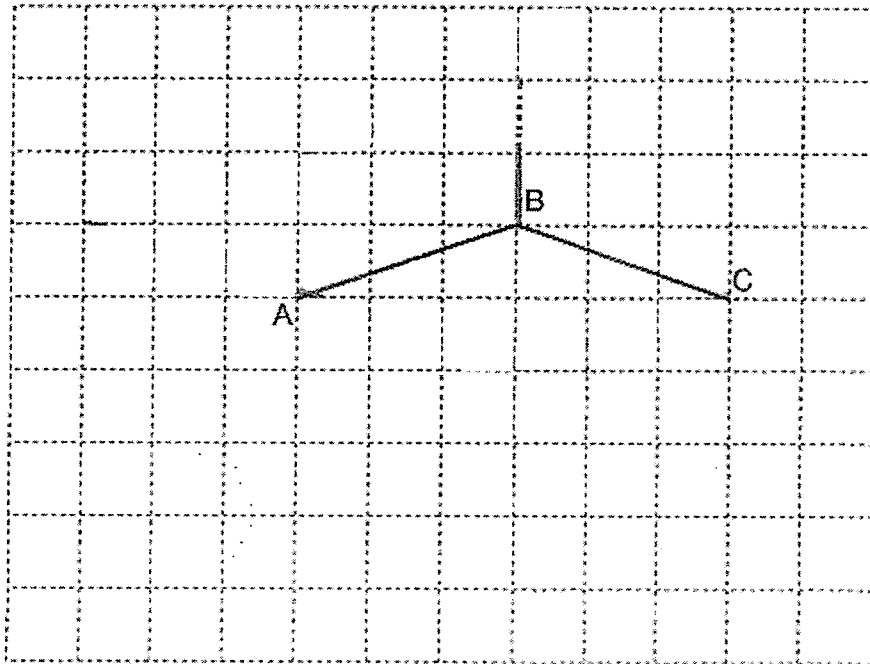
- 5 The figure is formed by 5 straight lines DF, EH, EG, FH and DG. Find $\angle EHF$.



Ans: _____^o

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

- 6 In the square grid below, AB and BC are straight lines.
- (a) AB and BC form two sides of a rhombus ABCD. Complete the drawing of the rhombus ABCD. [1]
- (b) AB also forms one side of a trapezium ABEF. AB is parallel to EF. The length of EF is twice the length of AB. DAF forms a straight line and $AD = AF$. Complete the drawing of trapezium ABEF such that it does not overlap with the rhombus. [2]



- 7 Peter had \$18.20 less than Jane at first. After Jane gave some of her money to Peter, he had \$29.20 more than her. How much money did Jane give to Peter?

Ans: _____ [3]

- 8 Kira had a roll of blue paper and a roll of red paper. The length of the roll of blue paper is $\frac{1}{2}$ the length of the roll of red paper. She cut the roll of blue paper into equal parts of length 9 cm and on each part she drew 3 star shapes. After that, she cut the roll of red paper into equal parts of length 7 cm and on each part she drew 5 heart shapes. What fraction of the shapes Kira drew were star shapes?

Ans: _____ [3]

- 9 Four towns A, B, C and D collected plastic bottles to be recycled. Town A and B collected an average of 324 plastic bottles. Town B, C and D collected an average of 344 plastic bottles. The total number of plastic bottles collected by all 4 towns was 6 times the number that town B collected. How many plastic bottles did town B collect?

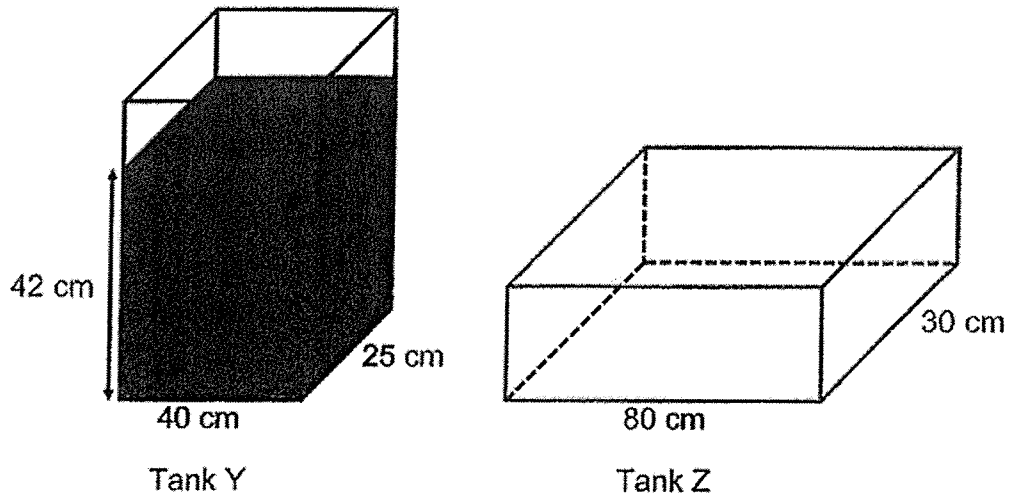
Ans: _____ [3]

- 10 Mr Toh left Town B and drove to Town C at 11 a.m. at a constant speed of 60 km/h. Mr Lee left Town A at 12 noon and drove to Town C at a constant speed of 80 km/h. Town A and Town B were 15 km apart. After travelling from Town A to Town B, Mr Lee then travelled to Town C along the same route as Mr Toh. At what time did Mr Lee catch up with Mr Toh?



Ans: _____ [3]

- 11 Tank Y and Tank Z are two rectangular tanks. At first, Tank Y contained some water to a height of 42 cm and Tank Z was empty.



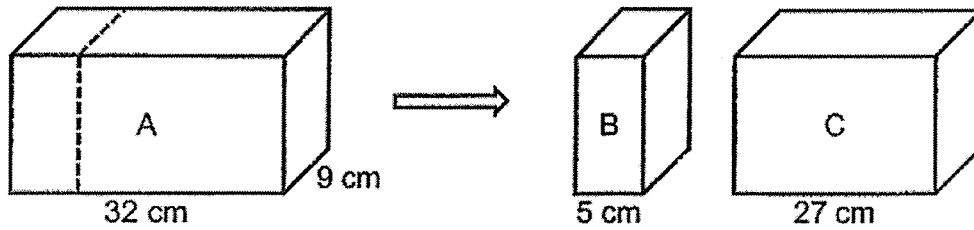
- (a) What was the volume of the water in Tank Y at first?

Ans: (a) _____ [1]

- (b) Kanthea poured some water from Tank Y into Tank Z. After that, Tank Y had $\frac{2}{5}$ as much water as Tank Z. Find the height of the water level in Tank Z.

Ans: (b) _____ [3]

- 12 A rectangular block A was cut along the dotted line into two smaller rectangular blocks of equal height, B and C, as shown below. The volume of block B was 4752 cm^3 less than that of block C.



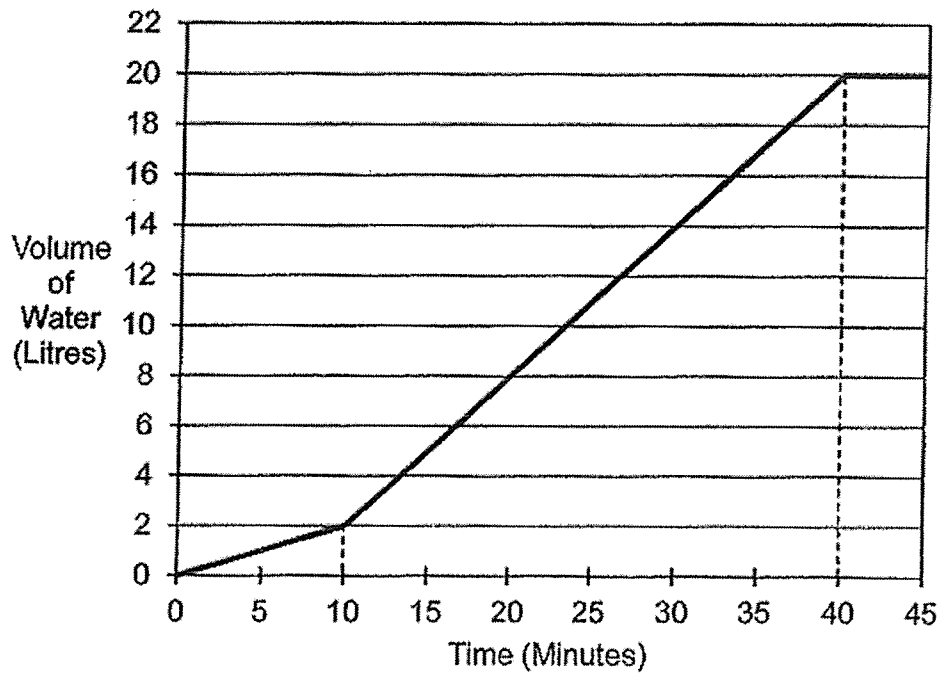
- (a) What was the height of each block?

Ans: (a) _____ [2]

- (b) Matthias packed 12 of block C such that they fit exactly into a box with a square base. The box had the same height as block C. At most, how many of block B can be packed into such a box?

Ans: (b) _____ [2]

- 13 JI Eun filled a tank with water using two taps, Tap A and Tap B. She turned on Tap A first. After 10 minutes, she turned on Tap B. Both taps were turned off at the same time when the tank was completely filled. The graph below shows the amount of water in the tank over 45 minutes.



- (a) What was the capacity of the tank?

Ans: (a) _____ [1]

- (b) How many litres of water flowed from Tap B per minute?

Ans: (b) _____ [3]

14 Marlam had some gold, some silver and some copper tokens for a carnival. The ratio of the number of gold tokens to the total number of silver and copper tokens was 10 : 9. The ratio of the number of silver tokens to the number of copper tokens was 3 : 1. She exchanged 12 gold tokens for a stuffed toy and some silver tokens for a jar of marbles. In the end, the ratio of the number of gold tokens to the number of copper tokens became 4 : 1 and the ratio of the number of silver tokens to the number of copper tokens became 4 : 3.

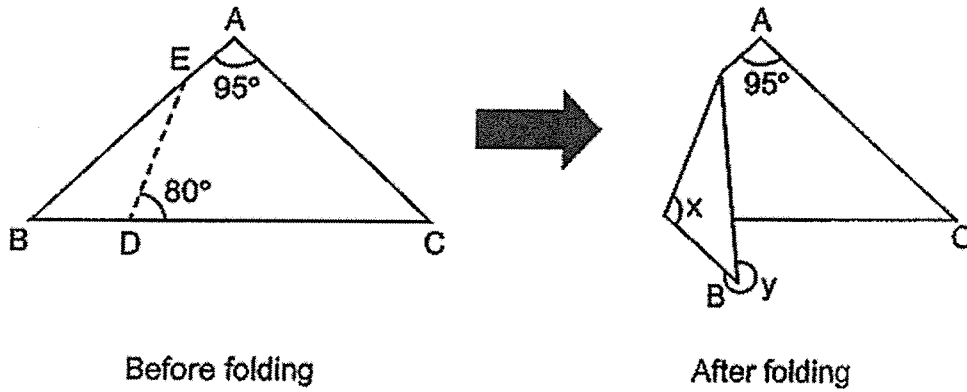
(a) What was the ratio of the number of gold tokens to the number of silver tokens to the number of copper tokens Marlam had at first?

Ans: (a) _____ [1]

(b) How many silver tokens did Marlam exchanged for the jar of marbles?

Ans: (b) _____ [3]

- 15 ABC is a triangular piece of paper with $AB = AC$. $\angle BAC = 95^\circ$. AEB and BDC are straight lines. The paper is then folded along the line DE as shown below.



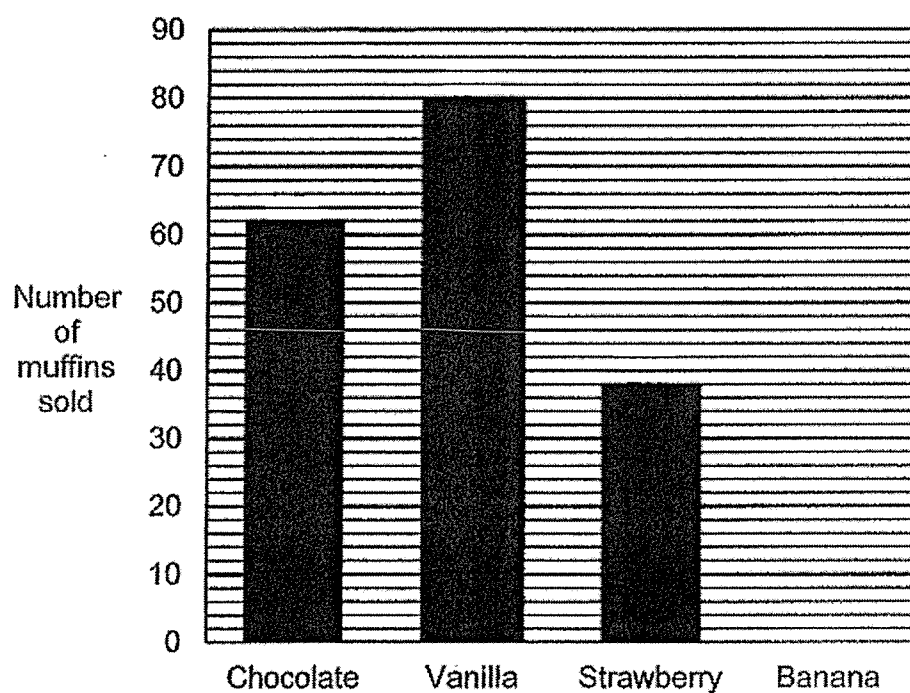
(a) Find $\angle x$.

Ans: (a) _____ [2]

(b) Find $\angle y$.

Ans: (b) _____ [2]

- 16 A shop sells four types of muffin. The bar graph shows the number of each type of muffin sold by the shop. The bar for the number of banana muffins sold has not been drawn. The number of banana muffins sold was $\frac{3}{5}$ the number of vanilla muffins sold.



- (a) How many banana muffins were sold?

Ans: (a) _____ [1]

(b) The table below shows the prices of the muffins.

Type of muffin	Price per muffin
Chocolate	\$0.85
Vanilla	\$0.70
Strawberry	\$1.35
Banana	\$1.20

From the sales of which type of muffin did the shop collect the most money? What was the amount of money?

Ans: (b) Muffin: _____

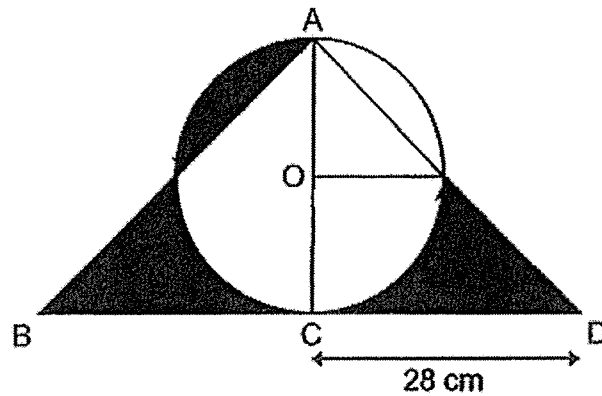
Amount: _____ [2]

(c) Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
The number of chocolate muffins sold was 62.			
The ratio of the number of strawberry muffins sold to the number of strawberry muffins left unsold was 3 : 2.			
The shop sold 46 boxes of 5 muffins.			

[2]

- 17 The figure below is made up of a semicircle, 2 identical quarter circles and 2 identical right-angled isosceles triangles, ACB and ACD . $CA = CB = CD$. O is the centre of the circle. AOC and BCD are straight lines. Find the total area of the shaded parts.
(Take $\pi = 3.14$)



Ans: _____ [5]

End of Paper



HANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION
2022

PRIMARY 6
MATHEMATICS
PAPER 1
(BOOKLET A)

Total Duration for Booklets A and B: 1 hour

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

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

Name: _____ ()

Class: Primary 6 ()

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

1. Round 748 800 to the nearest hundred.

- (1) 748 800
- (2) 748 000
- (3) 748 900
- (4) 749 000

$748\ 800 \approx 748\ 900$ (ans)

(2)

2. 10 hundredths and 75 thousandths is _____

- (1) 0.085
- (2) 0.175
- (3) 0.700
- (4) 0.850

$\frac{10}{100} + \frac{75}{1000}$
 $= 0.10 + 0.075$
 $= 0.175$ (ans)

(2)

3. In the number line below, what is the value of Y as indicated by the arrow?



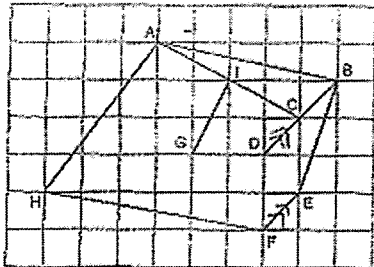
- (1) 8.120
- (2) 8.145
- (3) 8.180
- (4) 8.175

$\frac{0.115 - 0.025}{5} = \frac{0.09}{5}$
 $= 0.018$

(3)

$0.115 + (0.018 \times 3)$
 $= 0.115 + 0.054 = 0.169$ (ans)

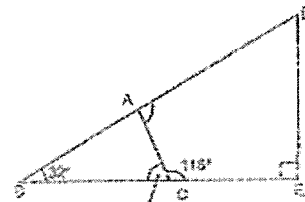
4. Which pair of lines in the square grid are parallel?



- (1) AH and BE
- (2) GI and AC
- (3) AB and HF
- (4) BD and EF

(4)

5. BCE and DAB are straight lines. Find $\angle DAC$.



- (1) 140°
- (2) 94°
- (3) 85°
- (4) 82°

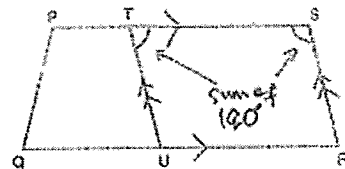
$180^\circ - 118^\circ$
 $= 62^\circ$

$180^\circ - 62^\circ - 33^\circ$
 $= 180^\circ - 95^\circ$
 $= 85^\circ$

$180^\circ - 86^\circ = 94^\circ$

(2)

6. PQRS is a trapezium and RSTU is a parallelogram.

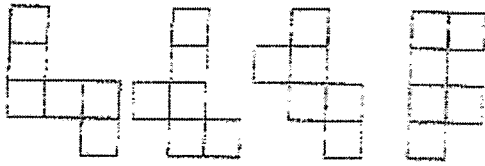


Which of the following pair of angles gives a sum of 180° ?

- (1) $\angle OPT$ and $\angle PTU$
- (2) $\angle TSR$ and $\angle UTS$
- (3) $\angle TUR$ and $\angle TSR$
- (4) $\angle PQU$ and $\angle URS$

(2)

7 Which two of the following are nets of a cube?



A B C D

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

(3)

8 Hailing had \$z. Revi had twice as much money as Hailing. Jas had \$5 more than Revi. If Jas had \$10, how much money did Hailing have?

$H \rightarrow \$z$
 $R \rightarrow 2 \times \$z = \$2z$
 $J \rightarrow \$2z + \5

$$2z + 5 = 10$$

$$2z = 10 - 5$$

$$= 5$$

$$z = 5 \div 2$$

$$= 2.5$$

(4)

4

10 Which of the following is likely to be the length of a bench in the school canteen?



- (1) 1.8 cm
- (2) 18 cm
- (3) 1.8 m
- (4) 18 m

(3)

11 Which of the following fractions is closest to $\frac{4}{5}$?

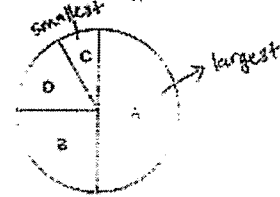
$\frac{4}{5} - \frac{3}{5} = \frac{1}{5}$
 $\frac{5 \times 5}{2 \times 5} - \frac{18 \times 6}{5 \times 6} = \frac{25}{30} - \frac{24}{30} = \frac{1}{30}$
 $\frac{4 \times 9}{5 \times 9} - \frac{7 \times 5}{9 \times 5} = \frac{36}{45} - \frac{35}{45} = \frac{1}{45}$
 $\frac{9}{10} - \frac{4 \times 2}{5 \times 2} = \frac{9}{10} - \frac{8}{10} = \frac{1}{10}$

→ smallest, so closest.

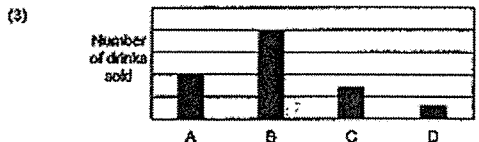
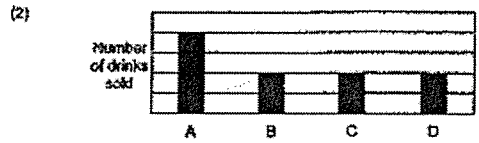
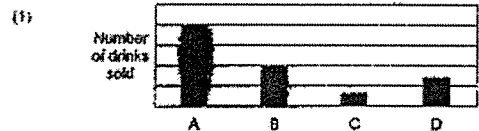
(3)

8

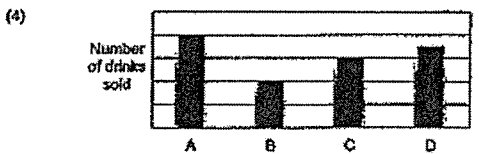
9 The pie chart shows the number of four types of drinks sold in the school canteen.



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

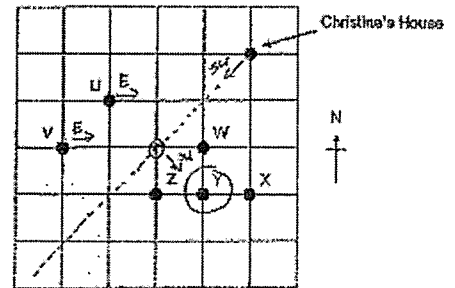


(1)



5

12 The square grid shows the positions of the buildings U, V, W, X, Y and Z.



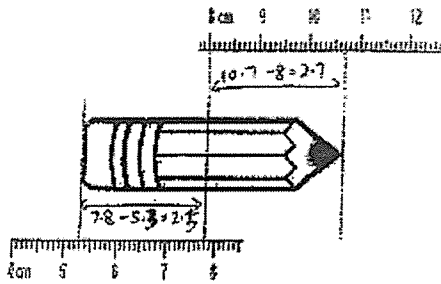
Christina stands at a location south-west of her house and east of a building. When facing south-east from Christina's location, she sees a building. What is that building?

- (1) Building W
- (2) Building X
- (3) Building Y
- (4) Building Z

(3)

7

13 What is the length of the pencil shown below?



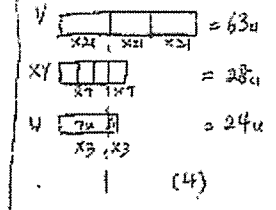
- (1) 6.2 cm
- (2) 5.4 cm
- (3) 6.8 cm
- (4) 10.7 cm

$2.5 + 2.7 = 5.2$

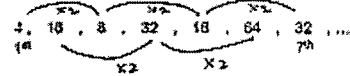
(1)

14 Viv, Wendy and Xinyi each had some beads. They each used the same number of beads to make a necklace. Viv used $\frac{1}{3}$ of her beads. Wendy used $\frac{7}{8}$ of her beads and Xinyi used $\frac{3}{4}$ of her beads. What was the ratio of the number of beads Viv had at first to the number of beads Wendy had at first to the number of beads Xinyi had at first?

- (1) 1 : 7 : 3
- (2) 3 : 8 : 4
- (3) 8 : 21 : 18
- (4) 63 : 24 : 28




15 The first 7 numbers of a number pattern are given below.



What is the 13th number?

- (1) 128
- (2) 256
- (3) 512
- (4) 1024

13th \rightarrow odd number.
 use pattern
 4 ... 8 ... 16 ...
 1st 3rd 5th
 13th \rightarrow $4 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$
 $= 4 \times 64$
 $= 256$ (2)



NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION
2022

PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Duration for Booklets A and B: 1 hour

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

Name: _____ ()

Class: Primary 6 ()

Booklet B / 23

Please sign and return the examination paper the next day. Any queries should be raised at the same time when returning paper.

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

16 Mr Ahmed had 2 bags of marbles. One of the bag contained 6 red marbles and 3 blue marbles. The other bag contained 2 red marbles and 4 yellow marbles. What fraction of the total marbles from both bags were red marbles?

$$\frac{\text{Red}}{\text{Total}} = \frac{6+2}{6+3+2+4} = \frac{8}{15}$$

(ans)

Ans: $\frac{8}{15}$

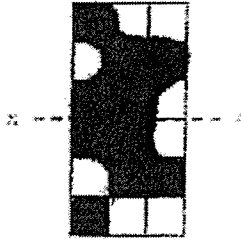
17 Find the value of $3.707 + 1.373$. Express the answer in litres and millilitres.

$$3.707 + 1.373 = 5.080$$

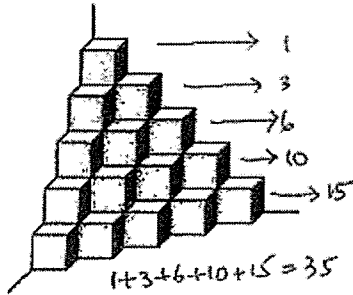
$$5.080 \text{ l} = \underline{5 \text{ l } 80 \text{ ml}} \text{ (ans)}$$

Ans: 5 l 80 ml

- 18 There are 6 shaded squares in the figure. Shade 6 more squares to form a symmetric figure with XY as the line of symmetry.



- 19 The solid below is made up of 1-cm cubes. What is the volume of the solid?



Ans: 35 cm³

2

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

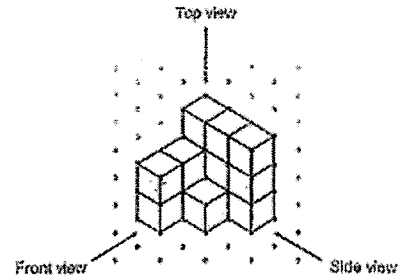
- 21 A faulty traffic light had its red light blinking every 2 seconds, its amber light blinking every 3 seconds and its green light blinking every 8 seconds. If all three lights blink now, how many seconds later will they all blink together again?

$$\begin{aligned} 2 &\rightarrow 2, 4, 6, 8, 10, \dots, 20, 22, \textcircled{24} \\ 3 &\rightarrow 3, 6, 9, 12, \dots, 18, 21, \textcircled{24} \\ 8 &\rightarrow 8, 16, \textcircled{24} \\ &\text{(ans)} \end{aligned}$$

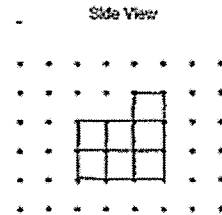
Ans: 24 s

4

- 20 Parvinder stacked 14 unit cubes and glued them together to form the solid below.



Draw the side view of the solid on the grid below.



3

- 22 Mr Urew paid \$78.59 for a pair of shoes and \$19.90 for a towel.

(a) How much did he spend altogether? Round the answer to the nearest dollar.

$$\begin{aligned} \$78.59 + \$19.90 &= \$98.49 \\ &\approx \$98 \text{ (ans)} \end{aligned}$$

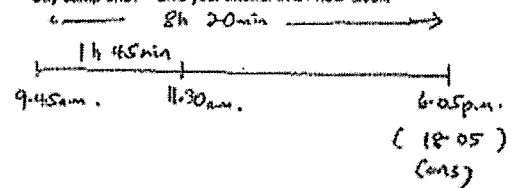
Ans: (a) \$ 98

(b) Find the cost of 30 such towels.

$$\begin{aligned} \$19.90 \times 30 &= \$19.90 \times 3 \times 10 \\ &= \$59.70 \times 10 \\ &= \$597 \text{ (ans)} \end{aligned}$$

Ans: (b) \$ 597

- 23 A day camp lasted 8 h 20 min. The day camp started 1 h 45 min before the snack break. Snack break was at 11.30 a.m. What time did the day camp end? Give your answer in 24-hour clock.



Ans: 18 05

5

- 24 In 2021, Maggie saved 20% of her monthly salary of \$3000 each month. In 2022, Maggie received an increase in her monthly salary and she saved \$180 more per month. What was the percentage increase in Maggie's monthly savings?

$$\frac{20}{100} \times 3000 = 600$$

$$\frac{180}{600} \times 100\% = 30\%$$

Ans: 30 %

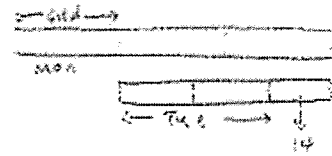
- 25 There were 1338 big buns and 7982 small buns in a factory. The buns were packed into bags. Each bag contained 1 big bun and 6 small buns. What was the greatest number of bags that could be packed?

$$7982 \div 6 = 1330 \text{ R } 2$$

$$\begin{array}{l} 1330 \text{ less than } 1338 \\ \downarrow \\ \text{(ans)} \end{array}$$

Ans: 1330

- 26 Mrs Chen sold $\frac{1}{3}$ of her apples on Monday. She sold $\frac{2}{3}$ of the remaining apples on Tuesday. Mrs Chen had 14 apples left after selling apples on Monday and Tuesday. How many apples did Mrs Chen have at first?



$$14 \times 3 = 42$$

$$42 \div 2 = 21$$

$$21 \times 3 = 63 \text{ (ans)}$$

Ans: 63

- 27 Mary had a roll of ribbon with a total length of 1 m. She cut off $\frac{1}{5}$ m of the ribbon. The remaining length of the ribbon was cut into shorter pieces of length $\frac{1}{8}$ m each. At most, how many pieces of $\frac{1}{8}$ m long ribbon did Mary have in the end?

$$1\text{m} - \frac{1}{5}\text{m} = \frac{4}{5}\text{m}$$

$$\frac{4}{5} \div \frac{1}{8} = \frac{4}{5} \times \frac{8}{1}$$

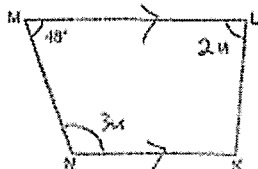
$$= \frac{32}{5}$$

$$= 6\frac{2}{5}$$

$$\text{At } 6 \text{ (ans)}$$

Ans: 6

- 28 In the figure below, KLMN is a trapezium and LM is parallel to KN. $\angle LMN = 48^\circ$ and $\angle MNK$ is $\frac{3}{2}$ times of $\angle MLK$. Find $\angle MLK$.



$$3x + 48 = 180$$

$$3x = 180 - 48$$

$$= 132$$

$$x = 132 \div 3$$

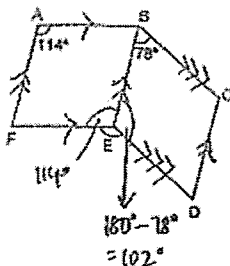
$$= 44$$

$$2u = 44 \times 2$$

$$= 88 \text{ (ans)}$$

Ans: 88

- 29 ABEF and BCDE are parallelograms. $\angle FAB = 114^\circ$ and $\angle EBC = 75^\circ$. Find $\angle DEF$.



$$180^\circ - 75^\circ = 105^\circ$$

$$105^\circ - 114^\circ = 102^\circ$$

$$360^\circ - 102^\circ - 114^\circ = 144^\circ \text{ (ans)}$$

Ans: 144

- 30 Pam Bakery uses m kg of sugar each month. Pam Bakery uses 30 kg more sugar than Sweet Bakery each month. If $m = 100$, how many kilograms of sugar do Pam Bakery and Sweet Bakery use in total for one year?

$$\text{Pam} \rightarrow m \text{ kg}$$

$$\text{Sweet} \rightarrow (m - 30) \text{ kg}$$

$$m + m - 30 = 2m - 30$$

$$= 2 \times 100 - 30$$

$$= 200 - 30$$

$$= 170$$

$$170 \times 12 = 2040 \text{ (ans)}$$

Ans: 2040 kg

End of Paper



NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION
2022

PRIMARY 6
MATHEMATICS
PAPER 2

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

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

Name: _____ ()

Class: Primary 6 ()

Parent's Signature: _____

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

Please sign and return the examination paper the next day. Any queries should be raised at the same time when returning paper.

3. Ji Min saved some money in April. She saved \$2.50 per day for 20 days. She then saved \$3.10 per day for the rest of the month. What was the average amount of money she saved per day in April? (There are 30 days in April)

$$20 \times 2.50 = 50$$

$$10 \times 3.10 = 31$$

$$50 + 31 = 81$$

$$81 \div 30 = 2.70$$

Ans: 2.70

4. Dana bought an oven from Shop A at 15% discount during a sale. The price of the oven was \$800 before discount at Shop A. Hailey bought an identical oven from Shop B at 20% discount and paid the same amount as Dana. What was the price of the oven before discount at Shop B?

$$\text{Dana paid} \rightarrow 85\% \times \$800$$

$$= \frac{85}{100} \times \$800$$

$$= \$680$$

After a discount of 20%,
Hailey paid 80% for \$680

$$\text{Price of shop B} \rightarrow \frac{100}{80} \times \$680 = \$850$$

Ans: \$ 850

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

1. The original price of a book was 3k. David bought 15 such books. After he was given a discount of \$10, he paid a total of \$110. What was the original price of one such book?

$$15k - 10 = 110$$

$$15k = 110 + 10$$

$$= 120$$

$$k = 120 \div 15$$

$$= 8$$

Ans: \$ 8

2. The table below shows the charges for renting a bicycle.

Days	Time	Charge
	7 a.m. to 6 p.m.	\$4 per hour
Mon to Fri	6 p.m. to 9 p.m.	\$8 per hour
Sat and Sun	7 a.m. to 9 p.m.	\$12 per hour

On Friday, Mr Wu rented a bicycle and returned it at 6 p.m. He paid a total of \$24. For how many hours did he rent the bicycle?

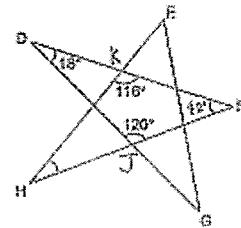
$$\$24 - \$8 = \$16 \quad (\$8 \rightarrow 1 \text{ h between 5 p.m. and 6 p.m.})$$

$$\$16 \div \$4 = 4 \quad (4 \text{ h before 5 p.m.})$$

$$1 + 4 = 5$$

Ans: 5 h

5. The figure is formed by 5 straight lines DF, EH, EG, FH and DG. Find $\angle EHF$.



$$\text{In } \triangle DFH, \angle DFH = 180^\circ - 120^\circ - 18^\circ$$

$$= 42^\circ$$

$$\text{In } \triangle KEH, \angle EHF = 180^\circ - 116^\circ - 42^\circ$$

$$= 22^\circ$$

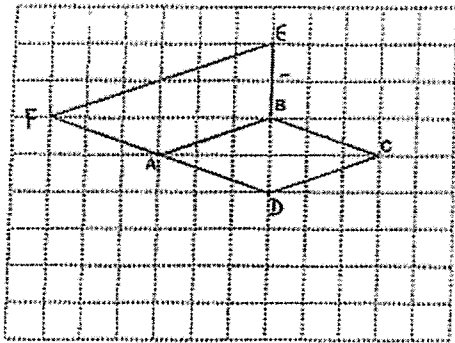
Ans: 22

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

6 In the square grid below, AB and BC are straight lines.

(a) AS and BC form two sides of a rhombus ABCD. Complete the drawing of the rhombus ABCD. (1)

(b) AB also forms one side of a trapezium ABEF. EF is parallel to AB. The length of EF is twice the length of AB. DAF forms a straight line and AD = AF. Complete the drawing of trapezium ABEF such that it does not overlap with the rhombus. (2)



8 Kira had a roll of blue paper and a roll of red paper. The length of the roll of blue paper is $\frac{1}{2}$ the length of the roll of red paper. She cut the roll of blue paper into equal parts of length 9 cm and on each part she drew 3 star shapes. After that, she cut the roll of red paper into equal parts of length 7 cm and on each part she drew 5 heart shapes. What fraction of the shapes Kira drew were star shapes?

Blue : Red
 Length 1 : 2
 $9 \times 7 = 2 \times (9 \times 7)$
 $63 = 126$
 $\div 9$
 Parts 7 : 18
 $\times 3$ $\times 5$
 Shapes 21 : 90

$$\frac{21}{21+90} = \frac{21}{111}$$

Ans: $\frac{21}{111}$ (3)

7 Peter had \$18.20 less than Jana at first. After Jana gave some of her money to Peter, he had \$23.20 more than her. How much money did Jana give to Peter?

$$\begin{aligned} \$18.20 + 2 \times 20 &= \$58.40 \\ \$58.40 - 2 &= \$23.20 \end{aligned}$$

Ans: \$23.70 (3)

9 Four towns A, B, C and D collected plastic bottles to be recycled. Town A and B collected an average of 324 plastic bottles. Town B, C and D collected an average of 344 plastic bottles. The total number of plastic bottles collected by all 4 towns was 8 times the number that town B collected. How many plastic bottles did town B collect?

$$\begin{aligned} A + B &= 2 \times 324 = 648 \\ B + C + D &= 3 \times 344 = 1032 \\ \Rightarrow A + B + B + C + D &= 648 + 1032 \\ &= 1680 \\ \Rightarrow A + B + C + D + B &= 6B \\ &= 6B + B \\ &= 7B \\ &= 1680 \\ B &= 1680 \div 7 \\ &= 240 \end{aligned}$$

Ans: 240 (3)

- 10 Mr Toh left Town B and drove to Town C at 11 a.m. at a constant speed of 60 km/h. Mr Lee left Town A at 12 noon and drove to Town C at a constant speed of 80 km/h. Town A and Town B were 15 km apart. After travelling from Town A to Town B, Mr Lee then travelled to Town C along the same route as Mr Toh. At what time did Mr Lee catch up with Mr Toh?



When Mr Lee left Town A at 12 noon,
Mr Toh would be a distance away
of :-

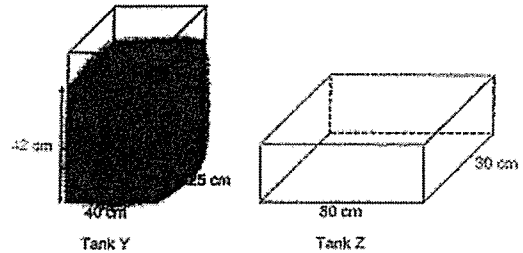
$$\begin{aligned}
 & 15 \text{ km} + (\text{Speed} \times \text{Time}) \\
 & = 15 \text{ km} + (60 \text{ km/h} \times 1 \text{ h}) \\
 & = 15 \text{ km} + 60 \text{ km} \\
 & = 75 \text{ km}
 \end{aligned}$$

Difference in their speed
 $80 \text{ km/h} - 60 \text{ km/h}$
 $= 20 \text{ km/h}$

Time need for Mr Lee to catch up :-
 $75 \text{ km} \div 20 \text{ km/h} = 3\frac{3}{4} \text{ h}$
 $3\frac{3}{4} \text{ h}$ after 12 noon is 3:45 p.m.
 Ans: 3:45 p.m. [1]

8

- 11 Tank Y and Tank Z are two rectangular tanks. At first, Tank Y contained some water to a height of 42 cm and Tank Z was empty.



- (a) What was the volume of the water in Tank Y at first?

$$40 \times 25 \times 42 = 42\,000$$

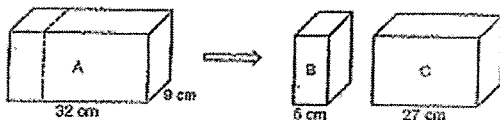
Ans: (a) $42\,000 \text{ cm}^3$ [1]

- (b) Kanisha poured some water from Tank Y into Tank Z. After that, Tank Y had $\frac{2}{5}$ as much water as Tank Z. Find the height of the water level in Tank Z.

Tank Y : Tank Z : Total
 $2 : 5 : 7$
 $7u \rightarrow 42\,000$
 $1u \rightarrow 42\,000 \div 7$
 $= 6\,000$
 Tank Z $\rightarrow 5u = 5 \times 6\,000$
 $= 30\,000$
 Height = Volume \div Base Area
 $= 30\,000 \div (80 \times 30)$
 $= 12.5$ Ans: (b) 12.5 cm [2]

9

- 12 A rectangular block A was cut along the dotted line into two smaller rectangular blocks of equal height, B and C, as shown below. The volume of block B was 4752 cm³ less than that of block C.



- (a) What was the height of each block?

$$\begin{aligned}
 27 - 5 &= 22 \\
 4752 \div (22 \times 9) &= 4752 \div 198 \\
 &= 24 \text{ cm (ans)}
 \end{aligned}$$

Ans: (a) 24 cm [2]

- (b) Mathias packed 12 of block C such that they fit exactly into a box with a square base. The box had the same height as block C. At most, how many of block B can be packed into such a box?

$$(27 \times 9) \times 12 = 2916$$

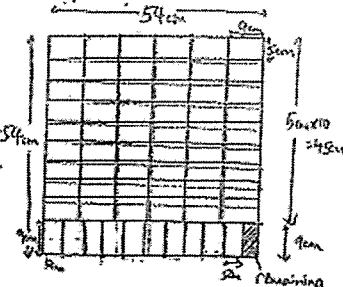
$$\sqrt{2916} = 54$$

$$9 \times 6 = 54$$

$$10 \times 1 = 10$$

$$54 \div 10 = 5.4$$

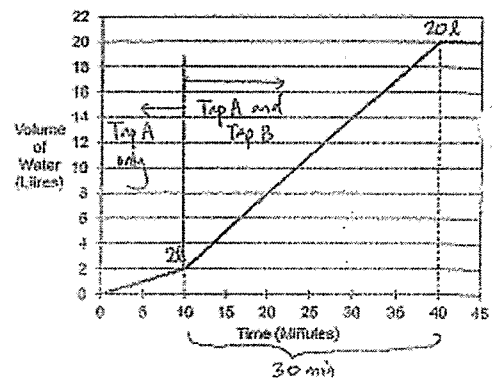
(ans)



Ans: (b) 64 [2]

10

- 13 Ji Eun filled a tank with water using two taps, Tap A and Tap B. She turned on Tap A first. After 10 minutes, she turned on Tap B. Both taps were turned off at the same time when the tank was completely filled. The graph below shows the amount of water in the tank over 45 minutes.



- (a) What was the capacity of the tank?

Tank filled from 40th minute.

Ans: (a) 20L [1]

- (b) How many litres of water flowed from Tap B per minute?

$$\text{Tap A} \rightarrow 2L \text{ in } 10 \text{ min}$$

$$\text{or } 6L \text{ in } 30 \text{ min}$$

$$\text{Tap A and Tap B} \rightarrow 18L \text{ in } 30 \text{ min}$$

$$\text{Tap B only in } 30 \text{ min} \rightarrow 18L - 6L = 12L$$

$$\text{Tap B} \rightarrow \frac{12L}{30 \text{ min}} = 0.4L/\text{min}$$

Ans: (b) 0.4L [2]

11

- 14 Mariam had some gold, some silver and some copper tokens for a carnival. The ratio of the number of gold tokens to the total number of silver and copper tokens was 10 : 9. The ratio of the number of silver tokens to the number of copper tokens was 3 : 1. She exchanged 12 gold tokens for a stuffed toy and some silver tokens for a jar of marbles. In the end, the ratio of the number of gold tokens to the number of copper tokens became 4 : 1 and the ratio of the number of silver tokens to the number of copper tokens became 4 : 3.

- (a) What was the ratio of the number of gold tokens to the number of silver tokens to the number of copper tokens Mariam had at first?

Before

G	S+C	S	C	Total
10	9	3	1	4
40	36	27	9	36

G : S : C
40 : 27 : 9

Ans: (a) 40 : 27 : 9 [1]

- (b) How many silver tokens did Mariam exchange for the jar of marbles?

After

G : C	S : C
4 : 1	4 : 3

Since no change for copper.

36 : 9 12 : 9
G : S : C
36 : 12 : 9

$40u - 36u = 4u$

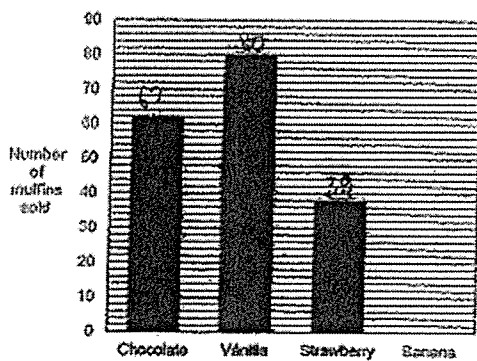
$4u \rightarrow 12$

$u \rightarrow 12 \div 4 = 3$

Ans: (b) 45 [2]

$27u - 12u = 15u$
 $15u \rightarrow 15 \times 3 = 45$

- 10 A shop sells four types of muffin. The bar graph shows the number of each type of muffin sold by the shop. The bar for the number of banana muffins sold has not been drawn. The number of banana muffins sold was $\frac{3}{5}$ the number of vanilla muffins sold.

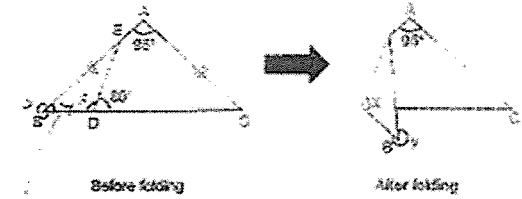


- (a) How many banana muffins were sold?

$\frac{3}{5} \times 80 = 48$

Ans: (a) 48 [1]

- 15 ABC is a triangular piece of paper with $AB = AC$. $\angle BAC = 95^\circ$. AED and BDC are straight lines. The paper is then folded along the line DE as shown below.



- (a) Find $\angle x$.

This is $\angle x$

$\angle x = 180^\circ - 80^\circ$
 $= 100^\circ$

Ans: (a) 100° [2]

- (b) Find $\angle y$.

$\angle ABC = (180^\circ - 95^\circ) \div 2$
 $= 42.5^\circ$

$\angle y = 360^\circ - 42.5^\circ$
 $= 317.5^\circ$

Ans: (b) 317.5° [2]

13

- (b) The table below shows the prices of the muffins.

Type of muffin	Price per muffin
Chocolate	\$0.85
Vanilla	\$0.70
Strawberry	\$1.35
Banana	\$1.20

From the sales of which type of muffin did the shop collect the most money? What was the amount of money?

Chocolate $\rightarrow 62 \times \$0.85 = \52.70

Vanilla $\rightarrow 80 \times \$0.70 = \56

Strawberry $\rightarrow 38 \times \$1.35 = \51.30

Banana $\rightarrow 48 \times \$1.20 = \57.60

Ans: (b) Muffin: Banana

Amount: \$57.60 [2]

- (c) Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) to indicate your answer.

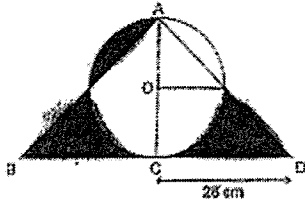
Statement	True	False	Not possible to tell
The number of chocolate muffins sold was 62.	✓		
The ratio of the number of strawberry muffins sold to the number of strawberry muffins left unsold was 3 : 2.		✓	
The shop sold 48 boxes of 5 muffins.		✓	

38 strawberry muffins sold.
38 is not divisible by 3.

$16 \times 5 = 230$

But total muffins sold were $62 + 80 + 38 + 48 = 228$.

- 17 The figure below is made up of a semicircle, 2 identical quarter circles and 2 identical right-angled isosceles triangles, ACB and ACD. CA = CB = CD. O is the centre of the circle. AOC and BCD are straight lines. Find the total area of the shaded parts. (Take $\pi = 3.14$)



$$\text{Area of Quarter Circle} \rightarrow \frac{1}{4} \times 3.14 \times 14 \times 14 = 153.86$$

$$\text{Area of small triangle} \rightarrow \frac{1}{2} \times 14 \times 14 = 98$$

$$\text{Area of half leaf} \rightarrow 153.86 - 98 = 55.86$$

$$\text{Area of big Triangle} \rightarrow \frac{1}{2} \times 28 \times 28 = 392$$

$$153.86 + 98 = 251.86$$

$$392 - 251.86 = 140.14$$

$$140.14 \times 2 = 280.28$$

$$\text{Area of shaded parts} \rightarrow 280.28 + 55.86 = 336.14$$

$$\text{Ans: } \underline{336.14 \text{ cm}^2} \quad (5)$$

End of Paper

PAYA LEBAR METHODIST GIRLS' SCHOOL (PRIMARY)

PRELIMINARY EXAMINATION, 2022

PRIMARY SIX

**MATHEMATICS
PAPER 1
(BOOKLET A)**

NAME : _____ ()

CLASS : P 6 _____

DATE : 19 August 2022

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

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

	Marks Obtained	/	Maximum Marks
PAPER 1(Booklet A)		/	20
PAPER 1(Booklet B)		/	25
PAPER 2		/	55
TOTAL		/	100

Parent's Signature: _____

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)

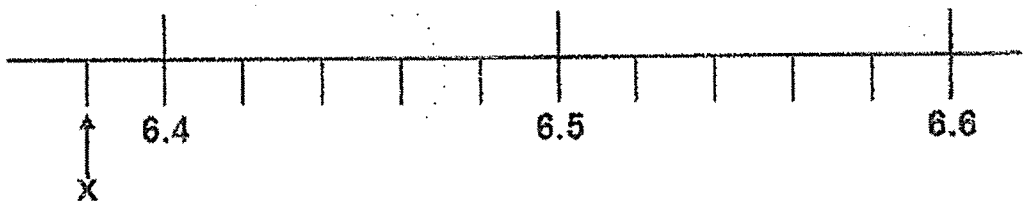
1. Which of the following is one hundred and four thousand and two in numerals?

- (1) 1 042 000
- (2) 104 002
- (3) 14 020
- (4) 10 042

2. Which of the following is the same as 3050.cm?

- (1) 0.305 m
- (2) 30.05 m
- (3) 30.5 m
- (4) 3.05 m

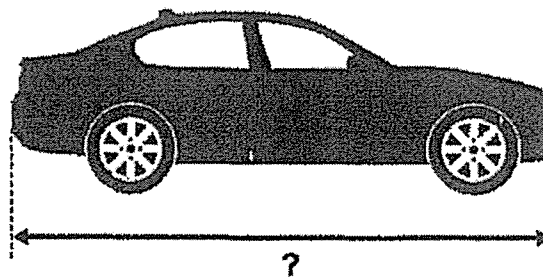
3. Part of a scale is shown below. What is the value of the reading at X?



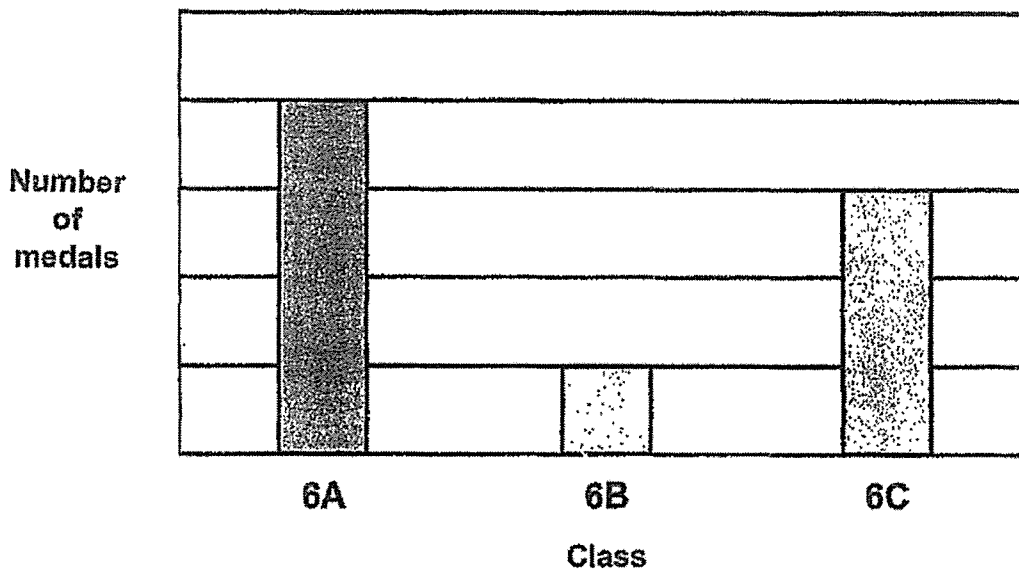
- (1) 6.39
- (2) 6.38
- (3) 6.34
- (4) 6.30

4. The diagram below shows a car.
Which of the following could be the length of the car?

- (1) 4.5 m
- (2) 4.5 km
- (3) 45 cm
- (4) 45 m



5. The bar graph below shows the number of medals won by 3 classes during a Sports Meet.

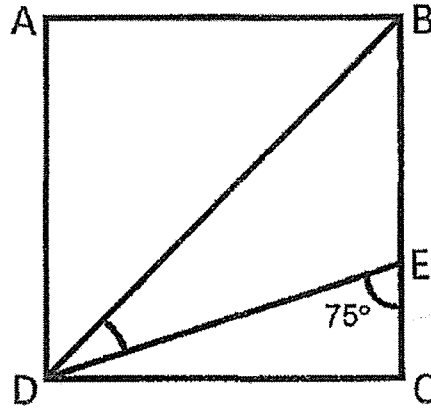


What percentage of the medals was won by Class 6B?

- (1) 12.5 %
- (2) 25 %
- (3) 35 %
- (4) 37.5 %

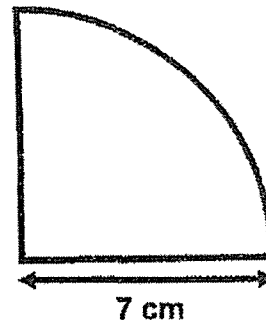
6. In the figure, ABCD is a square. DB and DE are straight lines.
 $\angle DEC = 75^\circ$. Find $\angle BDE$.

- (1) 15°
- (2) 20°
- (3) 30°
- (4) 45°



7. The shaded figure is a quarter circle of radius 7 cm.
What is the perimeter of the shaded figure? Take $\pi = \frac{22}{7}$

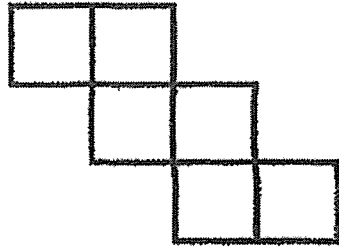
- (1) 18 cm
- (2) 25 cm
- (3) 36 cm
- (4) 58 cm



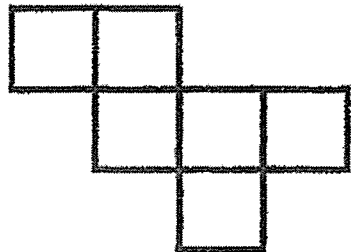
8. During a sale, a chair was sold at \$210. This was 30% less than the usual price of the chair. What was the usual price of the chair?
- (1) \$63
 - (2) \$147
 - (3) \$300
 - (4) \$700

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

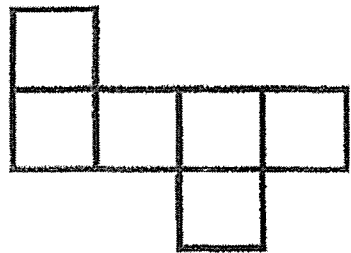
(1)



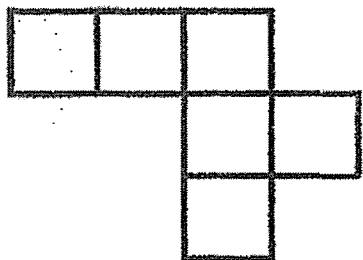
(2)



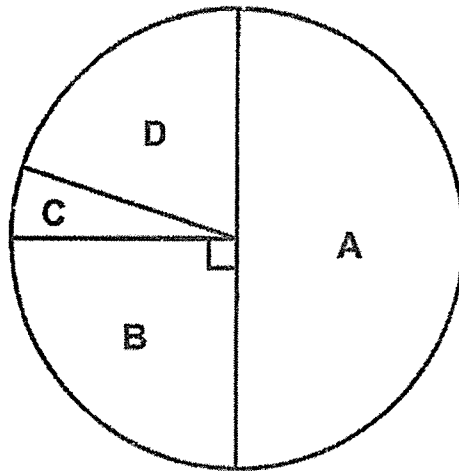
(3)



(4)

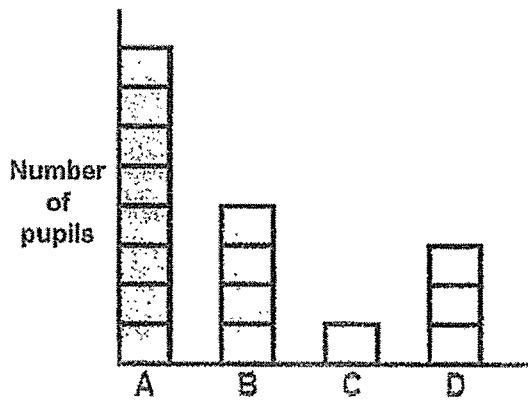


10. Some pupils were asked to choose one brand of pen from Brands A, B, C or D. The pie chart shows their choices. Half of the pupils chose Brand A.

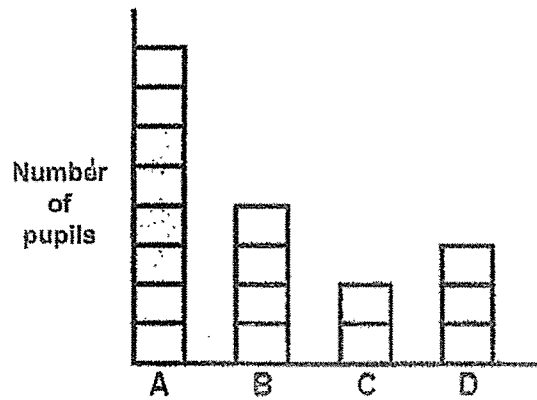


Which bar graph best represents the information in the pie chart above?

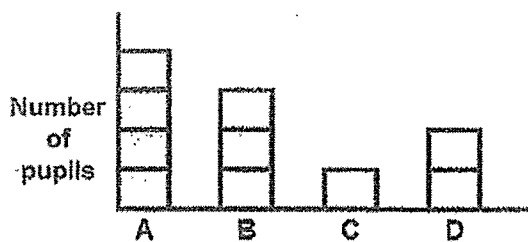
(1)



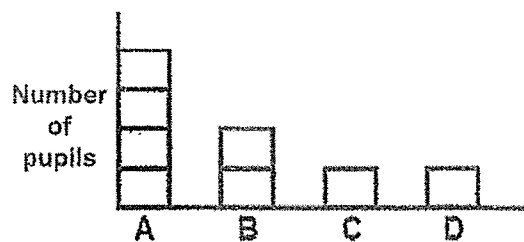
(2)



(3)



(4)



11. Mina has \$ p . She has half as much money as Siti. Linda has \$7 less than Siti. How much money does Linda have?

(1) $\$(2p - 7)$

(2) $\$(2p + 7)$

(3) $\$(\frac{p}{2} - 7)$

(4) $\$(\frac{p}{2} + 7)$

12. Participants of a quiz must obtain at least a certain score to win a prize. There were 90 participants and the table below shows the number of participants with the following scores.

Score	Number of Participants
20	4
22	10
24	13
25	27
28	9
29	20
30	7

$\frac{3}{10}$

30% of the participants won prizes. From the table, what was the highest score of a participant who did not win a prize?

(1) 29

(2) 28

(3) 25

(4) 24

13. Figure 1 shows a triangle with a perimeter of 25 cm. The shortest side of the triangle is 5 cm. Figure 2 is formed using 5 such triangles.

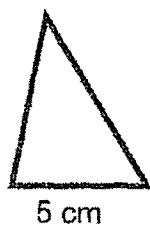


Figure 1

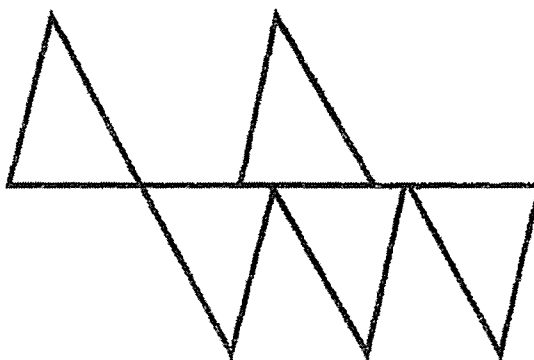


Figure 2

Find the perimeter of Figure 2.

- (1) 125 cm
 - (2) 120 cm
 - (3) 115 cm
 - (4) 110 cm
14. John had $5x$ packets of game cards. Each packet contained 7 game cards. After giving away 1 packet of game cards, how many game cards had he left?
- (1) $28x$
 - (2) $5x - 1$
 - (3) $35x - 1$
 - (4) $35x - 7$

15. A table with 4 columns is filled with numbers in a certain pattern. The first five rows of the table are shown below.

	Column A	Column B	Column C	Column D
Row 1	1		2	
Row 2		4		3
Row 3	5		6	
Row 4		8		7
Row 5	9		10	
⋮	⋮	⋮	⋮	⋮

In which column will the number 923 appear?

- (1) Column A
- (2) Column B
- (3) Column C
- (4) Column D

End of Booklet A

PAYA LEBAR METHODIST GIRLS' SCHOOL (PRIMARY)

PRELIMINARY EXAMINATION, 2022

PRIMARY SIX

**MATHEMATICS
PAPER 1
(BOOKLET B)**

NAME : _____ ()

CLASS : P 6 | _____

DATE : 19 August 2022

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all the instructions carefully.
3. Answer all questions.
4. You are not allowed to use a calculator.

	Marks Obtained	Maximum Marks
Booklet B	/	25

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

Do not write
in this space

16. Find the value of $(24 - 9 \div 3) \times 5$

Ans: _____

17. Find the value of $\frac{2}{3} \div 8$

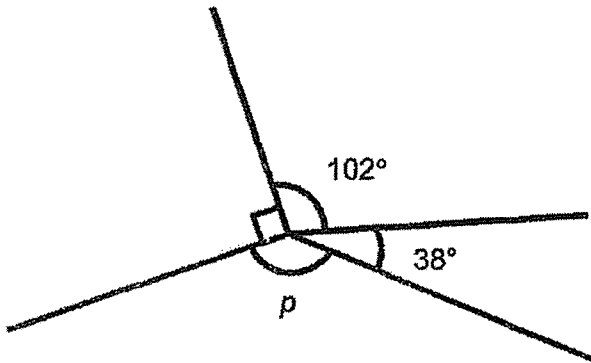
Give your answer as a fraction in the simplest form.

Ans: _____

18. Shawn left his home at 5.50 a.m. and travelled for $1\frac{1}{4}$ h to reach his school.
What time did Shawn reach his school?

Ans: _____ a.m.

19. Find $\angle p$ in the figure below.



Do not write
in this space

Ans: _____^o

20. In a school hall, the number of girls was 40% less than the number of boys. There were 408 children altogether. How many girls were there in the hall?

Ans: _____

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

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21. Find the value of

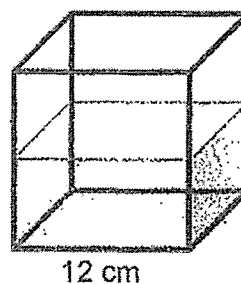
(a) $\frac{7}{8} \frac{2}{3}$

Ans: (a) _____

(b) $5m - 9 - m + 2m + 12$

Ans: (b) _____

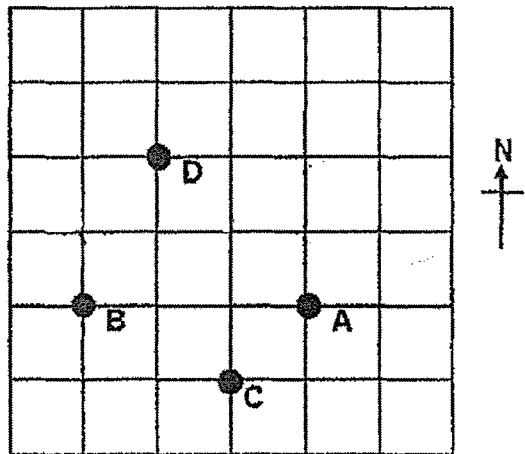
22. In the diagram below, the cubical tank is half filled with water. What is the volume of the water in the tank? Give your answer in litres.



Ans: _____ ℓ

23. The square grid shows the positions of points A, B, C and D.

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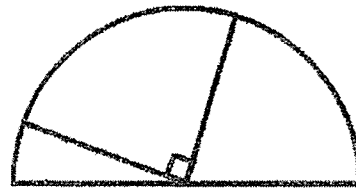


(a) Ravi walked directly from point A to point B in a straight line.
In which direction did Ravi walk?

Ans: (a) _____

(b) Jane was standing at a location south-east of point D and north of point C.
Mark Jane's position on the square grid with an X.

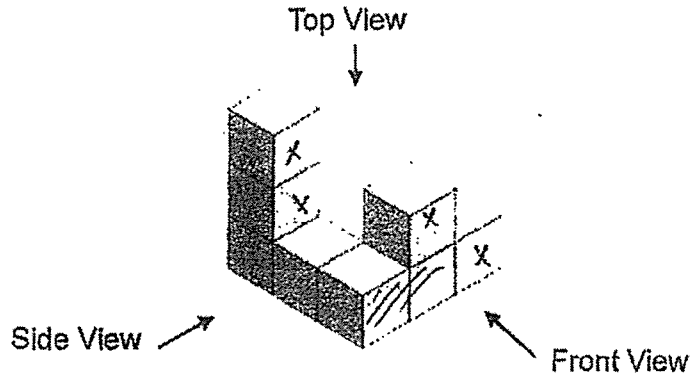
24. The figure below is made up of a semicircle and a quarter circle, both of radius 10 cm. Find the area of the shaded part. Take $\pi = 3.14$.



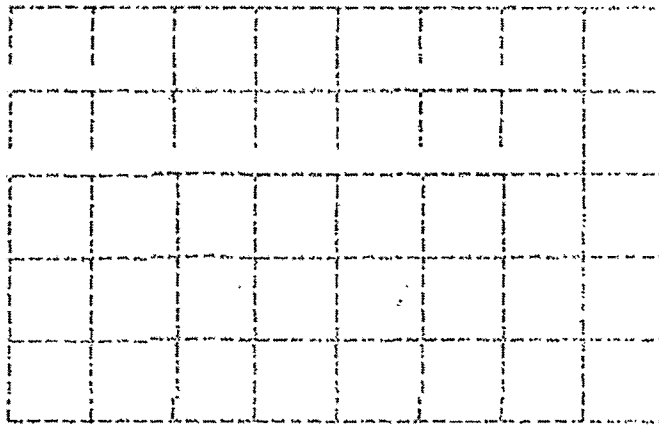
Ans: _____ cm²

25. 8 identical cubes are stacked to form the following solid.

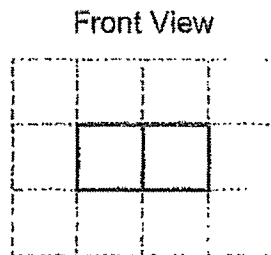
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(a) Draw the top view of the solid in the square grid below.



(b) Find the **least** number of cubes that can be removed from the above solid such that the new solid has the following front view:



Ans: (b) _____



Do not write
in this space

26. Norman's daily allowances for a particular week are shown in the table below.

Day	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Amount (\$)	8	10	8	5	6	5	0

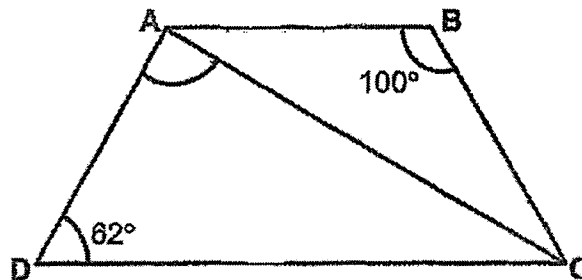
Find his average daily allowance for the week.

Ans: \$ _____

27. ABCD is a trapezium. AB is parallel to DC. AB = BC.

$\angle ABC = 100^\circ$ and $\angle ADC = 62^\circ$.

Find $\angle CAD$.

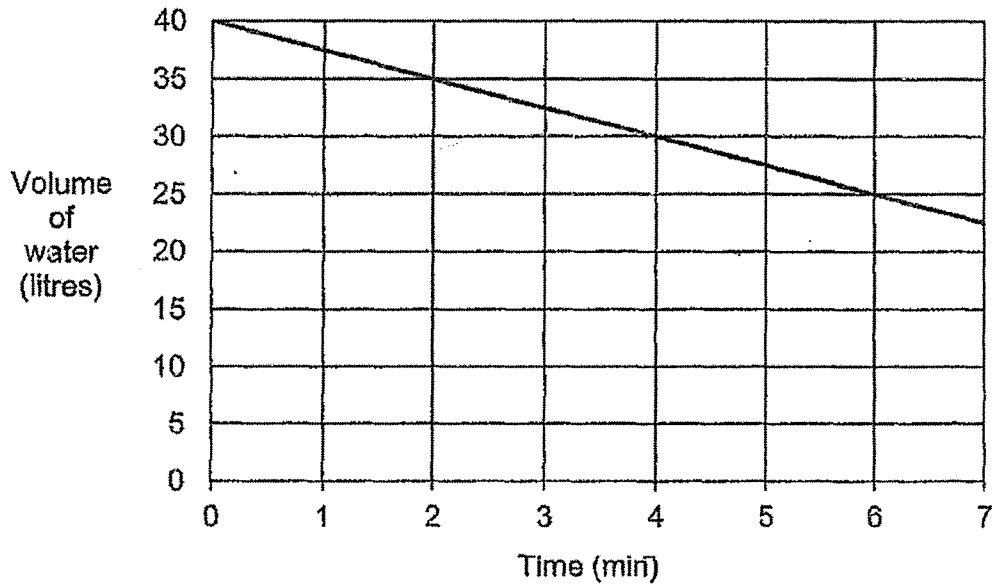


Ans: _____ °

28. A tank, which was completely filled with water at first, started leaking. Water flowed out of the tank until it was completely emptied.

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in this space

The line graph shows the volume of water in the tank during the first 7 minutes.



At this rate, how long did it take to empty the tank?

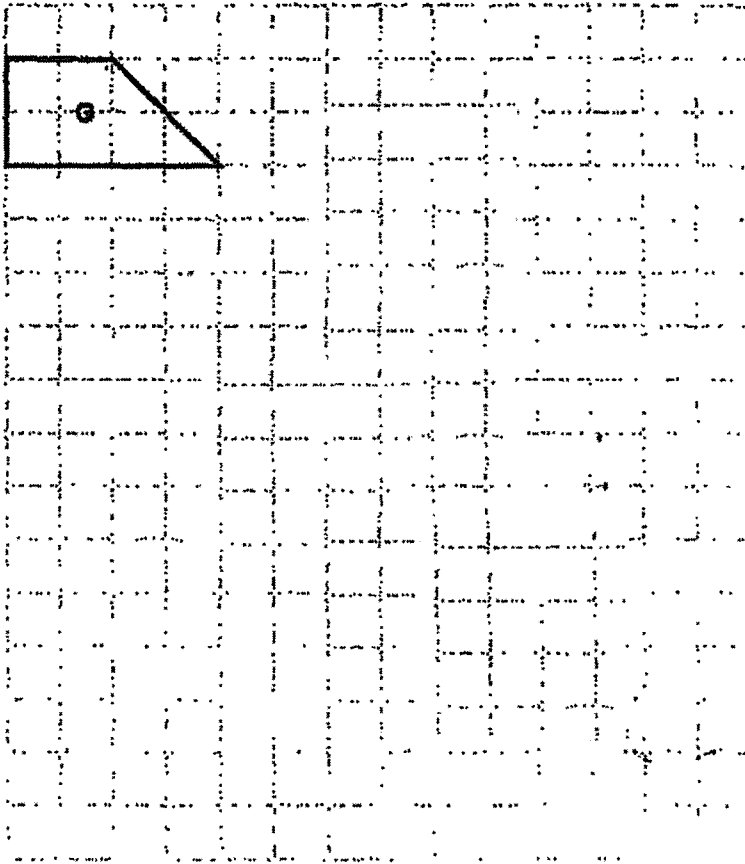
Ans: _____ min

Do not write
in this space

29. A trapezium **G** is drawn by joining dots on the square grid below with four straight lines. In the same way,


(a) draw a rectangle with the same area as **G**. Label the rectangle **R**.

(b) draw a parallelogram with the same perimeter as **G**.
Label the parallelogram **P**.



Do not write
in this space

30. A box contained red, blue, yellow and green beads. The table below provides information about the number of each type of beads. The number of red beads was covered by an ink blot.

Colour	Number of Beads
Red	
Blue	10 %
Yellow	$\frac{1}{5}$
Green	More than 30%

Each statement below is either true, false or not possible to tell from the information given above. For each statement, put a tick (✓) to indicate your answer.

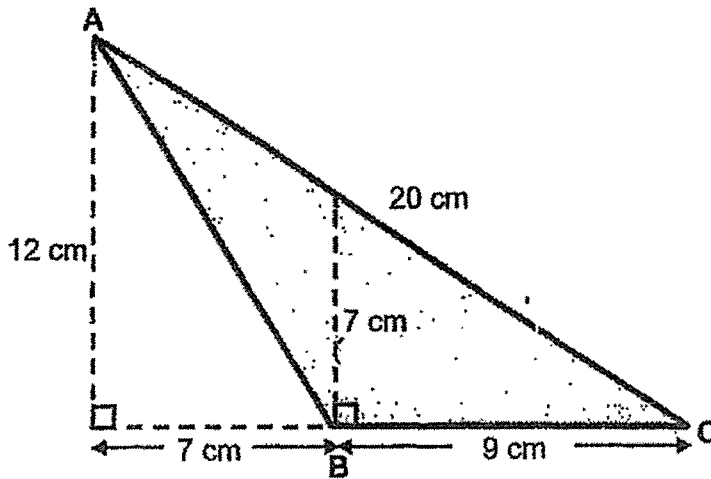
Statement	True	False	Not possible to tell
There are 105 beads in the box altogether.			
40% of the beads are red.			
There are more red beads than green beads.			

End of Booklet 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)

Do not write in this space

1. Find the area of Triangle ABC.

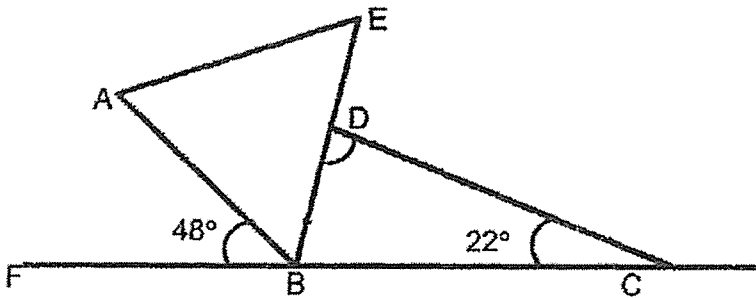


Ans: _____ cm²

2. The total cost of a handphone and a laptop is \$1185. The handphone costs $\frac{2}{3}$ as much as the laptop. What is the cost of the handphone?

Ans: \$ _____

3. AEB is an equilateral triangle and FBC is a straight line. Find $\angle BDC$.



Ans: _____ °

Do not write
in this space

4. The sum of three different 3-digit numbers is 375. The smallest number is 120. What is the biggest possible difference between the other two numbers?

Ans: _____

5. The table below shows how Aaron, Bernice and Charlotte shared the cost of a present for their mother. They paid a total of \$170 for the present.

Child	Amount (\$)
Aaron	$4m$
Bernice	$2m + 3$
Charlotte	$m - 1$

Find the value of m .

Ans: _____

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

Do not write in this space

6. Muthu cycled from point A to point B at 375 m/min. Then, he used the same amount of time to cycle from point B to point C. What was his average speed for the entire journey? Express your answer in m/min.



Ans: 375 m/min [3]

7. The participants of a run were divided equally into Group A and Group B. The ratio of the number of boys to the number of girls was 1 : 2 in Group A and 4 : 3 in Group B. A total of 345 girls took part in the run. How many more boys were there in Group B than in Group A?

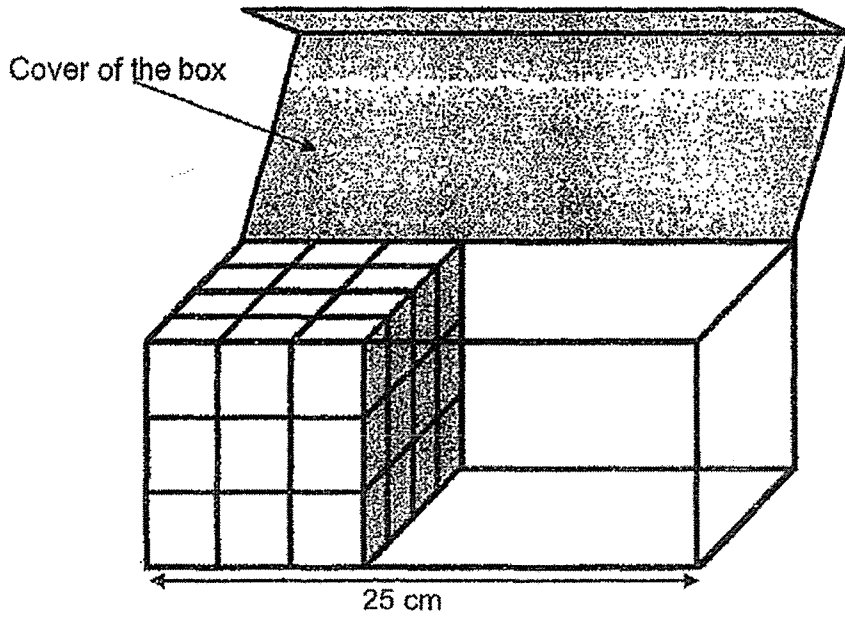
Do not write
in this space

Ans: _____ [3]



8. Amy packed some 3-cm cubes into a box shown below. She wanted to fill the remaining space with as many 2-cm cubes as possible and still be able to close the cover of the box. How many 2-cm cubes would she need?

Do not write
in this space



Ans: _____ [3]



9. The actual average income of a group of adults was \$3150. When Ms Tan recorded the income of these adults, she wrongly keyed in one adult's income as \$2400 when it should have been \$4200. As a result, Ms Tan calculated the average income as \$3100. How many adults were there in the group?

Do not write
in this space

Ans: _____ [3]

10. At first, Mr Ahmad had a total of 600 bowls and plates in his shop.

He sold $\frac{3}{5}$ of the bowls and 124 plates. After that, Mr Ahmad had thrice as many bowls as plates in his shop.

- (a) What was the ratio of the number of bowls sold to the number of bowls left in Mr Ahmad's shop? Express your answer in its simplest form.

Ans: (a) _____ [1]

- (b) How many plates and bowls did he sell altogether?

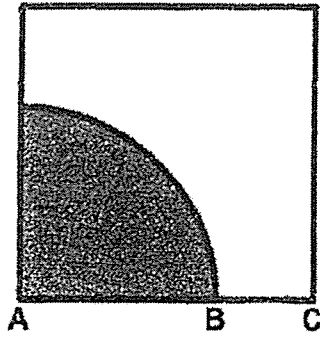
Ans: (b) _____ [3]

Do not write
in this space



11. The figure is made up of a square and a quarter circle.
The ratio of the length of AB to the length of AC is 2 : 3.

Do not write
in this space



- (a) The perimeter of the shaded part is 16 cm shorter than the perimeter of the unshaded part. What is the length of AC?

Ans: (a) _____ [1]

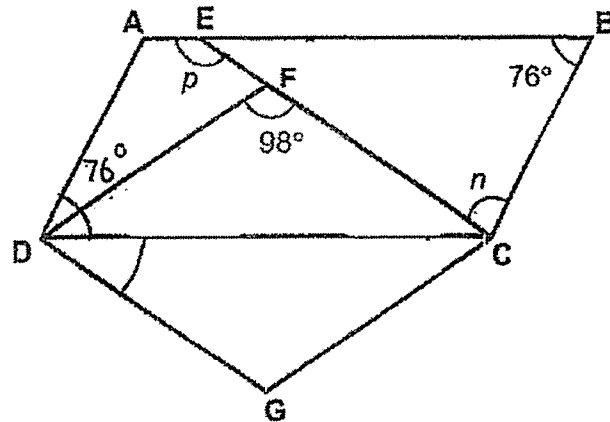
- (b) What percentage of the square is shaded? Round your answer to 2 decimal places. Take $\pi = 3.14$

Ans: (b) _____ [3]



12. ABCD is a parallelogram and DFCG is a rhombus. EFC is a straight line.

Do not write in this space



(a) Find $\angle n$.

Ans: (a) _____ [2]

(b) Find $\angle p$.

Ans: (b) _____ [1]

(c) Circle the word that describes triangle BCE.

Triangle BCE (is / is not) an isosceles triangle. [1]



13. Sue had $\frac{2}{3}$ as many stickers as Peggy. Esther had 12 more stickers than Sue. After Peggy gave 40 stickers to Sue and some stickers to Esther, all three girls had the same number of stickers.

Do not write
in this space

(a) How many stickers did Peggy give to Esther?

Ans: (a) _____ [1]

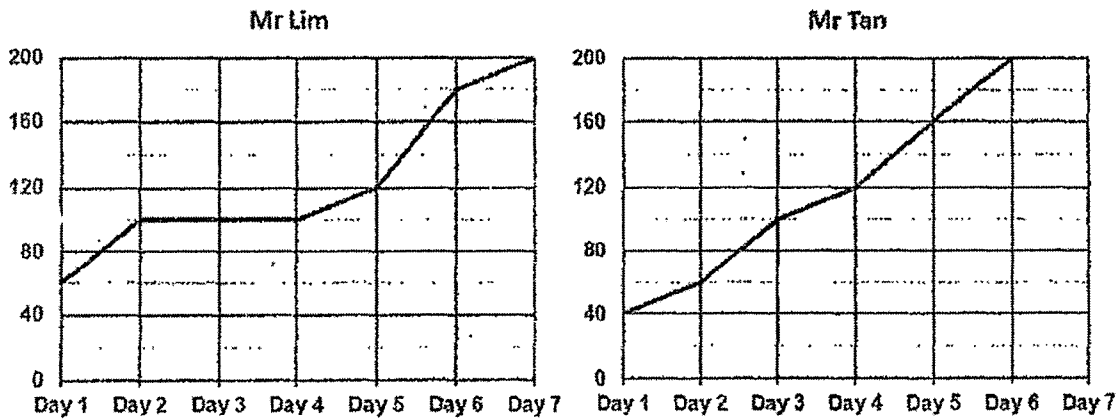
(b) How many stickers did the three girls have altogether?

Ans: (b) _____ [3]



14. Mr Lim and Mr Tan each had 200 identical pots to sell. Both started selling the pots on the same day. The line graphs show the total number of pots sold by them by the end of each day.

Do not write in this space



(a) Who took fewer days to sell half of his pots?

Ans: (a) _____ [1]

(b) How many pots did Mr Lim sell on Day 6?

Ans: (b) _____ [1]

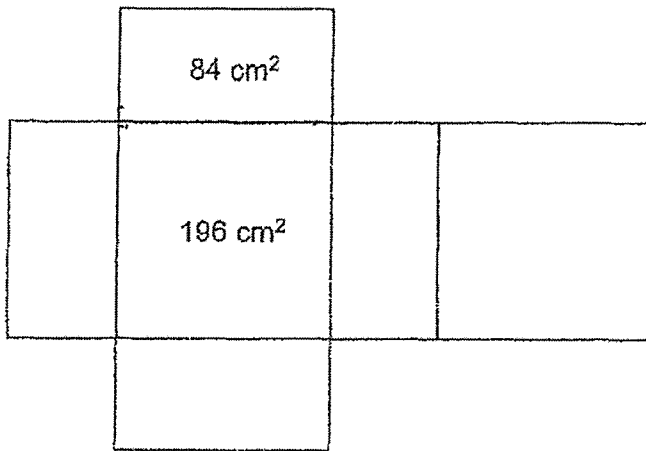
(c) The original price of each pot was \$70. On the day when Mr Tan had sold 80% of his pots, Mr Lim decided to offer a 15% discount for his remaining pots. How much did Mr Lim collect from the sale of these remaining pots?

Ans: (c) _____ [2]



15. The figure below shows the net of a solid with a square base. The area of one of its rectangular faces is 84 cm^2 and the area of one of its square faces is 196 cm^2 .

Do not write
in this space



- (a) Name the solid.

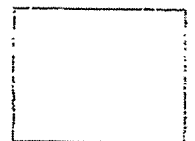
Ans: (a) _____ [1]

- (b) Find the volume of the solid.

Ans: (b) _____ [2]

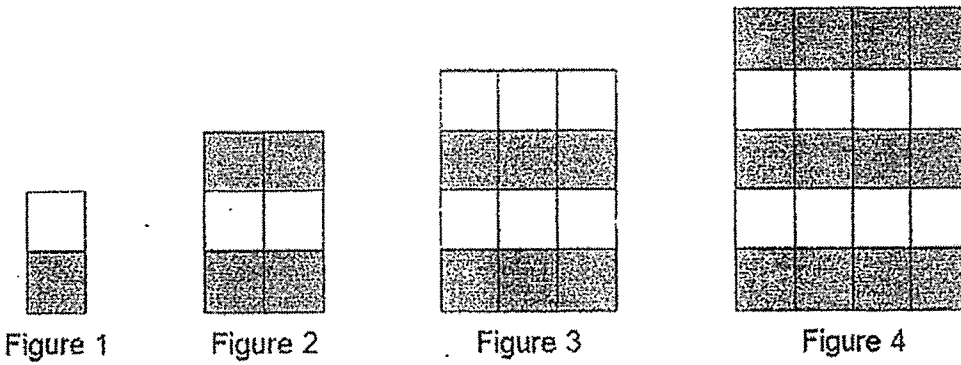
- (c) John took 5 of the above solid and stacked them one on top of another. What was the greatest possible height of the new solid formed?

Ans: (c) _____ [1]



16. The first four figures of a pattern are shown below.

Do not write
in this space



The table below shows the number of squares used for each figure.

Figure Number	Number of grey squares	Number of white squares	Total number of squares
1	1	1	2
2	4	2	6
3	6	6	12
4	12	8	20
5	(a) _____	(a) _____	30

[1]

(a) Fill in the numbers for Figure 5.

(b) How many white squares are there in Figure 15?

Ans: (b) _____ [2]

Continue Q16 on the next page.

(c) How many grey squares are there in Figure 80?

Do not write
in this space

Ans: (c) _____ [2]



17. Lily and Megan had an equal number of coins.

Lily had equal number of fifty-cent coins and twenty-cent coins. $\frac{1}{4}$ of Megan's coins were fifty-cent coins and the rest of her coins were twenty-cent coins. Lily had \$13.50 more than Megan.

(a) How many coins did each girl have?

Ans: (a) _____ [2]

(b) Megan decided to exchange all her twenty-cent coins for fifty-cent coins of the same value. What was the percentage increase in her number of fifty-cent coins?

Ans: (b) _____ [2]

Do not write
in this space



End of Paper 2

SCHOOL : Paya Lebar Methodist Girls
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2022 Prelim

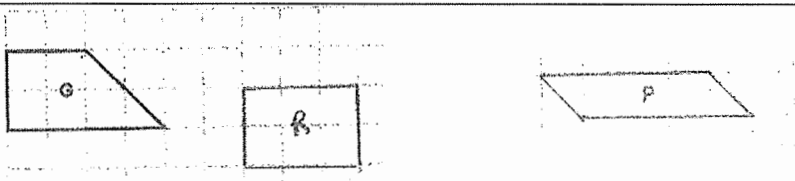
PAPER 1 BOOKLET A

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

Q 11	Q12	Q13	Q14	Q15
1	2	3	4	4

PAPER 1 BOOKLET B

Q16)	$(24 - 9 \div 3) \times 5 = (24 - 3) \times 5 = 21 \times 5 = 105$
Q17)	$2/3 \div 8 = 2/3 \times 1/8 = 1/12$
Q18)	7.05 am
Q19)	Angle P = $360^\circ - (90^\circ + 102^\circ + 38^\circ) = 130^\circ$
Q20)	$408 \div 16 = 25.5$ Number of girls = $25.5 \times 6 = 153$
Q21)	a) $7/8 - 2/3 = 21/24 - 16/24 = 5/24$ b) $5m - 9 - m + 2m + 12 = 6m + 3$
Q22)	$12 \times 12 \times 6 = 864 \text{ cm}^3$ $864 \text{ cm}^3 = 0.864 \text{ L}$
Q23)	a) North-west b) X lies one right, one unit down of D
Q24)	Shaded area = $10 \times 10 \times \frac{1}{2} \times 3.14 = 157 \text{ cm}^2$
Q25)	a) S S SSSSSS b) 4
Q26)	Average = $(8 + 10 + 8 + 5 + 6 + 5 + 0) \div 7 = 42 \div 7 = 6$
Q27)	Angle BAC = $(180 - 100) \div 2 = 40$ Angle DAB = $180 - 62 = 118$

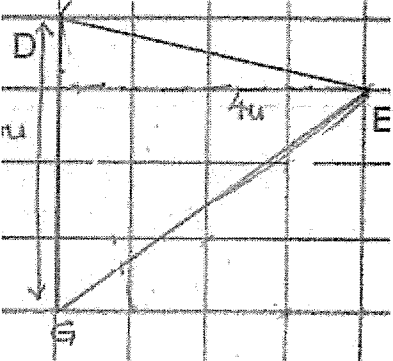
	Angle CAD = $118 - 40 = 78$
Q28)	Every 2 mins, 5 litres of water flows out of the tank $40 \% 5 = 8$ $8 \times 2 = 16$ minutes
Q29)	
Q30)	a) False b) False c) Not possible to tell

PAPER 2

Q1)	Area of ABC = $\frac{1}{2} \times 12 \times 9 = 54 \text{ cm}^2$
Q2)	$\$1185 \div 5 = \237 $\$237 \times 2 = \474
Q3)	$48^\circ + 60^\circ = 108^\circ$ $108^\circ - 22^\circ = 86^\circ$
Q4)	$875 - 120 = 255$ $255 - 121 = 134$ $134 - 121 = 13$
Q5)	$170 = 4m + m - 1 + 2m + 3$ $= 7m + 2$ $7m = 168$ $M = 24$
Q6)	$4.5 \text{ km} \div 375 = 12 \text{ min}$ $3 \text{ km} \div 12 = 250 \text{ m/min}$ Average speed = $(250 + 375) / 2 = 312.5 \text{ m/min}$
Q7)	A B G:B G:B 2:1 3:4 14:7 9:12 $345 = (14+9)u = 23u$ $U = 15$ $5u = 75$
Q8)	$25 - 9 = 16$ $16/2 = 8$ $12/2 = 6$

	$9/2 = 4 R 1$ $8 \times 6 \times 4 = 192$
Q9)	$4200 - 2400 = 1800$ $3150 - 3100 = 50$ $1800 \div 50 = 36$
Q10)	<p>a) $5x + (U + 124) = 600$ $2x + u = 476 - 3x$ $3u + u = 476 - 4.5u$ $8.5u = 476$ $U = 56$ $3x = 4.5u = 252$ $252 : 168$ $3 : 2$</p> <p>b) $252 + 124 = 376$</p>
Q11)	<p>a) $16 = (6u + 2u) - 4u$ $= 4u$ $U = 4$ $AC = 3u = 12 \text{ cm}$</p> <p>b) Shaded area = $1/4 \times 8 \times 8 \times 3.14 = 50.24$ Square = $12 \times 12 = 144$ Percentage shaded = $50.24 / 144 \times 100\% = 34.9\%$</p>
Q12)	<p>A) $(180 - 98) / 2 = 41$ Angle n = $(180 - 76) - 41 = 63$</p> <p>b) angle p = $76 + 63 = 139$ c) is not</p>
Q13)	<p>a) $40 - 12 = 28$ b) $1u = 40 + 28 + 40 = 108$ $7u = 108 \times 7 = 756$ $756 + 12 = 768$</p>
Q14)	<p>a) Mr Lim b) $180 - 120 = 60$ c) $80 / 100 \times 200 = 160$ $200 - 120 = 80$ $85\% \times 70 = 59.50$ $59.50 \times 86 = \\$4760$</p>
Q15)	<p>a) Cuboid b) $14 \times 14 \times 6 = 1176 \text{ cm}^3$ c) $14 \times 5 = 70 \text{ cm}$</p>
Q16)	a) 20, 15

	b) Total = $15 \times 16 = 240$ $240 \div 2 = 120$
Q17)	Grey Square $\rightarrow 3200 + 80 = 3280$ White $\rightarrow 6480 - 80 = 6400$ $6400 \div 2 = 3200$ Total $\rightarrow 80 \times 81 = 6480$

Q1)	$\text{Area of } ABC = \frac{1}{2} \times 12 \times 9 = 54 \text{ cm}^2$
Q2)	$\frac{28}{4} = 7 \text{ cm}$ $\frac{1}{2} \times \frac{32}{7} \times 14 = 22 \text{ cm}$ $\frac{1}{4} \times \frac{22}{7} \times 14 = 18$ $\text{perimeter} = 86 \text{ cm}$
Q3)	$100\% = 40$ $120\% = 48$
Q4)	$18 \times 3 = 54 \text{ cm}$ $4u = 48 \text{ cm}$ $1u = 12 \text{ cm}$
Q5)	
Q6)	(a) $QTS = 180^\circ - 37^\circ - 37^\circ = 106^\circ$ $PTQ = 180^\circ - 106^\circ = 74^\circ$ $PQT = 180^\circ - 74^\circ - 39^\circ = 67^\circ$ $SQR = 180^\circ - 67^\circ - 37^\circ = 76^\circ$ $QSR = 180^\circ - 76^\circ - 66^\circ = 38^\circ$ (b) is not & is not
Q7)	$\frac{1}{2} \times 3.14 \times 5 \times 5 = 39.25 \text{ cm}^2$ $\frac{1}{4} \times 3.14 \times 20 \times 20 = 314 \text{ cm}^2$ $314 - 39.25 - 39.25 = 235.5 \text{ cm}^2$

<p>Q8)</p> <ul style="list-style-type: none"> - Not possible to tell - False - True 	$b = \frac{1}{2} \text{ of area of } x$ $\text{area of } x = 5 \times 2 = 10$ $\text{area of } c = 5 - 1 = 4$
	<p>Q9)</p> $\frac{1}{4} \times \frac{22}{7} \times 14 = 11\text{cm}$ $11 + 7 = 18\text{cm}$ $125 - 11 = 114$ $114 - 21 - 21 = 72\text{cm}$ $\frac{72}{2} = 36\text{cm}$
	<p>Q10)</p> $\frac{1}{2} \times \frac{3}{14} \times 8 \times 8 = 110.48\text{cm}^2$ $(16 \times 16) \times 2 = 512\text{cm}^2$ $16 \times 8 = 128\text{cm}^2$ $\text{total} = 128 + 100.48 + 100.48 + 512 = 840.96\text{cm}^2$
<p>Q11) (a) $10u = \\$2000$</p> <p>(b) <i>March transport</i> = $\frac{10}{100} \times 2000 = \\200</p> <p><i>shopping</i> = $\frac{60}{100} \times 2000 = \\1200</p> <p><i>food</i> = $\\$2000 - \\$1200 - \\$200 = \\600</p> <p><i>April transport</i> = $\\$200$</p> <p><i>shopping</i> = $\frac{90}{100} \times \\$1200 = \\1080</p> <p>80% = $\\$1080 + \\$200 = \\$1280$</p> <p>100% = $\\$16 \times 100 = \\1600</p>	$3u = \$600$
<p>Q12) (a) $60 \div 5 = 15$</p> <p>(b) $23 \div 2 = 11.5$</p>	$15 \times 2 = 30\text{cm}$ $4 \div 2 = 2$ $5 \div 2 = 2.5$ $11 \times 2 \times 2 = 44$
<p>Q13) (a) <i>AOB</i></p> <p>(b) <i>OBA</i> = $(180 - 90) \div 2 = 45$</p> <p>(C) <i>BOC</i> = $180 - 58 - 58 = 64$</p>	$OBC = 58$ $ABC = 58 - 45 = 13$ $AOC = 90 - 64 = 26$

Q14)

$$\begin{aligned} \text{choco left} &= \frac{1}{6} \text{ of } \frac{3}{4} = \frac{1}{8} \\ \text{butter left} &= \frac{1}{5} - \frac{1}{8} = \frac{3}{40} \\ \text{butter sold} &= \frac{1}{4} - \frac{3}{40} = \frac{7}{40} \\ \frac{7}{40} &= 105 \\ \frac{1}{40} &= 15 \\ \frac{40}{40} &= 600 \end{aligned}$$

Q15) (a) $m:w = 23:5$

$$\begin{aligned} 23u &= 46 \\ 1u &= 46 \div 23 = 2 \\ 8u &= 16 \end{aligned}$$

(b) $\frac{1}{3}$ of $M = 16$

$$\begin{aligned} \text{men} &= 16 \times 3 = 48 \\ 4u &= 48 \\ 3u &= 36 \end{aligned}$$

Q16) (a) jerry had 6 more kaya buns = $6 \times 50\text{cents} = 300\text{cents}$

$$\text{total diff} = 300\text{cents} + 90\text{cents} = 390\text{cents}$$

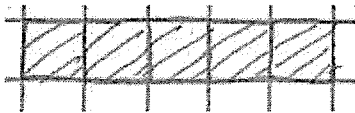
$$\text{per diff} = 80\text{cents} - 50\text{cents} = 30\text{cents}$$

$$\text{no. of buns} = 390\text{cents} \div 30\text{cents} = 13$$

(b) jerry = $13 + 6 = 19$

$$\text{cost} = 19 \times 50\text{cents} = \$9.50$$

Q17) (a) $P = 3 \times 4 = 12\text{cm}$



(b)

(c) largest area = $7 \times 8 = 56\text{cm}^2$



RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2022 PRELIMINARY ASSESSMENT

MATHEMATICS PAPER 1

Name : _____ ()

Class : Primary 6 / _____

Date : 19 August 2022

BOOKLET A

15 Questions

20 Marks

Duration of Paper 1 (Booklets A & B): 1 hour

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)

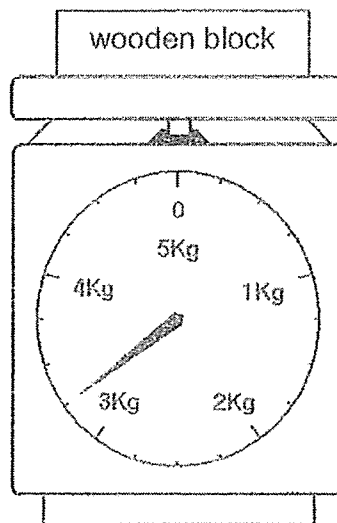
1 Which of the following is fifty-six thousand and three in numerals?

- (1) 5603
- (2) 56 003
- (3) 560 003
- (4) 5 600 003

2 Round off 83.569 to the nearest tenth.

- (1) 80
- (2) 84
- (3) 83.6
- (4) 83.57

3 What is the mass of the wooden block below?

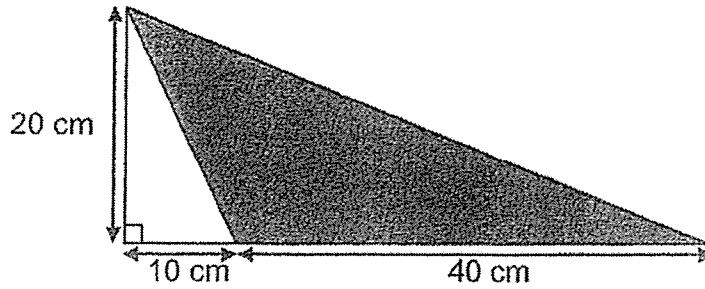


- (1) 3 kg 150 g
- (2) 3 kg 200 g
- (3) 3 kg 250 g
- (4) 3 kg 300 g

4 Express 70 km 8 m in metres.

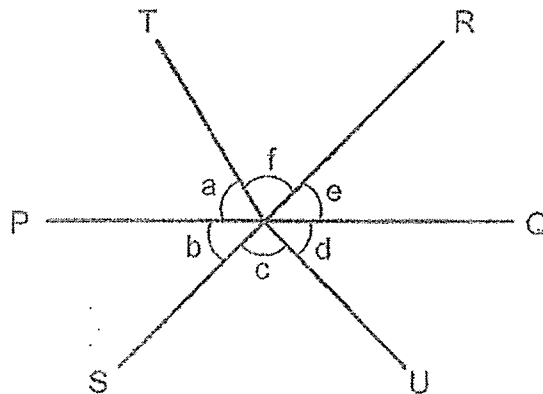
- (1) 708 m
- (2) 7008 m
- (3) 70 008 m
- (4) 700 008 m

5 What is the area of the shaded triangle?



- (1) 100 cm^2
- (2) 400 cm^2
- (3) 500 cm^2
- (4) 800 cm^2

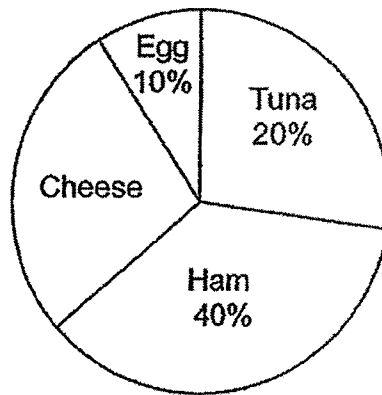
6 In the figure, PQ and RS are straight lines.



Which one of the following is true?

- (1) $\angle a = \angle d$
- (2) $\angle b = \angle e$
- (3) $\angle a + \angle b = \angle e + \angle d$
- (4) $\angle b + \angle c = \angle e + \angle f$

- 7 The pie chart shows the different types of sandwiches sold at a stall.



What is the ratio of the number of tuna sandwiches sold to the number of cheese sandwiches sold?

- (1) 2 : 3
 - (2) 3 : 2
 - (3) 4 : 5
 - (4) 5 : 4
- 8 Find the value of $9c - 3 + 2c$ when $c = 7$.
- (1) 28
 - (2) 46
 - (3) 67
 - (4) 74
- 9 Which one of the following fractions is the largest?

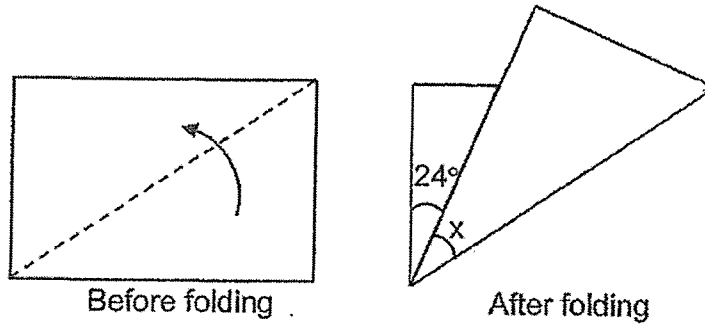
(1) $\frac{2}{3}$

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

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

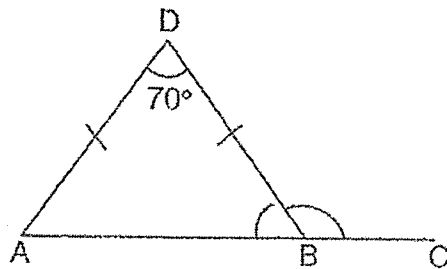
(4) $\frac{5}{8}$

- 10 Vinush has a rectangular piece of paper. He folded it along the dotted line as shown below.



Find $\angle x$.

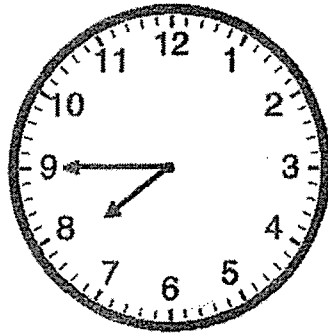
- (1) 21°
 - (2) 33°
 - (3) 42°
 - (4) 66°
- 11 ABC is a straight line and ABD is an isosceles triangle. $\angle ADB = 70^\circ$ and $DA = DB$.



Find $\angle DBC$.

- (1) 110°
- (2) 125°
- (3) 135°
- (4) 140°

- 12 The clock below shows the time Ian reached the cinema.



Ian was 10 minutes late for the movie. What time did the movie start?

- (1) 7.35 p.m.
- (2) 7.55 p.m.
- (3) 8.35 p.m.
- (4) 8.55 p.m.

- 13 The table shows the number of books borrowed from a library by the children in a class.

Number of books	0	1	2	3	4
Number of children	3	9	4	8	2

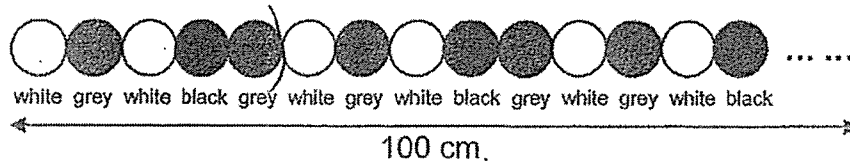
How many children borrowed more than 2 books?

- (1) 10
- (2) 12
- (3) 14
- (4) 16

- 14 Kumar travelled $\frac{1}{3}$ of his journey in 2 h. He then travelled the remaining 240 km at a speed of 80 km/h. Find Kumar's average speed for the whole journey.

- (1) 60 km/h
- (2) 66 km/h
- (3) 70 km/h
- (4) 72 km/h

- 15 Mrs Yati chained some circular white, grey and black beads together in a repeated pattern as shown below. The radius of each bead is 2 cm.



Using the pattern above, Mrs Yati made a 100 cm chain of beads. How many grey beads did she use?

- (1) 5
- (2) 10
- (3) 20
- (4) 40



RED SWASTIKA SCHOOL

2022 PRELIMINARY ASSESSMENT

MATHEMATICS PAPER 1

Name : _____ ()

Class : Primary 6 / _____

Date : 19 August 2022

BOOKLET B

15 Questions
25 Marks

In this booklet, you should have the following:

- (a) Page 7 to Page 13
- (b) Questions 16 to 30

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		25
TOTAL		45

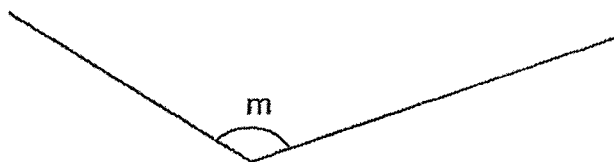
Parent's Signature : _____

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

16 Find the value of $30 - 8 + 16 \div 4 + 2$.

Ans: _____

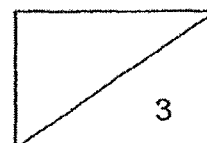
17 Measure and write down the size of $\angle m$.



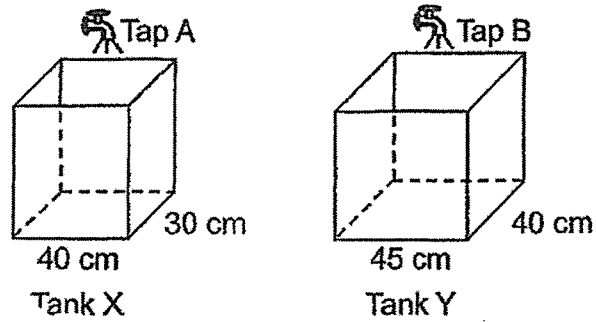
Ans: _____ °

18 Find the average of 17 and 28.

Ans: _____



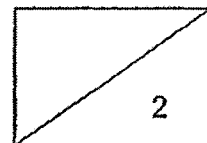
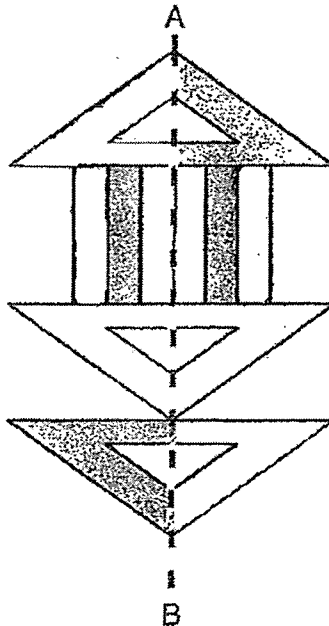
- 19 The figure shows taps A and B with two empty tanks X and Y. The height of both tanks are the same. Both taps are turned on at the same time.



Water flowed from tap A into tank X at a rate of 2 litres per minute. What should the rate of flow of water be from tap B such that the height of water is the same for both tanks after some time?

Ans: _____ l/min

- 20 The figure below is made up of triangles and rectangles. Shade the figure so that the figure has AB as its line of symmetry with $\frac{2}{3}$ of the figure shaded.



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

(20 marks)

21 How many sixths are there in $2\frac{1}{3}$?

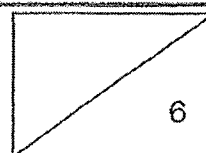
Ans: _____

22 Mrs Devi poured 8.08 l of water equally into 40 identical containers. How many litres of water did she pour into each container?

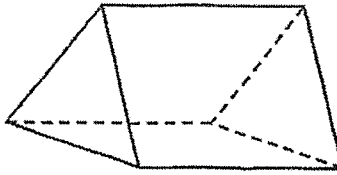
Ans: _____ l

23 The perimeter of a square is 36 cm. Find the area of the square.

Ans: _____ cm²



24 Study the solid below.



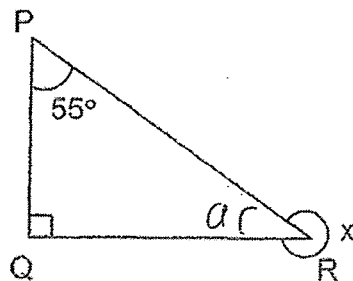
(a) Name the solid.

Ans: _____ [1]

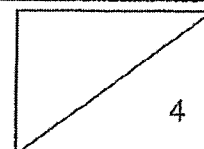
(b) How many triangular and rectangular faces are there in the solid?

Ans: _____ triangular faces and _____ rectangular faces [1]

25 PQR is a right-angled triangle. $\angle QPR = 55^\circ$. Find $\angle x$.

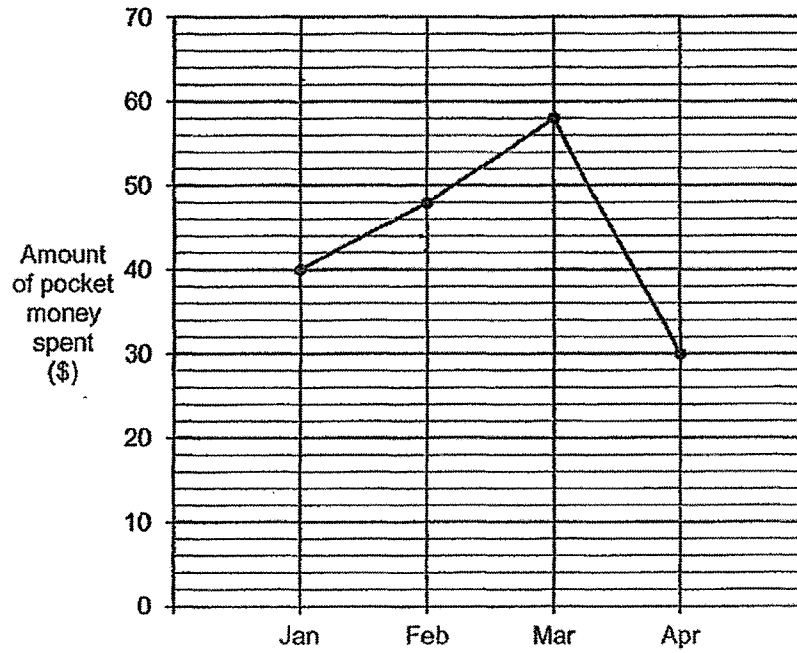


Ans: _____^o



Use the information below to answer Questions 26 and 27.

Aisha received \$80 from her parents each month for her pocket money. After spending, she saved the rest of her money. The line graph below shows the amount of pocket money Aisha spent each month.

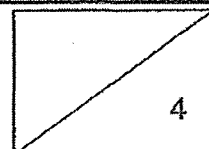


26 How much did Aisha save in February?

Ans: \$ _____

27 In which month did Aisha save the most?

Ans: _____



- 28 The table below shows A, B and C which represent three 2-digit numbers. Lydia used two pieces of paper to cover two of the digits in the table. The average of these 3 numbers is 25.

A	15
B	2■
C	■9

What number is represented by C?

Ans: _____

- 29 Josh and Ken started cycling from the same place in opposite direction along a straight road. Josh was cycling at 20 km/h and the two boys were 50 km apart after cycling for 90 minutes.

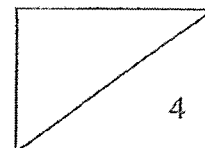
(a) How far did Josh cycle?

Ans: (a) _____ km [1]

- (b) Circle the words that describe Josh and Ken's cycling speed correctly in the following statement:

Ken was cycling (slower than / as fast as / faster than) Josh.

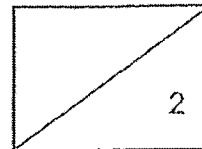
[1]



- 30 Mrs Wong placed an equal number of beads into 24 boxes. However, she discovered 4 of her boxes were damaged and she redistributed the beads in these boxes into the remaining 20 boxes. In the end, the number of beads in each of the remaining boxes increases by n . How many beads were there in each box at first? Give your answer in terms of n .

Ans: _____

END OF PAPER





RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL
2022 PRELIMINARY ASSESSMENT
MATHEMATICS
PAPER 2

Name : _____ ()

Class : Primary 6 / _____

Date : 19 August 2022

17 Questions

55 Marks

Duration of Paper 2: 1 hour 30 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 15
 - (b) Questions 1 to 18
6. You are allowed to use a calculator.

MARKS

	OBTAINED	POSSIBLE
PAPER 1		45
PAPER 2		55
TOTAL		100

Parent's Signature : _____

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

(10 marks)

-
- 1 Use all the digits 6, 1, 8, 7 to form
(a) a 4-digit number which has 2 as one of its factors,

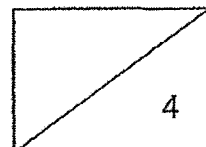
Ans: (a) _____ [1]

- (b) a 4-digit number closest to 8000.

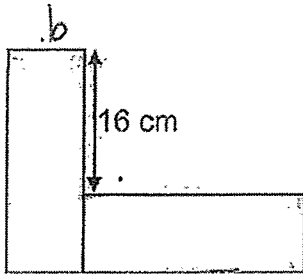
Ans: (b) _____ [1]

-
- 2 Dan and Kate had some stickers. When Dan gave 10 of his stickers to Kate, he would have three times as many stickers as Kate. If Dan gives another 6 more stickers to Kate, he would have twice as many stickers as Kate. How many stickers did Kate have at first?

Ans: _____

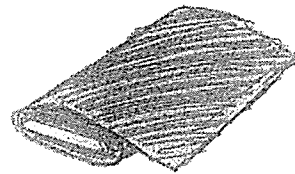


- 3 Kim used two identical rectangles to form the figure as shown below. The perimeter of the figure is 112 cm. Find the perimeter of one rectangle.



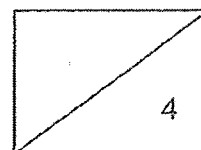
Ans: _____ cm

- 4 Mr Gan bought w bales of cloth to prepare some banners. Each banner is 240 cm in length and none of the banners are made by joining pieces of cloth. Each bale of cloth is 11 m long. What is the maximum number of banners Mr Gan could prepare? Give your answer in terms of w .

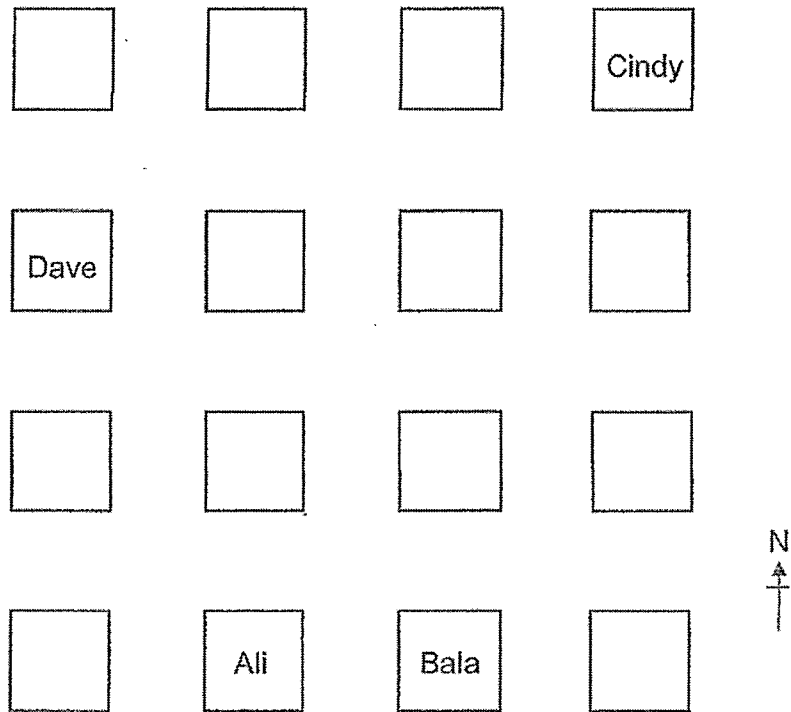


1 bale of cloth

Ans: _____



5 The picture below shows part of the seating plan of a classroom.



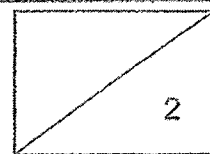
(a) Circle the words that describe Ali and Bala's seating position correctly in the following statement:

Ali is seated (north / south / east / (west) of Bala.

[1]

(b) Cindy is seated north-east of Xavier and Dave is seated north-west of Xavier. Put a tick (✓) in the square where Xavier is seated.

[1]



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

(45 marks)

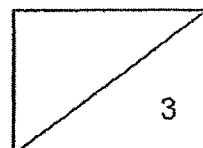
-
- 6 A container, $\frac{2}{5}$ filled with sand, weighed 2400 g. After Mindy poured in another 200 cm³ of sand, the container became $\frac{1}{2}$ full.

(a) Find the capacity of the container in cubic centimetres.

Ans:(a) _____ [2]

- (b) Given that the total mass increased by 300 g, find the percentage increase in the total mass.

Ans:(b) _____ [1]



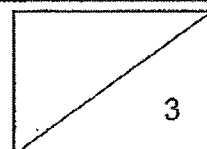
7 Claire went shopping with 12 more ten-dollar notes than two-dollar notes. After paying \$180 for a suitcase with some ten-dollar notes, the number of the two-dollar notes she had was four times the number of ten-dollar notes left.

(a) How many ten-dollar notes did Claire have left?

Ans:(a) _____ [1]

(b) How much money did she have at first?

Ans:(b) _____ [2]



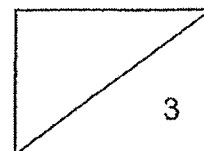
8 Mrs Lee prepared some nuggets and chicken wings for a group of children. The ratio of the number of nuggets prepared to the number of chicken wings prepared was 8 : 3. Each child was given 5 nuggets and 2 chicken wings. There were 9 nuggets left when all the chicken wings were distributed.

(a) How many chicken wings did Mrs Lee prepare?

Ans:(a) _____ [2]

(b) How many children were there in the group?

Ans: (b) _____ [1]



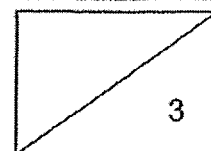
9 At a concert, 60% of the tickets were sold at full price and 35% of the tickets were sold at half price. The remaining 70 tickets were given away free. The total amount of money collected was \$6510.

(a) How many tickets were sold at full price?

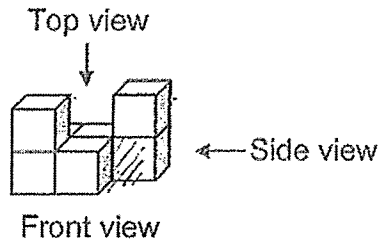
Ans:(a) _____ [1]

(b) What was the full price of a ticket?

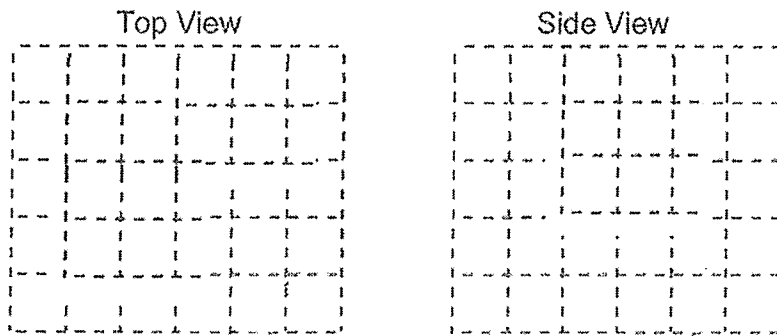
Ans:(b) _____ [2]



- 10 Eva builds a solid using 7 unit cubes.

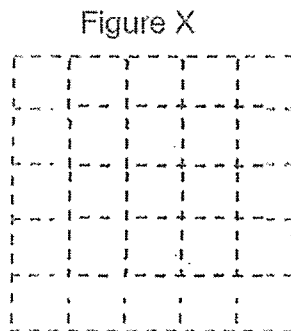


- (a) On the square grid below, draw the top and the side view of the solid.

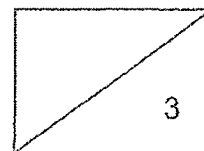


[2]

- (b) What is the least number of cubes Eva could add to her solid such that both the top view and side view of her new solid look like Figure X as shown below.

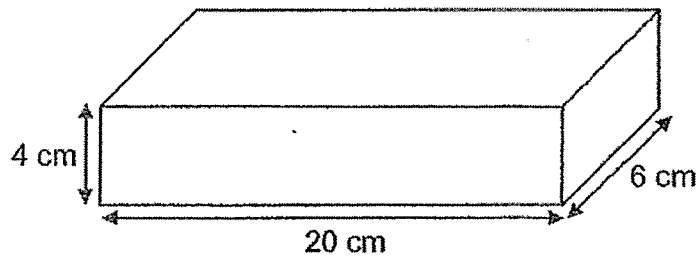


Ans:(b) _____ [1]



- 11 Eason wanted to make a paper cuboid measuring 20 cm by 6 cm by 4 cm as shown in Figure 1.

Figure 1

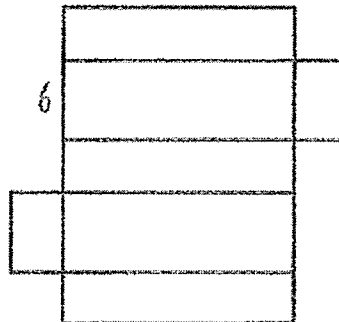


- (a) Find the volume of the cuboid.

Ans:(a) _____ [1]

- (b) Eason drew the net of his cuboid in Figure 2 and it is incorrect. Put a cross 'X' on one face that does not fit the net of his cuboid.

Figure 2

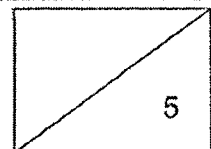


- (c) Find the perimeter of the correct net of his cuboid. [1]

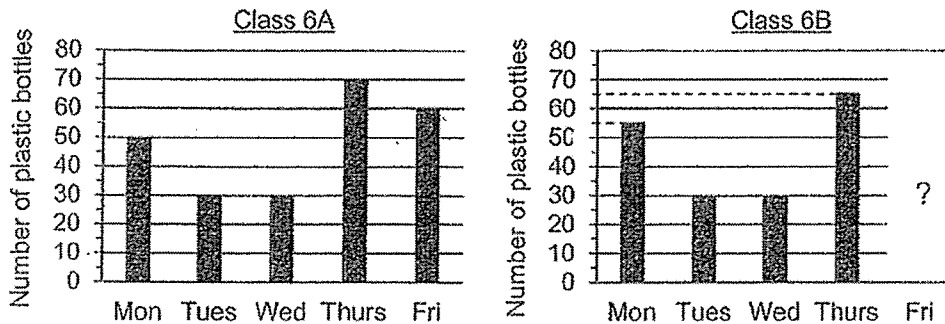
Ans:(c) _____ [2]

- (d) Find the maximum number of 4-cm cubes that can be fitted into his cuboid? ,

Ans:(d) _____ [1]



- 12 The bar graphs below show the number of plastic bottles collected by two classes, 6A and 6B, for the week from Monday to Friday. The bar for the number of plastic bottles collected by Class 6B on Friday has not been drawn.



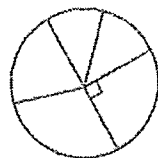
- (a) The number of plastic bottles collected by Class 6B on Friday was $\frac{1}{5}$ the number of plastic bottles collected by the class for the week. How many plastic bottles did Class 6B collect on Friday?

Ans:(a) _____ [2]

- (b) Find the difference in the total number of plastic bottles collected by the two classes over the week.

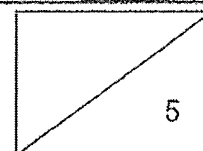
Ans:(b) _____ [2]

- (c) Stephan drew a pie chart to represent the number of plastic bottles collected over the week by one of the classes, 6A or 6B. However, he had forgotten to label the information in his pie chart.

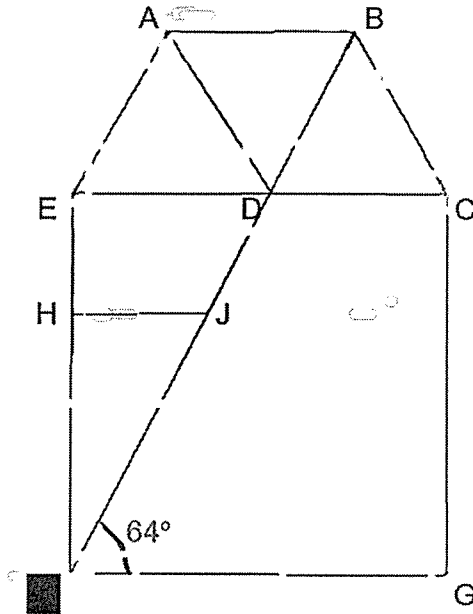


Which class, 6A or 6B, does the pie chart represent?

Ans:(c) _____ [1]



- 13 In the figure below, ABCD and ABDE are rhombuses. CEFG is a square and $\angle DFG = 64^\circ$.



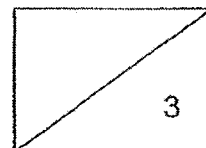
- (a) Find $\angle CDF$.

Ans:(a) _____ [1]

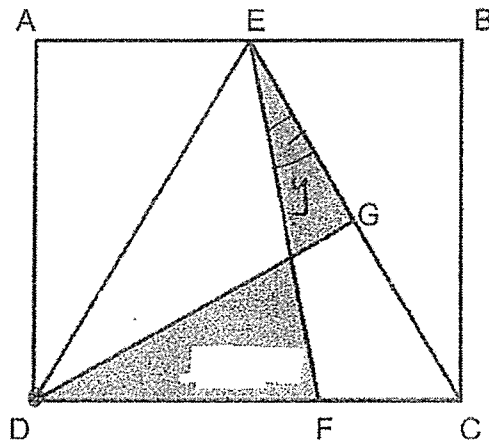
- (b) The figure above is not drawn to scale. Each statement below is either true, false or not possible to tell from the information given above. For each statement, put a tick (\checkmark) to indicate your answer.

Statement	True	False	Not possible to tell
AE is parallel to DF.			
EDJH is a trapezium.			
ABD is an equilateral triangle.			

[2]



- 14 ABCD is a rectangle with an area of 168 cm^2 . The length of DF is twice that of FC. G is the midpoint of EC.

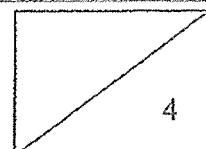


- (a) Find the area of triangle EDC.

Ans:(a) _____ [1]

- (b) Find the difference in the area between the 2 shaded parts.

Ans:(b) _____ [3]



- 15 Mindy wanted to buy 36 identical pens with her money but she was short of \$7.80. She decided to spend $\frac{4}{7}$ of her money on 15 identical pens and $\frac{1}{2}$ of the remaining money on a ruler.

(a) What fraction of her money did she spend on the ruler?

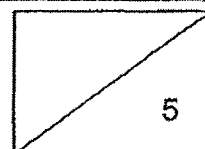
Ans:(a) _____ [1]

(b) Find the cost of each pen.

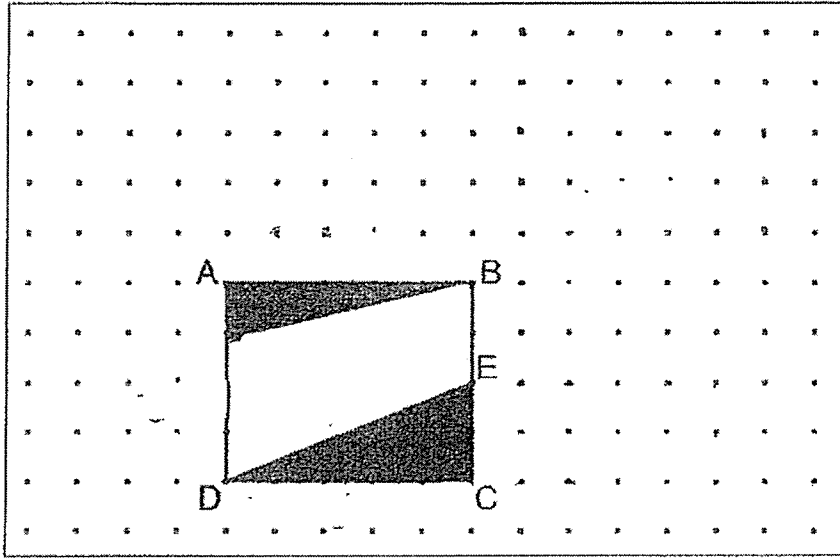
Ans:(b) _____ [2]

(c) How much did Mindy have at first?

Ans:(c) _____ [2]



- 16 A rectangle ABCD is drawn on a square grid inside a box. Part of the rectangle is shaded as shown below.



- (a) What is the ratio of the length AB to the perimeter of rectangle ABCD?

Ans:(a) _____ [1]

- (b) What percentage of the rectangle ABCD is shaded?

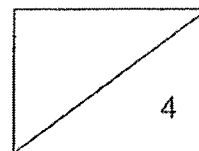
Ans:(b) _____ [1]

- (c) By joining dots on the grid with straight lines, draw triangle ABX such that the ratio of the area of triangle ABX to the area of rectangle ABCD is 1 : 4 and $\angle XAB$ is an obtuse angle. Triangle ABX must not overlap with rectangle ABCD.

[1]

- (d) By joining dots on the grid with straight lines, draw a trapezium DEFG such that the ratio of the area of triangle CDE to the area of trapezium DEFG is 1 : 3. Trapezium DEFG must not overlap with trapezium ABED.

[1]



- 17 Shaun drew a three-quarter circle as shown in Figure 1 below. He then cut the three-quarter circle into 3 identical quadrants and arranged them as shown in Figure 2. The perimeter of Figure 2 is 12 cm longer than the perimeter of Figure 1. (Take $\pi = 3.14$)

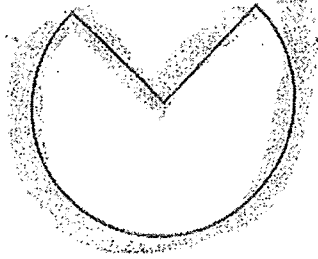


Figure 1

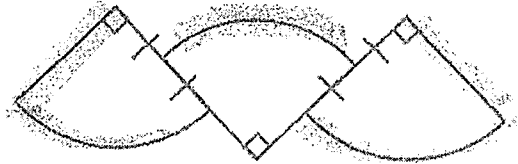


Figure 2

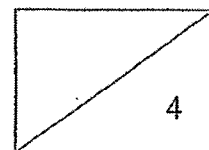
- (a) Find the perimeter of Figure 1.

Ans:(a) _____ [2]

- (b) Find the area of Figure 2.

Ans:(b) _____ [2]

END OF PAPER



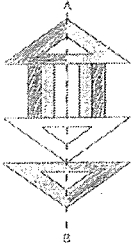
SCHOOL : RED SWASTIKA PRIMARY
 LEVEL : SCHOOL PRIMARY 6
 SUBJECT : MATH
 TERM : Prelims (SA2) 2022

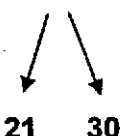
PAPER 1 BOOKLET A

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

Q 11	Q12	Q13	Q14	Q15
2	1	1	4	2

PAPER 1 BOOKLET B

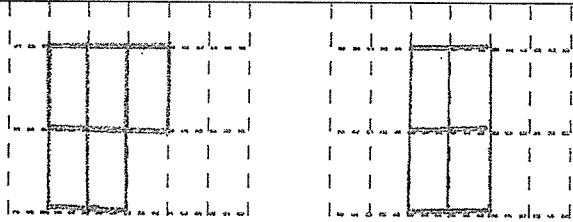
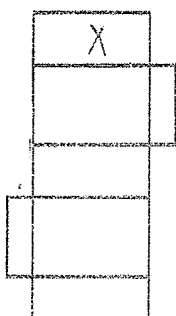
Q16)	$30 - 8 + 16 \div 4 + 2$ $= 30 - 8 + 4 + 2$ $= 22 + 4 + 2$ $= 28$
Q17	130°
Q18	$\frac{17 + 28}{2} = 22.5$
Q19	3
Q20	
Q21	$2\frac{1}{3} \div \frac{1}{6} = \frac{7}{3} \times \frac{6}{1}$ $= \frac{42}{3}$ $= 14$
Q22	8.08 ÷ 40

	$= 8.08 \div 4 \div 10$ $= 2.02 \div 10$ $= 0.202$
Q23	$\frac{36}{4} = 9$ $9 \times 9 =$ 81cm^2
Q24	a) Prism b) 2 Triangular faces and 3 rectangular faces
Q25	$\angle a = 180^\circ - 90^\circ - 55^\circ = 35$ $\angle x = 360^\circ - 35^\circ$ $= 325^\circ$
Q26	$80 - 48 = 32$
Q27	April
Q28	$25 \times 3 = 75$ $75 - 15 = 60$ $60 - 9 = 51$  $30 + 9 = 39$
Q29	a) $90\text{min} = 1\text{hour } 30\text{ mins} = 1\frac{1}{2}\text{hours}$ $20 \times 1\frac{1}{2} = 30$ 30km b) Ken was cycling slower than Josh. Working: $50 - 30 = 20$
Q30	$20 \times n = 20n$ $20n = 4\text{box}$ $1\text{ box} = 20n \div 4$ $= 5n$

PAPER 2

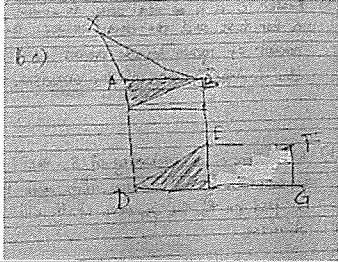
Q1	a) $1786 = 893 \times 2$ Answer = 1786 b) 7861
Q2	$4U + 40 = 3U + 48$

	$4U - 3U = 48 - 40$ $= 8$
Q3	$6b + 16 \times 4 = 112$ $6b = 112 - 64 = 48$ $b = 48 \div 6 = 8$ $8 \times 4 = 32$ $32 + 16 + 16 = 64$ <p>ans: 64cm</p>
Q4	$240\text{cm} = 2.4\text{m}$ $11/(2.4) \approx 4$ $4 \times w = 4w$
Q5	<p>a) Ali is seated west of Bala</p> <p>b)</p>
Q6	<p>a) $\frac{1}{2} - \frac{2}{5} = \frac{1}{10}$</p> $1U = 200$ $10U = 200 \times 10 = 2000\text{cm}^3$ <p>b) $\frac{300}{2400} \times 100 = 12.5\%$</p>
Q7	<p>a) $\frac{180}{10} = 18$</p> $18 - 12 = 16$ $4U - 1U = 3U$ $3U = 6$ $1U = \frac{6}{3} = 2$ <p>Answer: 2</p> <p>b) \$2: $2 \times 4 = 8$ & $8 \times 2 = 16$</p> $\text{\$}10 = 180 + 2 \times 10 = 200$ $200 + 16 = 216$

Q8	<p>a) $16U - 15U = 1U$ $1U = 9$ $6U = 9 \times 6 = 54$</p> <p>b) $\frac{144-9}{5} = 27$ Answer: 27</p>
Q9	<p>$100U - 60U - 39U = 5U$ $5U = 70$ $1U = \frac{70}{5} = 14$ $60 \times 14 = 840$</p> <p>$\frac{35 \times 14}{2} = 245$ $245 + 840 = 1085$ $\frac{6510}{1085} = 6$</p>
Q10	<div style="display: flex; justify-content: space-around; align-items: center;">  </div> <p>a) b) $1+4+3=8$</p>
Q11	<p>a) $6 \times 20 \times 4 = 480\text{cm}^3$</p> <div style="text-align: center;">  </div> <p>b) c) $4+20+4=28$ $20 \times 2 = 40$ $28 \times 2 = 56$ $56 + 40 = 96\text{cm}$ $(20+4+6+4+4+6+4) \times 2 = 96\text{cm}$</p> <p>d) $20 \div 4 = 5$ $4 \div 4 = 1$ $6 \div 4 = 1r^2$ $5 \times 1 \times 1 = 5$</p>
Q12	<p>a) $\frac{55+30+30+65}{4} = 45$</p>

	<p>b) $50 + 30 + 30 + 70 + 60 = 240$ $45 \times 5 = 225$ $240 - 225 = 15$</p> <p>c) 6A</p> <p>Working:</p> <p>$A = \frac{240}{4} = 60$ (correct)</p> <p>$B = \frac{225}{4} = 56.25$ (wrong)</p>
Q13	<p>a) $\angle CDF = 180^\circ - 64^\circ = 116^\circ$</p> <p>b) AE is parallel to DF = False EDJH is a trapezium = Not possible to tell ABD is an equilateral triangle = True</p>
Q14	<p>a) $\frac{168}{2} = 84\text{cm}^2$</p> <p>b) $\frac{84}{2} = 42$ $\frac{84}{3} \times 2 = 56$ $56 - 42 = 14\text{cm}^2$</p>
Q15	<p>a) $\frac{3}{14}$</p> <p>b) $15P = \frac{4}{7}\text{money}$ $1P = \frac{4}{7} \div 15 = \frac{4}{105}\text{Money}$ $36P = \frac{4}{105} \times 36 = 1\frac{13}{35}$ $13U = 7.8$ $35u = \frac{7.8}{13} \times 35 = 21$ $21 \div 7 \times 4 = 12$ $\frac{12}{15} = 0.8$ \$0.80</p> <p>c) $\frac{12}{8} \times 14 = 21$ \$21</p>
Q16	<p>a) $5 + 5 + 4 + 4 = 18$ Ans: 5:18</p> <p>b) $5 \times 4 = 20$ $\frac{1}{2} \times 5 \times 1 = 2.5$ $\frac{1}{2} \times 2 \times 5 = 5$ $\frac{2.5 + 5}{20} \times 100 = 37.5$ 37.5%</p>

- c) .
d) .



Q17

a) $\frac{12}{2} = 6$
 $d = 6 \times 2 = 12$
 $12 \times 3.14 \times \frac{3}{4} = 28.26$
 $28.26 + 12 = 40.26$
40.26cm

b) $6 \times 6 \times 3.14 \times \frac{3}{4} = 84.78$
84.78cm²



ROSYTH SCHOOL
2022 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6
PAPER 1

Name: _____

Register No. _____

Class: Pr 6 - _____

Teacher: _____

Date: 23 August 2022

Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

BOOKLET A

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Shade your answers in the Optical Answer Sheet (OAS) provided.
4. You are **not** allowed to use a calculator.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of **8** pages (including this cover page).

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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). 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 299.996 to 2 decimal places.

- (1) 299.97
- (2) 299.99
- (3) 300.00
- (4) 300.09

2. Express $8 + 4y - (6 \div 2) - 2y$ in the simplest form.

- (1) $6y + 5$
- (2) $6y + 1$
- (3) $2y + 5$
- (4) $2y + 1$

3. Which of the following is the same as 9070 ml ?

- (1) 9 l 7 ml
- (2) 9 l 70 ml
- (3) 90 l 7 ml
- (4) 90 l 70 ml

Study the bar graphs and answer questions 4 and 5.

Ms Noraini baked some buns to sell. Figure 1 shows the number of buns that she baked. Figure 2 shows the number of buns that were left unsold.

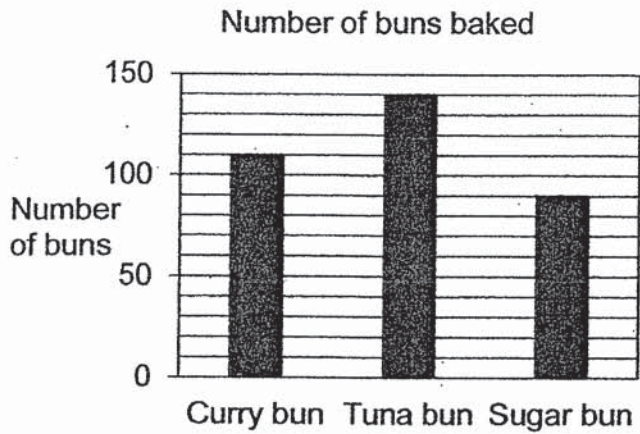


Figure 1

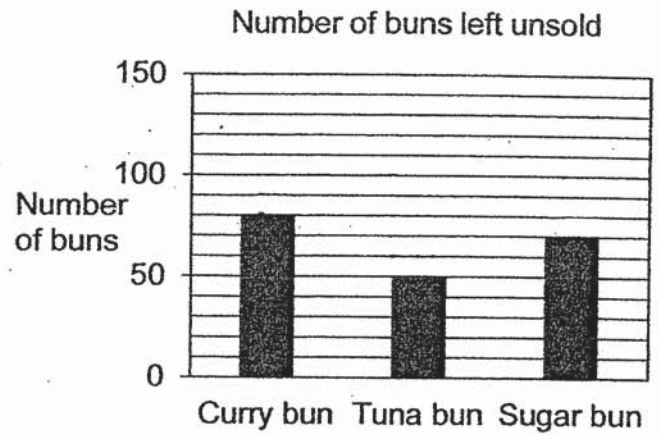


Figure 2

4. How many curry buns and sugar buns did Ms Noraini bake altogether?

- (1) 150
- (2) 200
- (3) 340
- (4) 350

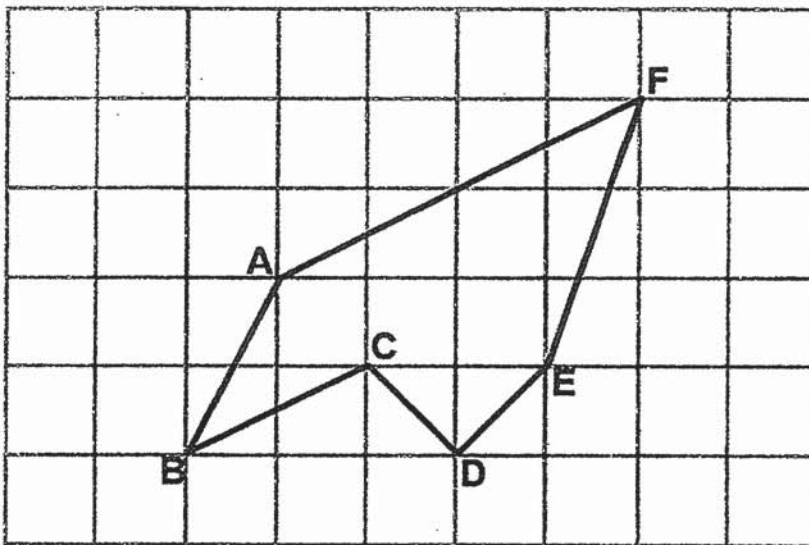
5. How many tuna buns did Ms Noraini sell?

- (1) 20
- (2) 30
- (3) 50
- (4) 90

6. The National Day Parade started at 5.55 p.m. and ended at 8.15 p.m. How long was the National Day Parade? Give your answer in hours and minutes.

- (1) 2 h 10 min
- (2) 2 h 20 min
- (3) 3 h 10 min
- (4) 3 h 20 min

7. Which pair of lines are parallel?

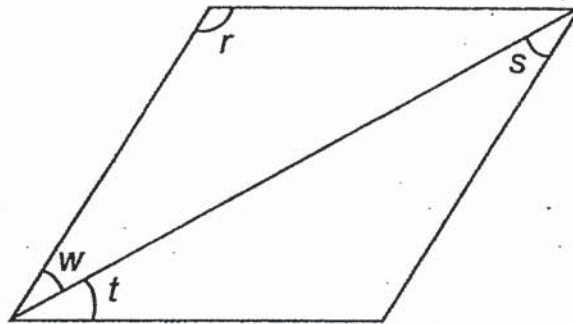


- (1) AB and EF
- (2) CD and DE
- (3) BC and DE
- (4) AF and BC

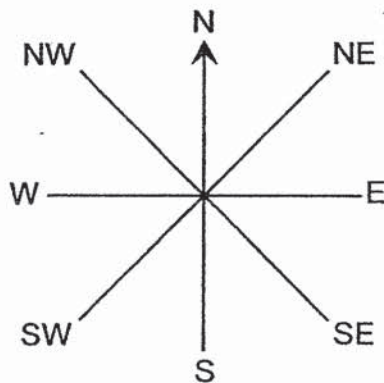
8. Ali took part in a race. He ran for 3 km and cycled for 9 km. He took a total time of 120 min. What was his average speed for the race?

- (1) 6 km/h
- (2) 7.2 km/h
- (3) 10 km/h
- (4) 24 km/h

9. Which statement about the rhombus is false?

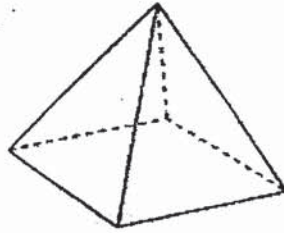


- (1) $\angle w = \angle t$
 - (2) $\angle t + \angle w = 180^\circ - \angle r$
 - (3) $\angle r + \angle s + \angle w = 180^\circ$
 - (4) $\angle s + \angle t + \angle w = 180^\circ$
10. The figure shows an 8-point compass. Vishal was facing south-east (SE) at first. He turned 135° anticlockwise. Which direction does he face now?

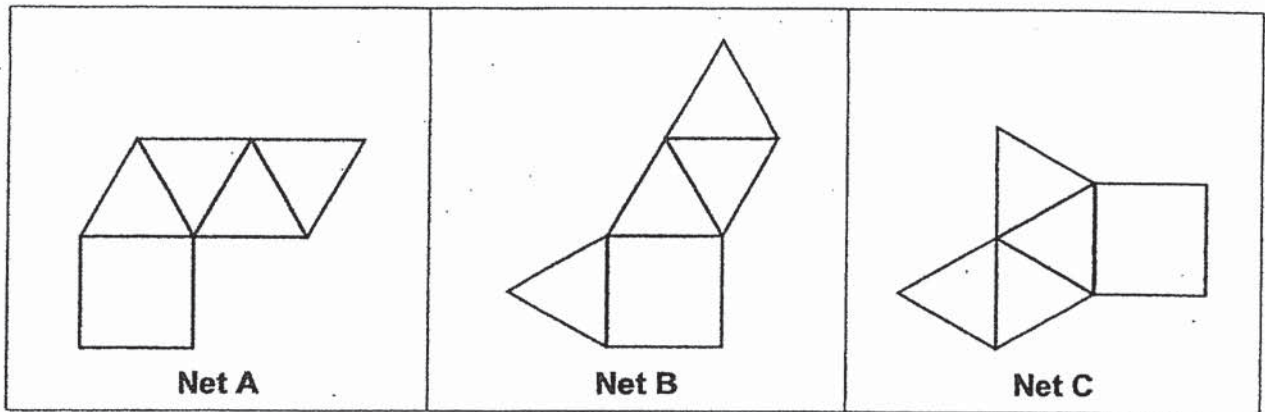


- (1) North (N)
- (2) South (S)
- (3) East (E)
- (4) West (W)

11. The figure shows a pyramid.

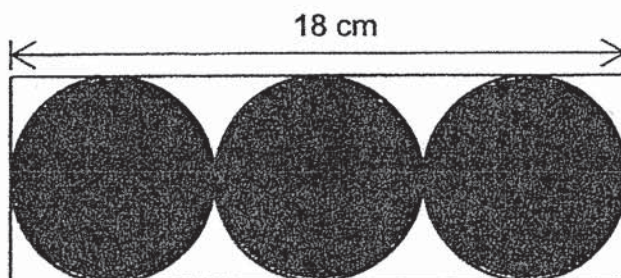


Which of the following are possible nets of the pyramid?



- (1) Net A and Net B
(2) Net A and Net C
(3) Net B and Net C
(4) Net A, Net B and Net C
12. A shop gave a discount of \$0.30 for every \$2 spent. Paul paid \$8.50 for a file after discount. What was the price of the file before the discount?
- (1) \$9.70
(2) \$9.40
(3) \$9.10
(4) \$8.80

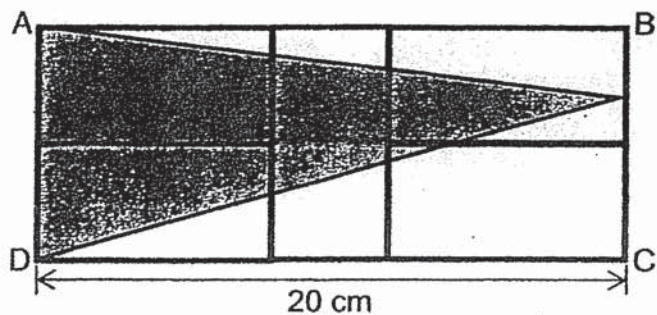
13. The figure below is formed by 3 identical shaded circles and a rectangle. The length of the rectangle is 18 cm. Find the total area of the 3 shaded circles. Give your answer in terms of π .



- (1) $9\pi \text{ cm}^2$
(2) $27\pi \text{ cm}^2$
(3) $36\pi \text{ cm}^2$
(4) $108\pi \text{ cm}^2$
14. Sam has a 30 cm paper strip. He cuts it into 4 pieces.
The length of the first piece is 1 cm less than the length of the second piece.
The length of the second piece is 1 cm less than the length of the third piece.
The length of the last piece is 3 cm longer than the length of the first piece.
Find the length of the shortest piece as a fraction of the length of the original strip.

- (1) $\frac{1}{5}$
(2) $\frac{1}{4}$
(3) $\frac{3}{10}$
(4) $\frac{3}{7}$

15. The figure below is made up of 5 identical rectangles. The length of the big rectangle ABCD is 20 cm. Find the area of the shaded triangle.



- (1) 5 cm^2
- (2) 80 cm^2
- (3) 100 cm^2
- (4) 160 cm^2



ROSYTH SCHOOL
2022 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6
PAPER 1

Name: _____

Register No. _____

Class: Pr 6 - _____

Teacher: _____

Date: 23 August 2022

Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

BOOKLET B

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighters.
6. You are **not** allowed to use a calculator.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	25	

* This booklet consists of 9 pages (including this cover page).
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Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

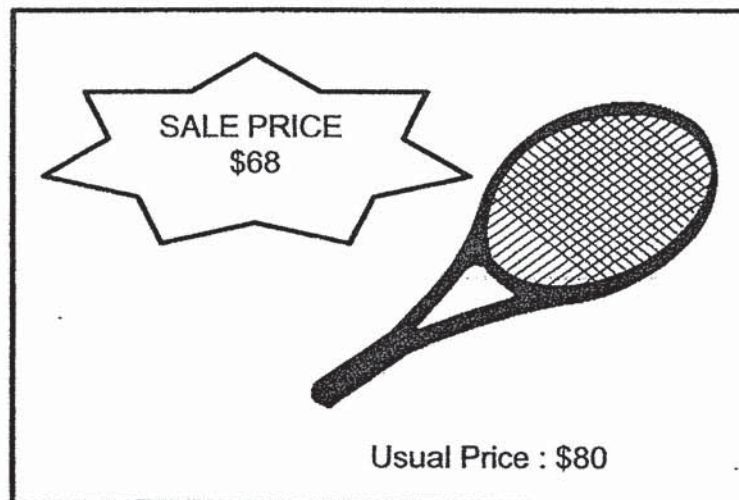
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All diagrams in this paper are not drawn to scale unless stated otherwise.
(5 marks)

16. Find the value of $7 \times 2 + (25 - 10) \div 5$

Ans: _____

17. What is the percentage discount for the item shown below?



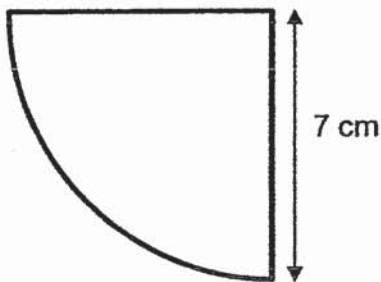
Ans: _____ %

18. Find the average of 5, 11 and 23.

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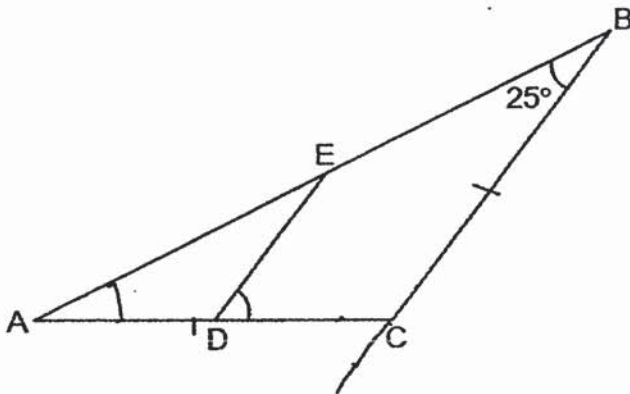
Ans: _____

19. The figure below shows a quadrant with radius 7 cm. What is the perimeter of the quadrant? (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

20. ABC is an isosceles triangle, where $AC = BC$ and $ED \parallel BC$. Find $\angle EDC$.



Ans: _____ °

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

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All diagrams in this paper are not drawn to scale unless stated otherwise.
(20 marks)

21. B is a whole number that lies between 40 and 50. It has an odd number of factors. Find the number B.

Ans: _____

22. Find the value of the following when $m = 5$. Leave your answer in the simplest form.

(a) $3m - 3$

Ans: a) _____

(b) $2m - \frac{m}{2}^5$

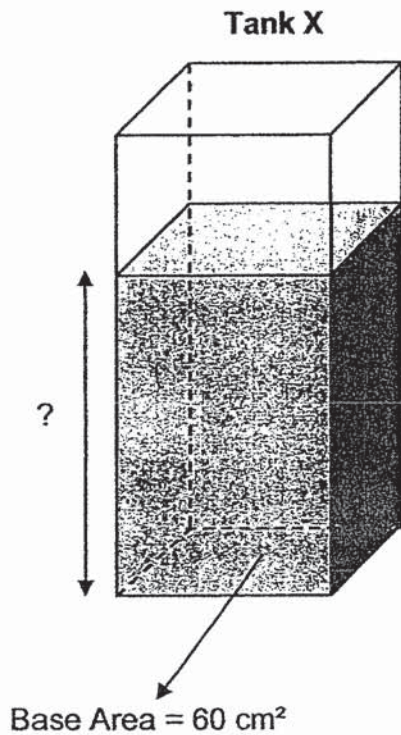
Ans: b) _____

23. Mary is 16 years old now. Her father is thrice as old as her a year ago. How old is her father now?

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Ans: _____

24. Tank X contained some water. The base area of the tank is 60 cm^2 . The volume of water in the container is 1020 ml. What is the height of the water level in the tank?



Ans: _____ cm

25. The scores of all the children who participated in a game were recorded. The table shows the number of children with the following scores.

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Score	10	15	20	25	30	35	40
Number of children	2	7	8	9	6	5	3

A higher score means a better performance. The prize table for their performance is shown below.

Prize	Condition
Medal	Score at least 30 points.
Sticker	Score above 15 points.

Each of the statement is either true, false or not possible to tell from the information given above. For each statement, put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
40 children participated in the game.			
Medals were given to 20% of the children.			
17 children won only stickers.			

26. The table below shows the rental cost of booking a badminton court.

Day	Cost of rental per hour
Weekdays	\$3
Weekends	\$5

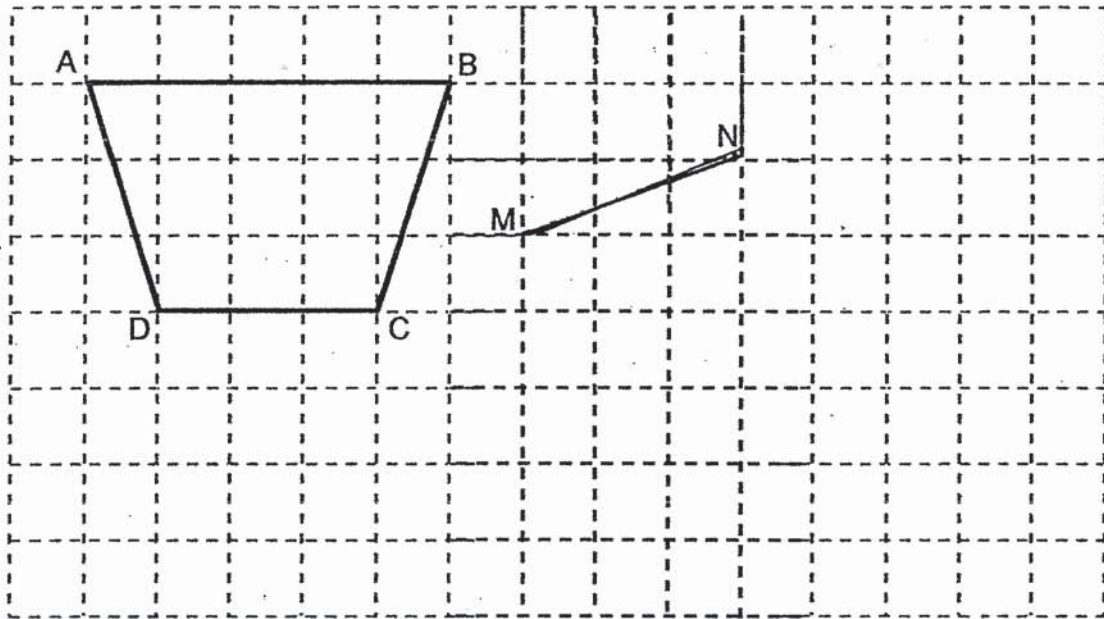
Lily spent a total of \$42 to book the badminton court for 4 hours on Tuesday and a number of hours on Saturday.

How long did she book the badminton court on Saturday?

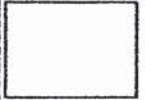
Ans: _____ h

27. A trapezium ABCD is drawn on a square grid.

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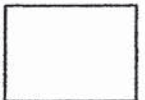


a) Using the line MN, draw a parallelogram MNPQ such that it has the same perimeter as ABCD.

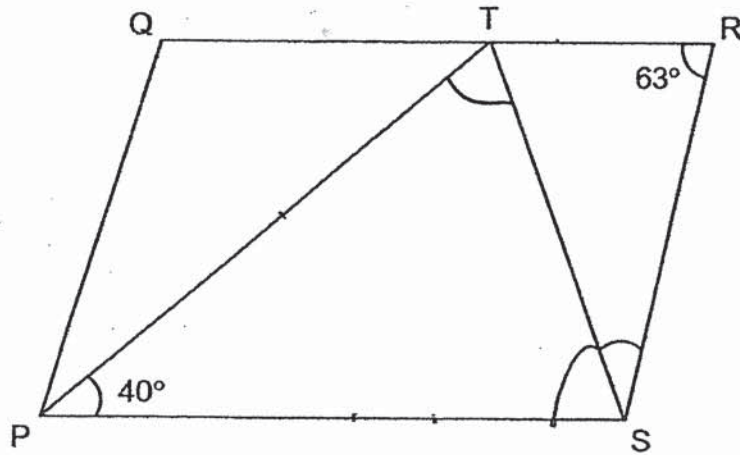


b) Find the ratio of the area of ABCD to the area of MNPQ.

Ans: b) _____



28. In the figure below, PTRS is a trapezium.
QTR is a straight line and $PT = PS$. Find $\angle RST$.



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in this space

Ans: _____ °

29. The table below shows the sum of the numbers in each row.

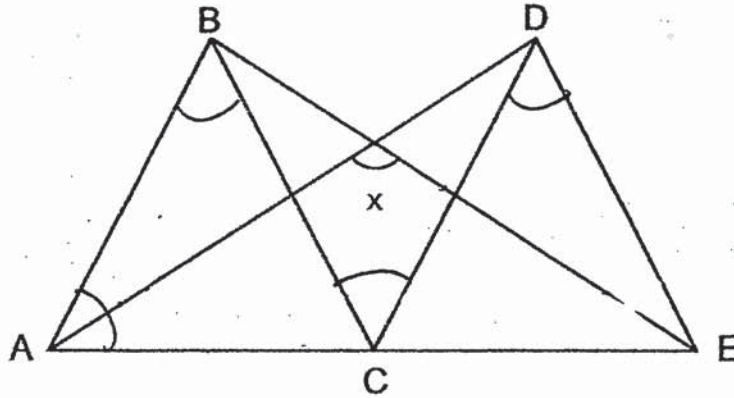
Row	Sum of numbers
1	1
2	2 + 3 + 4
3	3 + 4 + 5 + 6 + 7
4	4 + 5 + 6 + 7 + 8 + 9 + 10

Find the sum of all the numbers in row 6.

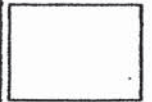
Ans: _____

30. The figure shows two identical equilateral triangles, ABC and CDE. AD, BE and AE are straight lines. Find $\angle x$.

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in this space



Ans: _____°



End of paper
Have you checked your work?



ROSYTH SCHOOL
PRELIMINARY EXAMINATION 2022
MATHEMATICS
PRIMARY 6
PAPER 2

Name: _____

Register No. _____

Class: Pr 6 - _____

Teacher: _____

Date: 23 August 2022

Parent's Signature: _____

Time: 1 h 30 min

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighters.
6. The use of an approved calculator is allowed.

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 17	45	

Section	Maximum Mark	Marks Obtained
Paper 1	45	
Paper 2	55	
Total	100	

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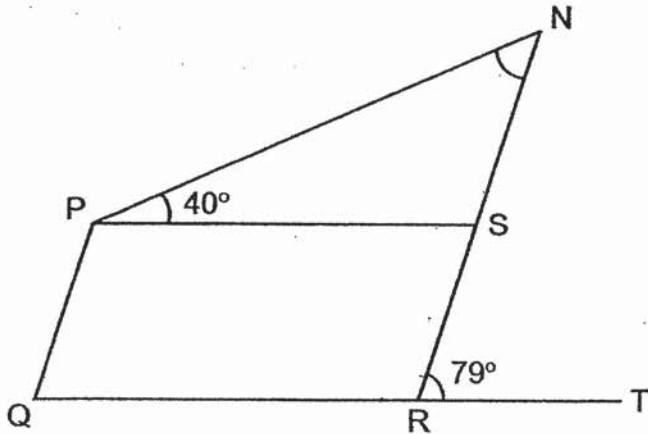
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

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(10 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

1. In the figure below, PQRS is a parallelogram. RSN and QRT are straight lines. Find $\angle SNP$.



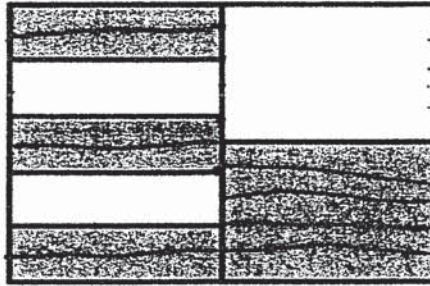
Ans: _____ °

2. Three children shared 34 marbles. Kate has p marbles. Nigel has 11 more marbles than Kate. Rizal has 6 marbles less than Nigel. Find the value of p .

Ans: _____

3. A rectangle is first divided into two equal parts. The left half is divided into 5 equal parts while the right half is divided into 2 equal parts.

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in this space



The total area of the shaded parts is 176 cm^2 . What is the area of the rectangle?

Ans: _____ cm^2

4. Mr Tan started cycling from home to work at 450 m/min for 30 minutes. His wife, Mrs Tan, started cycling from home 5 minutes before Mr Tan and reached the same work place 5 minutes after Mr Tan. They travelled the same distance. Find Mrs Tan's cycling speed.

Ans: _____ m/min

5. Students in a hall were lining up in rows. Each row had the same number of students. Jeremy was in one of the rows. There were 7 students to his right and 7 students to his left. There were 21 rows of students in front of him and 21 rows of students behind him. How many students were there in the hall?

Do not write
in this space

Ans: _____

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

Do not write
in this space

All diagrams in this paper are not drawn to scale unless stated otherwise.

6. A class of 25 students were each offered a box of donuts to sell during a fun fair. 3 of the students could not sell any of the donuts so they passed their boxes of donuts to the rest of the classmates to sell. As a result, each of the remaining students had to sell 6 more donuts. How many donuts were there in each box at first?

Ans: _____ [3]

7. Container A, B and C had a total of 9894 tokens.

$\frac{1}{5}$ of the tokens in A were transferred into B. $\frac{3}{8}$ of the tokens in A were transferred into C. After that, the 3 containers had an equal number of tokens.

(a) How many tokens were there in each container at the end?

Ans: (a) _____ [1]

Do not write
in this space

(b) What was the number of tokens in Container B at first?

Ans: (b) _____ [2]

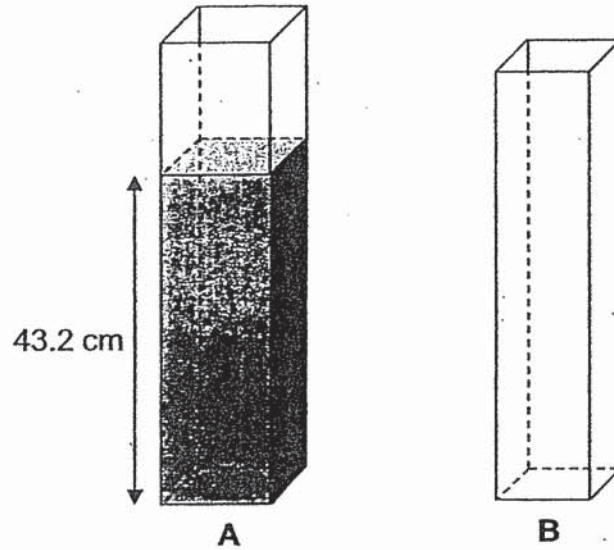
8. Ryan and Aqil had 352 stickers altogether. After Ryan lost 25% of his stickers, the ratio of Ryan's stickers to Aqil's stickers was 9 : 4. How many stickers did Aqil have?

Do not write
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Ans: _____ [3]

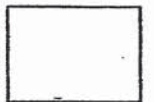
9. A and B are two rectangular containers. The base area of A is 50 cm^2 while the base area of B is 40 cm^2 . Container A contained some water and the height of the water level in Container A was 43.2 cm as shown below. Container B was empty at first.

Do not write
in this space



Selina then poured some water from Container A into Container B. After that, the height of the water level in both containers became the same. What was the height of the water level in the end?

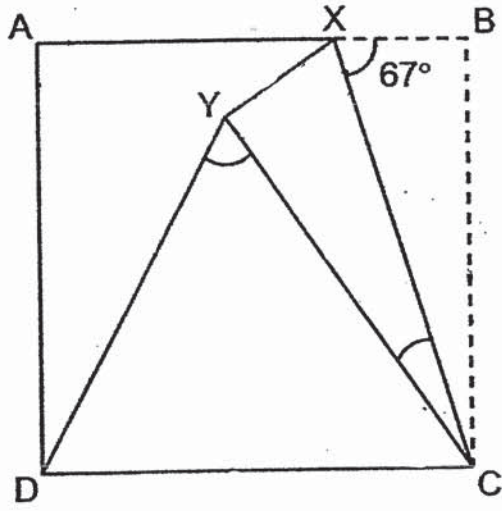
Ans: _____ [3]



10.

ABCD is a square piece of paper. The paper is folded along the line CX such that point B touches point Y.

Do not write in this space



(a) Find $\angle XCY$.

Ans: (a) _____ [1]

(b) Find $\angle CYD$.

Ans: (b) _____ [2]

11. Imran pasted three rectangular strips of the same size together to form a big rectangle, as shown in Figure 1 below.

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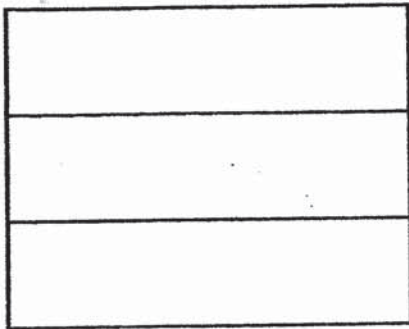


Figure 1

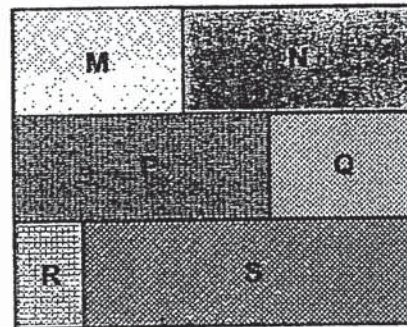
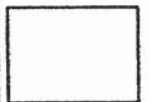


Figure 2

Imran then divided the big rectangle into 6 parts and labelled them M, N, P, Q, R and S, as shown in Figure 2. The ratio of the area of M to the area of N to the area of P is $5 : 7 : 8$. The ratio of the area of Q to the area of R to the area of S is $2 : 1 : 5$. The area of N is bigger than the area of Q by 291 cm^2 .

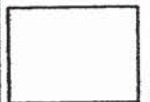
- (a) What is the ratio of the area of N to the area of S?

Ans: (a) _____ [2]



- (b) Find the area of the big rectangle.

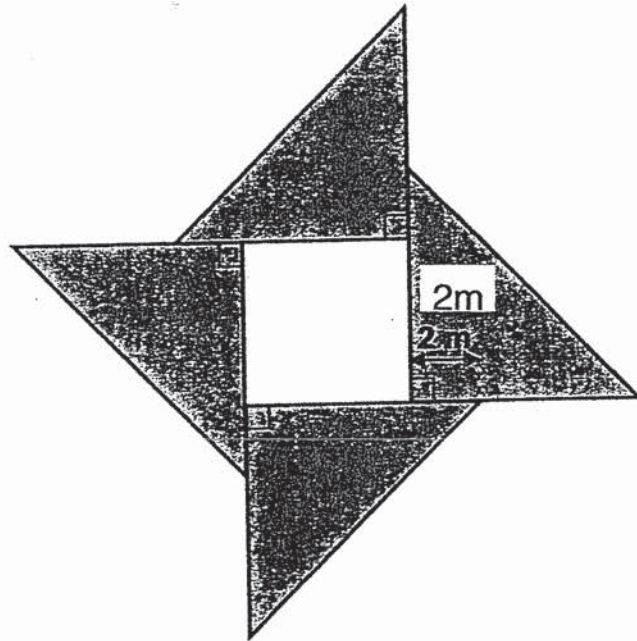
Ans: (b) _____ [2]



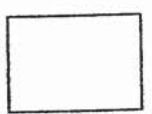
12.

The figure below is formed by 4 identical right-angled isosceles triangles and a square in the centre. The shaded area of the figure is 200 m^2 . Find the perimeter of the square.

Do not write in this space



Ans: _____ [4]

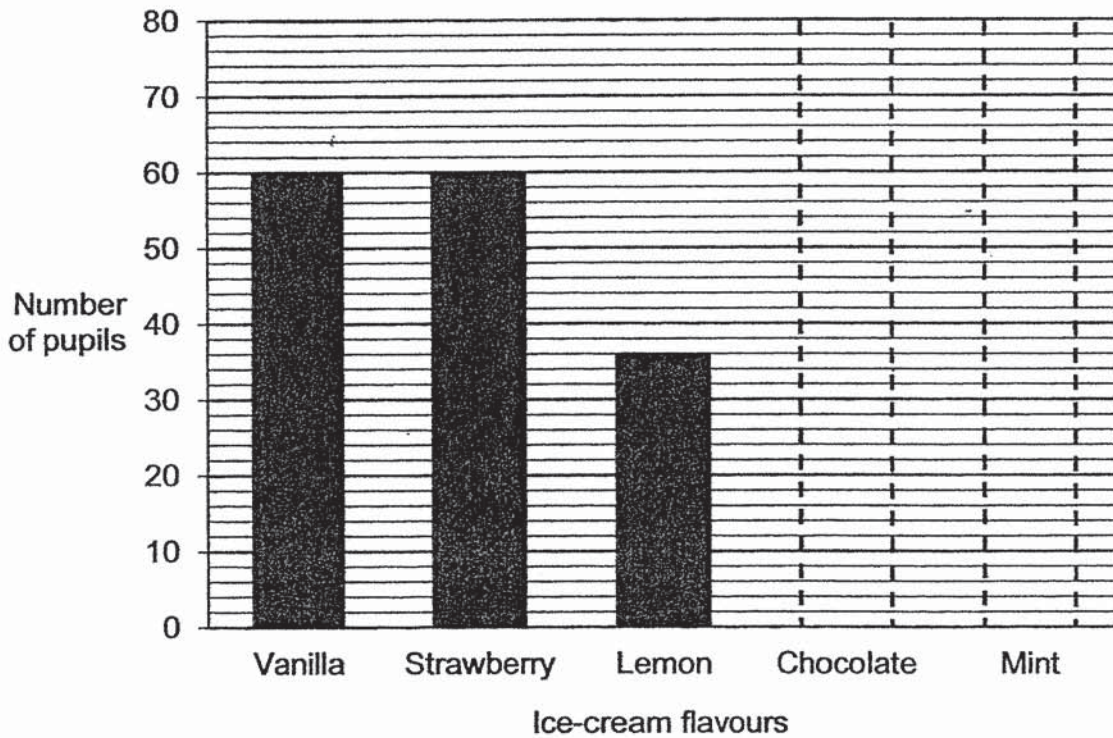


13. The pie chart shows the different flavours of ice-cream that the Primary 6 pupils had chosen.

Do not write in this space.



The number of pupils who have chosen each ice-cream flavour is also represented by the bar graph below. The bars for the number of pupils who chose Chocolate and Mint have not been drawn.



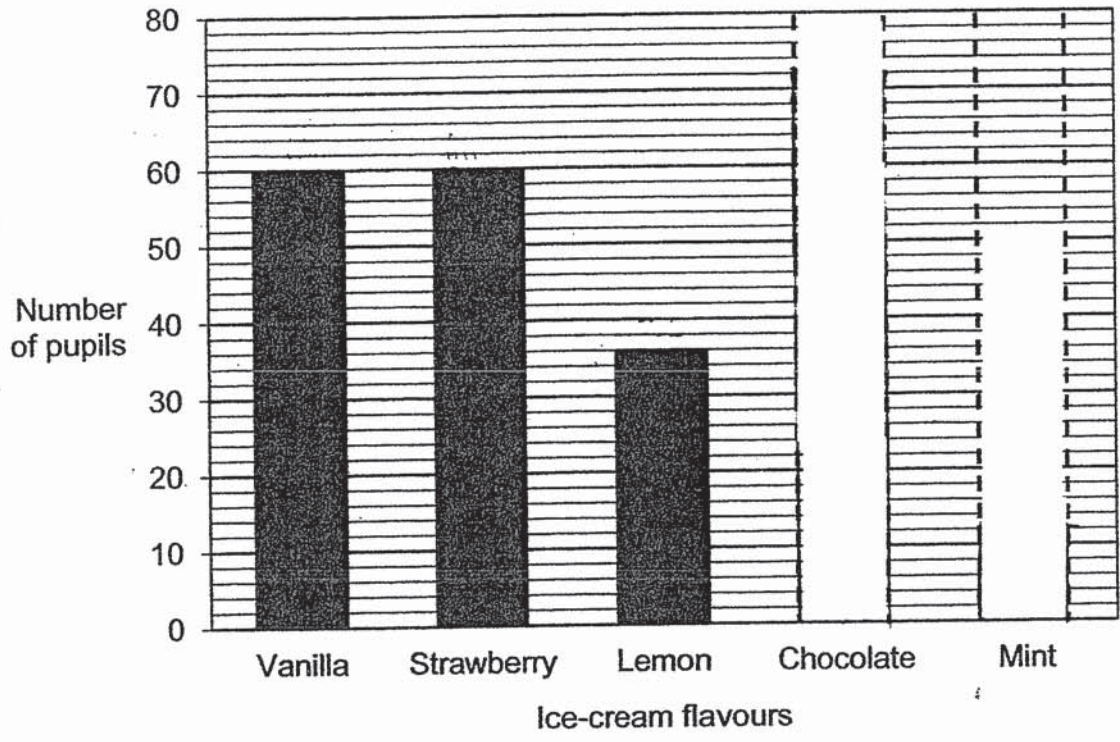
- (a) How many Primary 6 pupils are there?

Ans: (a) _____ [1]

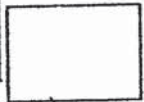
Continue with part (b) on the next page.

(b) The number of pupils who chose Chocolate ice-cream is six times the number of pupils who chose Mint ice-cream. Draw the bars for the number of pupils who have chosen Chocolate ice-cream and Mint ice-cream in the bar graph below.

Do not write in this space



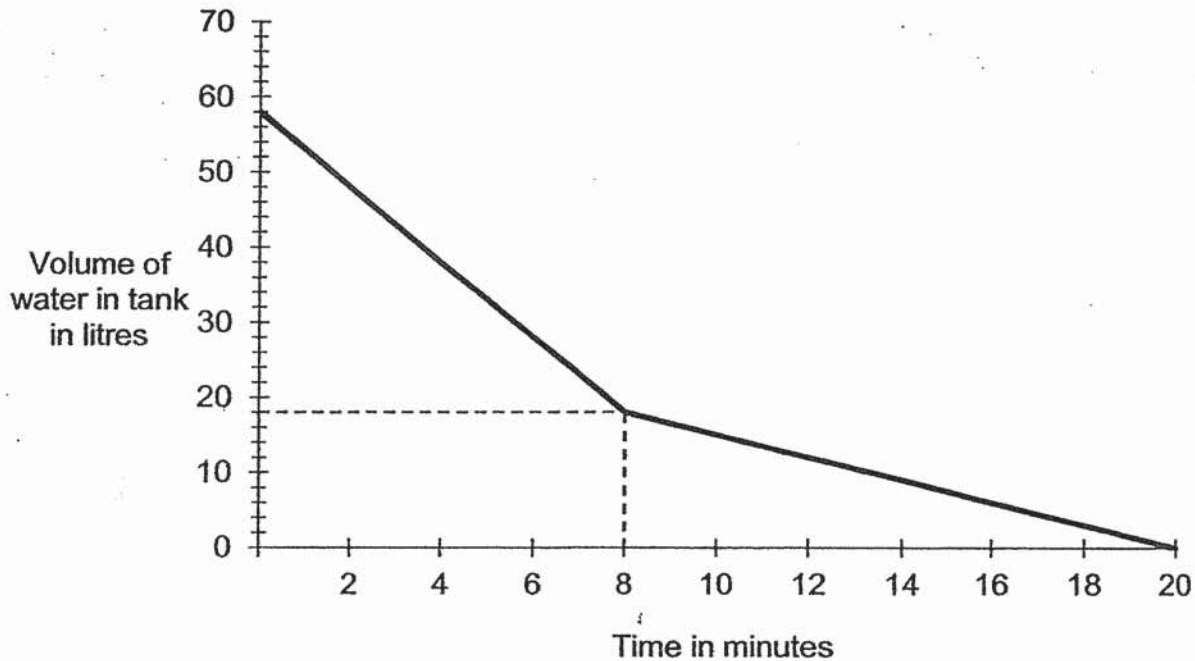
[3]



14. A rectangular tank was completely filled with water. Adam turned on Tap D first. Water started flowing out from the tank through Tap D. After 8 minutes, he turned on Tap E, which adds water into the rectangular tank. Both taps were turned off at the same time when the rectangular tank was empty.

Do not write
in this space

The graph below shows the amount of water in the tank for 20 minutes.



- (a) After Tap D was turned on for 8 minutes, what fraction of the tank was filled with water? Leave your answer in the simplest form.

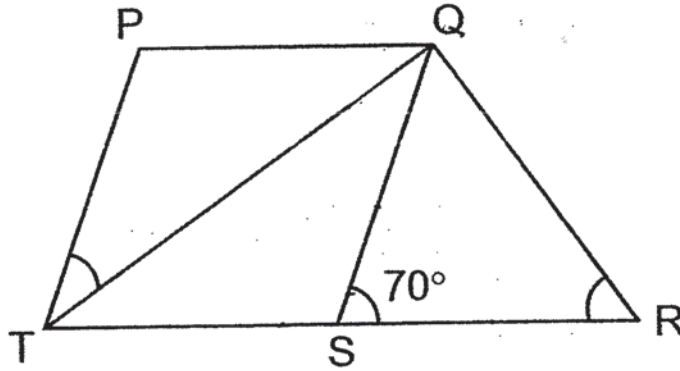
Ans: (a) _____ [1]

- (b) In one minute, how many litres of water was added by Tap E?

(b) _____ [3]

15. In the figure below, PQST is a rhombus and QRS is a triangle. TSR is a straight line and $TS = SR$.

Do not write in this space



- (a) Find $\angle QRS$.

Ans: (a) _____ [2]

- (b) Find $\angle PTQ$.

Ans: (b) _____ [2]

16. At a shop, pens were only sold in boxes. A box of 6 ballpoint pens cost \$1.80 and a box of 4 gel pens cost \$6.40.

Do not write
in this space

- (a) Sam spent \$10 to buy both types of pens. Find the least total number of ballpoint pens and gel pens bought by Sam.

Ans: (a) _____ [2]

-
- (b) Tom bought 22 more gel pens than ballpoint pens. The total number of pens he bought was more than 40 but fewer than 60. How many pens did Tom buy altogether?

Ans: (b) _____ [3]

17. In January, a kindergarten was given a total sum of \$2400. It spent 80% of the sum of money on books and the rest on stationery. In February, the sum given to the kindergarten was increased. It increased its spending on books by \$240. It spent the remaining 20% of the sum given in February on stationery.

Do not write
in this space

- (a) How much did the kindergarten spend on stationery in January?

Ans: (a) _____ [2]

- (b) What was the percentage increase in the sum of money spent on stationery in February?

Ans: (b) _____ [3]

End of paper
Have you checked your work?

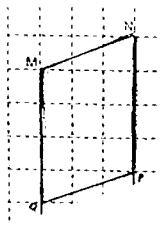
SCHOOL : ROSYTH PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : 2022 PRELIM

BOOKLET A (PAPER 1)

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

BOOKLET B (PAPER 1)

Q16	$7 \times 2 = 14$ $25 - 10 = 15$ $15 \div 5 = 3$ $14 + 3 = 17$ ANS: 17	Q17	$80 \div 100 = 0.8$ $12 \div 0.8 = 15$ ANS: 15%																
Q18	$5 + 11 + 23 = 39$ $39 \div 3 = 13$ ANS: 13	Q19	$(7+7) \times \frac{22}{7} \times \frac{1}{4} = 11$ $11 + 7 + 7 = 25$ ANS: 25cm																
Q20	50°	Q21	49																
Q22	a) $15 - 3 = 12$ b) $10 - \frac{5}{2} = 7 \frac{1}{2}$	Q23	Ago -> $16 - 1 = 15$ Father -> $15 \times 3 + 1 = 46$ ANS: 46																
Q24	$1020 \div 60 = 17$ ANS: 17cm	Q25	<table border="1"> <thead> <tr> <th>Statement</th> <th>True</th> <th>False</th> <th>Not possible to tell</th> </tr> </thead> <tbody> <tr> <td>40 children participated in the game.</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Medals were given to 20% of the children.</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>17 children won only stickers.</td> <td>✓</td> <td></td> <td></td> </tr> </tbody> </table>	Statement	True	False	Not possible to tell	40 children participated in the game.	✓			Medals were given to 20% of the children.		✓		17 children won only stickers.	✓		
Statement	True	False	Not possible to tell																
40 children participated in the game.	✓																		
Medals were given to 20% of the children.		✓																	
17 children won only stickers.	✓																		

Q26	Tues $\rightarrow 3 \times 4 = 12$ Left $\rightarrow 42 - 12 = 30$ Sat $\rightarrow 30 \div 5 = 6$ ANS : 6h	Q27	a)  b) $ABCD = 12u$ $MNPQ = 12u$ $ABCD : MNPQ$ $12 \div 12 = 1 : 1$
Q28	$\angle PST \rightarrow (180 - 40) \div 2 = 70$ $\angle RST \rightarrow 180 - 70 - 63 = 47$ ANS : 47°	Q29	$15 + 15 + 25 + 11 + 30 + 25 = 121$ ANS : 121
Q30	$\angle BEA \rightarrow 60 \div 2 = 30$ $\angle X \rightarrow 180 - 30 - 30 = 120$ ANS : 120°		

PAPER 2

Q1	$\angle QRS \rightarrow 180 - 79 = 101$ $\angle PSR \rightarrow 180 - 101 = 79$ $\angle NSP \rightarrow 180 - 79 = 101$ $\angle PNS \rightarrow 180 - 101 - 40 = 39$ ANS : 39°	Q2	$3p \rightarrow 34 - 11 - 5 = 18$ $P \rightarrow 18 \div 3 = 6$ ANS : 6
Q3	$\frac{1}{20} \rightarrow 176 \div 11 = 16$ $20u \rightarrow 16 \times 20 = 320$ ANS : 320 cm^2	Q4	Total distance $\rightarrow 450 \times 30 = 13500$ Mrs Tan $\rightarrow 10 \text{ min longer}$ Mrs Tan speed $\rightarrow 13500 \div 40 = 337.5$ ANS : 337.5 m/min
Q5	Total rows $\rightarrow 21 + 21 + 1 = 43$ Students $\rightarrow 43 \times 15 = 645$	Q6	Left $\rightarrow 25 - 3 = 22$ Extra $\rightarrow 22 \times 6 = 132$ 1 box $\rightarrow 132 \div 3 = 44$ ANS : 44
Q7	a) 1 container $\rightarrow 9894 \div 3 = 3298$ ANS : 3298 b) $\frac{1}{40} \rightarrow 3298 \div 17 = 194$ Extra B $\rightarrow 194 \times 8 = 1552$ B $\rightarrow 3298 - 1552 = 1746$ ANS : 1746	Q8	$1u \rightarrow 352 \div 16 = 22$ A $\rightarrow 22 \times 4 = 88$ ANS : 88

Q9	<p>Volume $\rightarrow 43.2 \times 50 = 2160$ 1cm for A $\rightarrow 50\text{cm}^3$ 1cm for B $\rightarrow 40\text{cm}^3$ 1cm for both $\rightarrow 40 + 50 = 90$ Height $\rightarrow 2160 \div 90 = 24$ ANS : 24cm</p>	Q10	<p>a) $\angle XCY \rightarrow 180 - 90 - 67 = 23$ ANS : 23° b) $\angle YCD \rightarrow 90 - 23 - 23 = 44$ $\angle CYD \rightarrow (180 - 44) \div 2 = 68$ ANS : 68°</p>
Q11	<p>a) 7 : 10 b) $1u \rightarrow 291 \div 3 = 97$ Total area $\rightarrow 97 \times 36 = 3492$ ANS: 3492cm^2</p>	Q12	<p>1 big square $\rightarrow 100\text{cm}^2$ Length of $\Delta \rightarrow \sqrt{100}$ Perimeter of the square $\rightarrow (10 - 2) \times 4 = 32$ ANS : 32cm</p>
Q13	<p>a) Pupils $\rightarrow 60 \times 4 = 240$ b) $V+S+L \rightarrow 60+60+36=156$ $7u \rightarrow 240-156=84$ $1u \rightarrow 84 \div 7 = 12$ Choc $\rightarrow 12 \times 6 = 72$</p>	Q14	<p>a) $\frac{18}{58} = \frac{9}{29}$ b) D drain after $\rightarrow 18 \div 12 = 1.5\ell$ per min $E \rightarrow 5 - 1.5 = 3.5$ ANS : 3.5ℓ</p>
Q15	<p>a) $\angle QRS \rightarrow (180-70) \div 2 = 55^\circ$ b) $\angle PTQ \rightarrow 70 \div 2 = 35^\circ$</p>	Q16	<p>a) 4 gels after $\rightarrow 10 - 6.4 = 3.6$ Pacts $\rightarrow 3.6 \div 1.8 = 2$ Pens $\rightarrow 6+6+4=16$ ANS : 16 b) 10 box of gel pens $\rightarrow 4 \times 10 = 40$ No of ball pens $\rightarrow 40 - 22 = 18$ Total pens $\rightarrow 40 + 18 = 58$ ANS : 58</p>
Q17	<p>a) 10% $\rightarrow 2400 \div 10 = 240$ Stationery $\rightarrow 240 \times 2 = 480$ ANS : \$480 b) Feb \rightarrow Books : 80% $1920 + 240 = 2160$ Stationery : 20% $\frac{2160}{4} = 540$ % increase $\rightarrow \frac{60}{480} \times 100$ $= 12.5$ ANS : 12.5%</p>		

3
END

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SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION 2022

PRIMARY 6
MATHEMATICS
PAPER 1
(BOOKLET A)

Total Time for Booklets A and B: 1 h

Name : _____ ()

19 August 2022

Class : Primary 6 SY

Mathematics Teachers

SL / CTEO / LXJ / KYS /

INSTRUCTIONS TO CANDIDATES

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

This booklet consists of 6 printed pages and 1 blank page.

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) and shade your answer on the Optical Answer Sheet.
(20 marks)

1. 3 thousands, 57 tens, and 3 ones is _____.

- (1) 3060
- (2) 3573
- (3) 8703
- (4) 35 703

2. Which of the following is equivalent to $2\frac{5}{6}$?

- (1) $\frac{7}{6}$
- (2) $\frac{13}{6}$
- (3) $\frac{17}{6}$
- (4) $\frac{32}{6}$

3. In 52.79, what does the digit 7 stand for?

- (1) 7 tens
- (2) 7 ones
- (3) 7 tenths
- (4) 7 hundredths

4. Which of the following when divided by 6 gives a quotient of 3 and a remainder of 2?

- (1) 6
- (2) 9
- (3) 15
- (4) 20

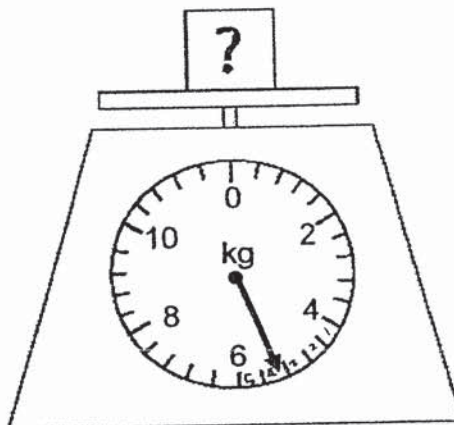
5. Arrange the following numbers in ascending order.

2.10 2.01 2.21

- (1) 2.01 , 2.1 , 2.21
- (2) 2.1 , 2.01 , 2.21
- (3) 2.1 , 2.21 , 2.01
- (4) 2.21 , 2.1 , 2.01

6. What is the closest estimation of the reading shown?

- (1) 4750 g
- (2) 5225 g
- (3) 5500 g
- (4) 5750g



7. Peter had 15 sweets and 9 chocolates. What fraction of the snacks Peter had are chocolates?

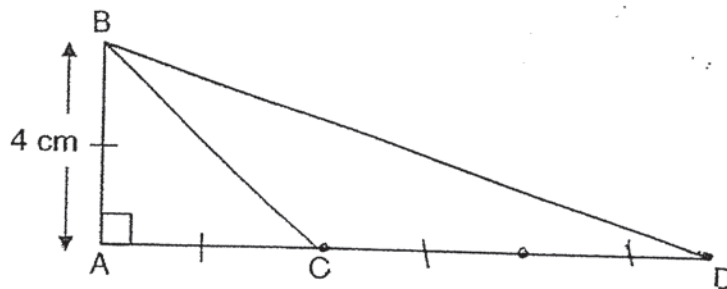
(1) $\frac{2}{3}$

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

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

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

8. In the figure below, the length of AD is thrice of AC. Find the area of triangle BCD.



(1) 16 cm^2

(2) 24 cm^2

(3) 32 cm^2

(4) 48 cm^2

9. Find the value of $\frac{5w}{2} - w + 2$ when $w = 10$.

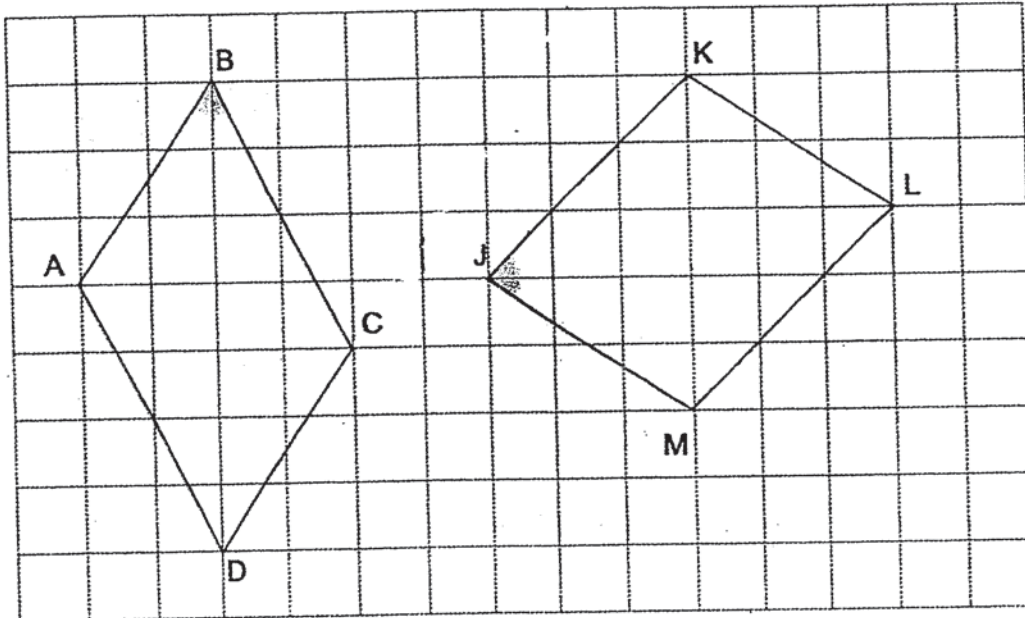
(1) 13

(2) 17

(3) 21

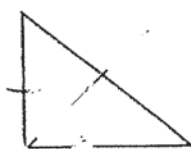
(4) 22

10. The figure below shows 2 parallelograms, ABCD and JKLM. Which of the following statements is true?

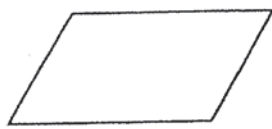


- (1) Line AB is parallel to line JK.
- (2) Line CD is perpendicular to Line JM.
- (3) Parallelogram JKLM is also a rectangle.
- (4) The angle $\angle ABC$ is equal to angle $\angle KJM$.

11. How many of the following shapes have at least a line of symmetry?



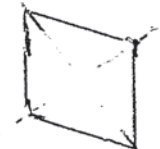
isosceles triangle



parallelogram



trapezium

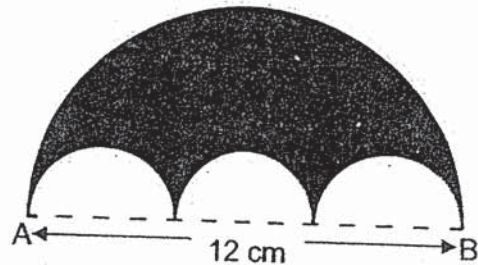


rhombus

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

12. The figure below is made up of a large semi-circle and 3 small identical semi-circles. Given that the length of AB is 12 cm, find the area of the shaded part in terms of π .

- (1) $12\pi \text{ cm}^2$
 (2) $18\pi \text{ cm}^2$
 (3) $24\pi \text{ cm}^2$
 (4) $48\pi \text{ cm}^2$

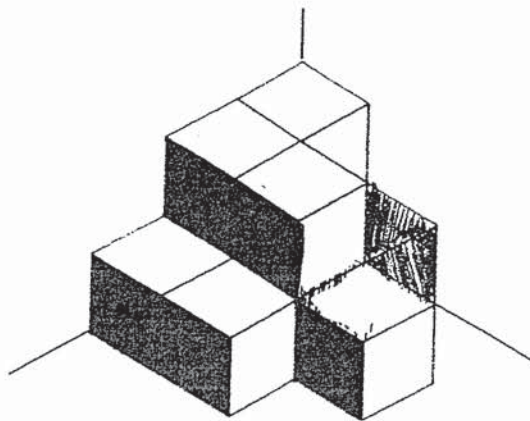


13. The distance between Point A and B is 480 m.
 John started cycling from point A to B at an average speed of 3 m/s while
 Peter started cycling from point B to A at an average speed of 2 m/s.
 How far apart will they be after 40 seconds?

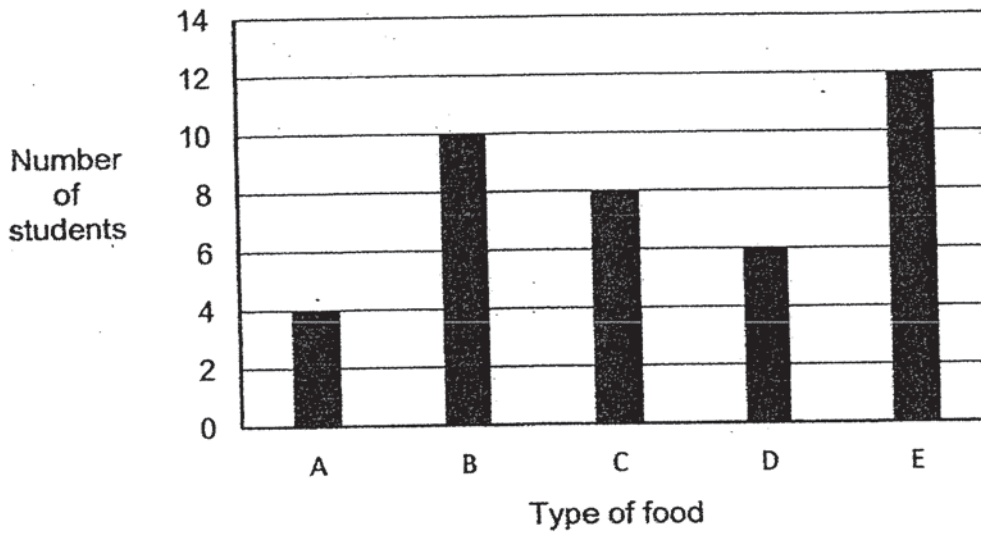
- (1) 40 m
 (2) 80 m
 (3) 120 m
 (4) 280 m

14. The figure below shows 10 cubes glued together to form a solid. The entire solid, including the base, was then painted red. How many cubes have only 3 of the faces painted?

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

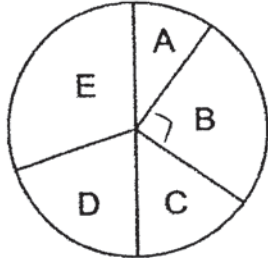


15. The bar graph below shows the result of 40 students voting for their favourite type of food, A to E.

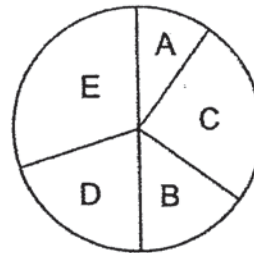


Which pie chart below best represents the information in the bar graph?

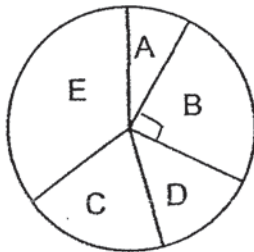
(1)



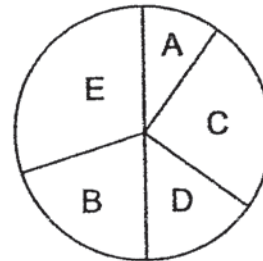
(3)



(2)



(4)



End of Booklet A

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SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION 2022

PRIMARY 6
MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 1 h

Name : _____ ()

19 August 2022

Class : Primary 6 SY

Mathematics Teachers

SL / CTEO / LXJ /

INSTRUCTIONS TO CANDIDATES

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

	Max Mark	Marks attained
Booklet B	25	

This booklet consists of 7 printed pages and 2 blank pages.

Booklet B

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided.

For questions which require units, give your answers in the units stated. **(5 marks)**

Do not write in
this space

16. Express $7\frac{3}{5}$ as a decimal.

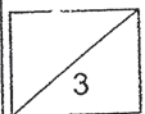
Ans: _____

17. Find the value of 2.6×40 .

Ans: _____

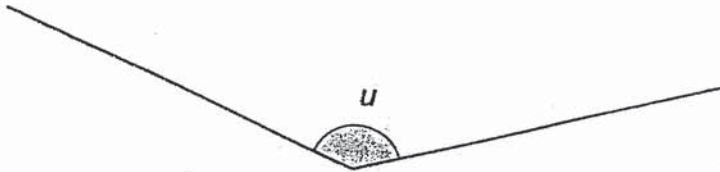
18. Express $\frac{11}{20}$ as a percentage.

Ans: _____ %



19. Measure and write down the size of $\angle u$.

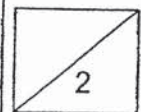
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Ans: _____ °

20. 3 ℓ of water was poured into 4 glasses equally. What is the volume of water in each glass?

Ans: _____ ℓ



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

Do not write in this space

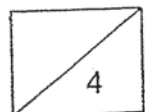
21. John received the following test results from the school. What did John get for his Chinese Language marks if the average marks for all four subjects is 75?

Subjects	Marks
English Language	68
Mathematics	74
Science	83
Chinese Language	?

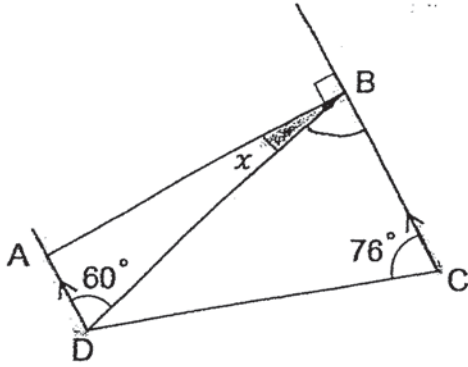
Ans: _____

22. Farhana took 8 minutes to walk home from school, which was 1.2 km away. What was her average speed?

Ans: _____ m/ min



23. In the figure below, not drawn to scale, AD is parallel to BC. Find $\angle x$.

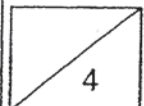


Do not write in this space

Ans: _____^o

24. Mr Chua had 36 kg of rice. He wanted to pack them into smaller bags of $\frac{4}{5}$ kg each. How many packets of rice will he get?

Ans: _____



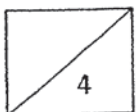
25. A vase was sold at a 40% discount for \$48. What was the original price of the vase before the discount?

Do not write in this space

Ans: \$ _____

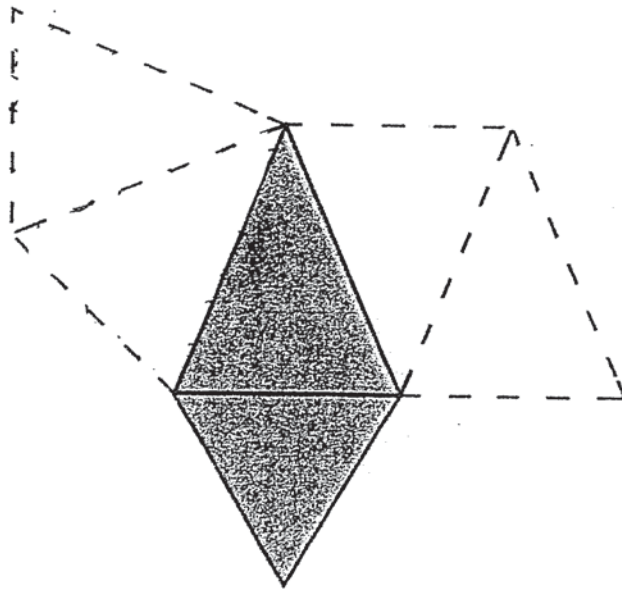
26. A container completely filled with water weighed $1\frac{4}{5}$ kg. After pouring out $\frac{2}{3}$ of the water, it weighed 1kg. What was the mass of the container?

Ans: _____ kg

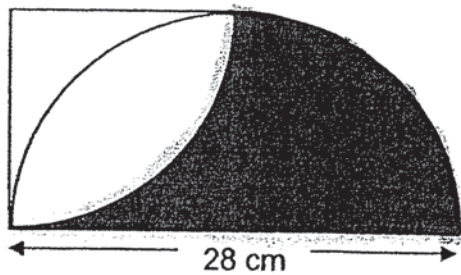


27. The net of a pyramid drawn below has 2 missing faces. Shade 2 faces to complete the net of the pyramid.

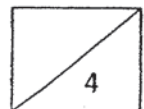
Do not write in this space



28. The figure below shows a semi-circle overlapping with a quadrant. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

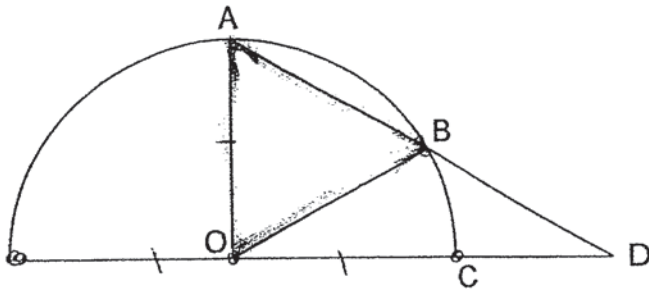


29. Charmaine read 30 pages on Monday and $\frac{1}{2}$ of the remaining book on Tuesday. She was then left with 20% of the book unread. How many pages does the book have?

Do not write in this space

Ans: _____

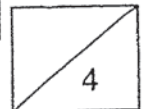
30. The figure below, not drawn to scale, shows a semi-circle with centre O and straight lines AD, OB and CD.



Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick ✓ to indicate your answer.

Statement	True	False	Not possible to tell
a) $\angle OAB$ is equal to $\angle OBA$.			
b) Triangle OAB is an equilateral triangle.			

End of Booklet B



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SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION 2022

PRIMARY 6
MATHEMATICS
PAPER 2

Time : 1 h 30 min

Name : _____ ()

19 August 2022

Class : Primary 6 SY

Mathematics Teachers

SL / CTEO / LXJ / KYS

INSTRUCTIONS TO CANDIDATES

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

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

Parent's Signature

This booklet consists of 14 printed pages and 2 blank pages.

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

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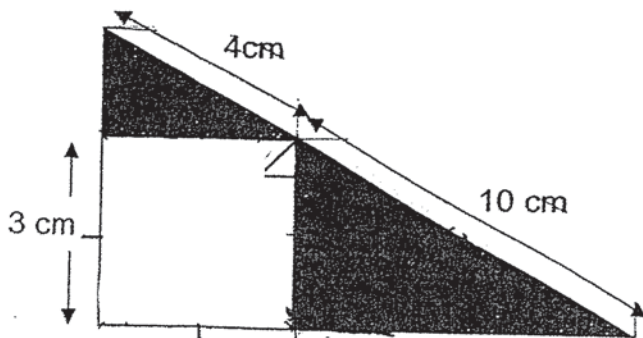
1. A crate contains apples, oranges and pears. $\frac{1}{2}$ of the fruits are pears. The ratio of the number of apples to oranges is 3 : 4 . What is the ratio of the number of pears to the number of oranges?

Ans: _____

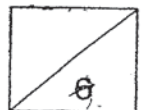
2. The exchange rate for Singapore dollar (SGD) to Malaysia ringgit (MYR) is 10 SGD = 32.35 MYR. How much MYR will I get if I exchange 220 SGD?

Ans: MYR _____

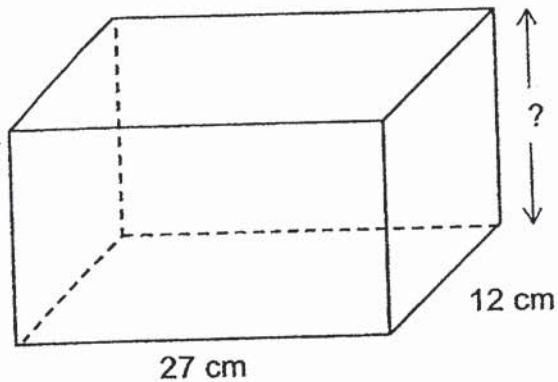
3. The figure below, not drawn to scale, shows a square in a right-angle triangle. Find the area of the shaded part.



Ans: _____ cm²



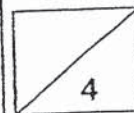
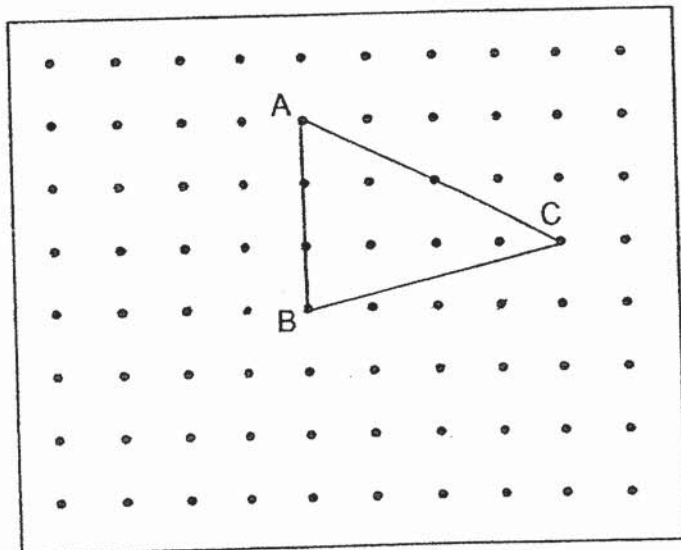
4. Water was flowing out from a leaking tap at a rate of 270ml per minute, filling up the container shown below. It took 27 minutes for the container to be completely filled with water. What is the height of the container?



Do not write in this space

Ans: _____ cm [2]

5. Triangle ABC is drawn on the square grid as shown below. By joining dots on the grid with straight lines,
- draw and label a trapezium CABF such that the length of BF is half of AC.
 - draw and label Triangle ABD such that its area is half of Triangle ABC. Triangle ABD must not overlap with trapezium CABF.



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

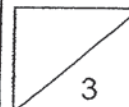
Do not write in this space

6. Helen is $(y + 8)$ years old now. She is 3 years older than Bonny.
(a) What will be their total age in 2 years' time in terms of y ?

Ans: (a) _____ [2]

- (b) If $y = 5$, find their total age in 2 years' time.

Ans: (b) _____ [1]

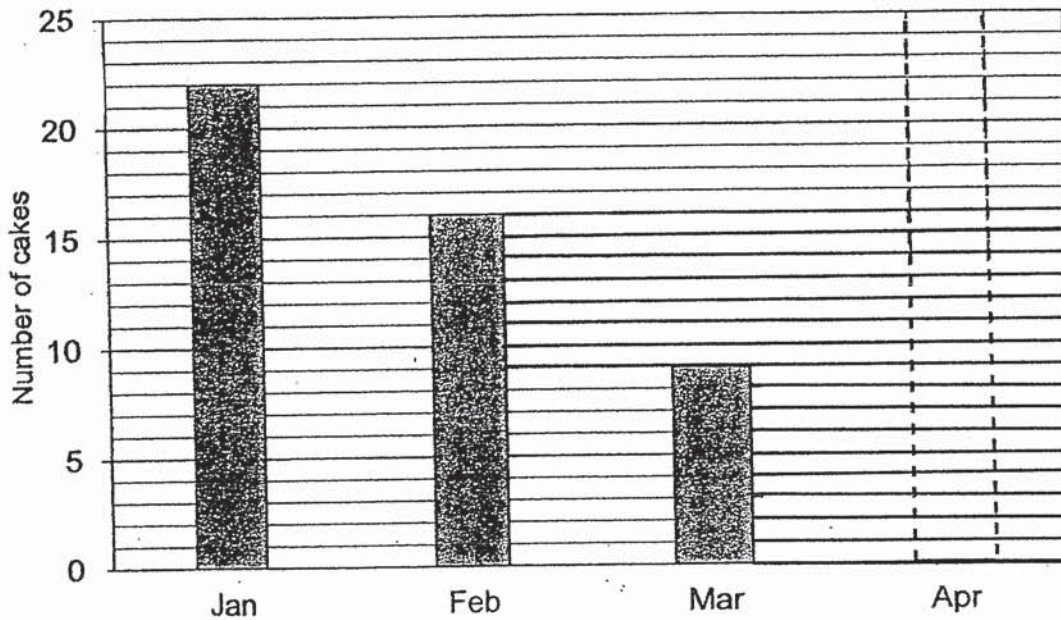


7. The bar graph below shows the number of cakes a bakery sold from January to March.

Do not write in this space

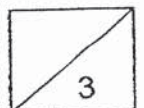
(a) The number of cakes sold in March was 15% of the total number of cakes sold from January to April.

What was the total number of cakes sold from January to April?

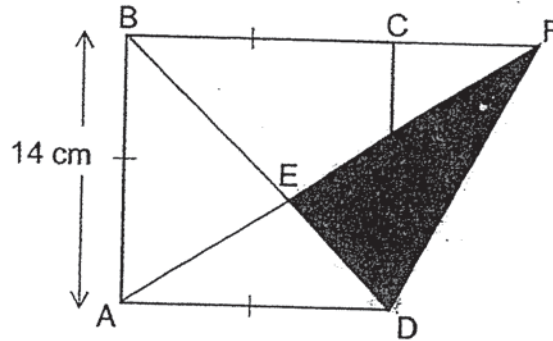


Ans: (a) _____ [2]

(b) Draw and shade the bar representing the number of cakes sold in April above. [1]

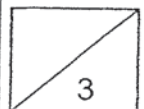


8. In the figure below, not drawn to scale, ABCD is a square with a length of 14 cm.
 Given that BCF is a straight line, and the area of triangle AED is 36.75 cm^2 ,
 find the area of triangle EFD:



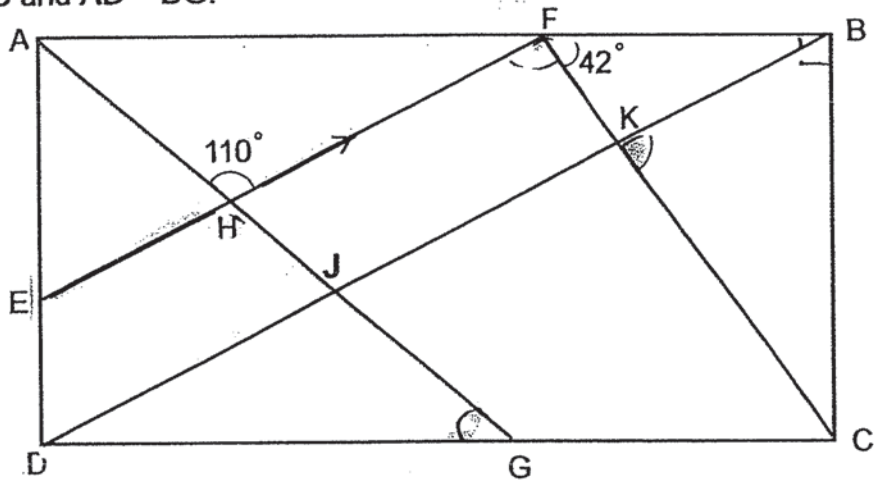
Do not write in
 this space

Ans: _____ [3]



9. In the figure below, not drawn to scale, ABCD is a rectangle. EF is parallel to BD and $AD = DG$.

Do not write in this space

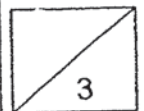


(a) Find $\angle AFE$.

Ans: (a) _____ [1]

(b) Find $\angle BKC$.

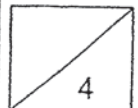
Ans: (b) _____ [2]



10. The cost of an adult ticket to a concert was \$68.80. The cost of a child ticket was \$32.80. The total amount of money collected from ticket sales was \$28 100 for a capacity of 500 people. How many adults attended the concert?

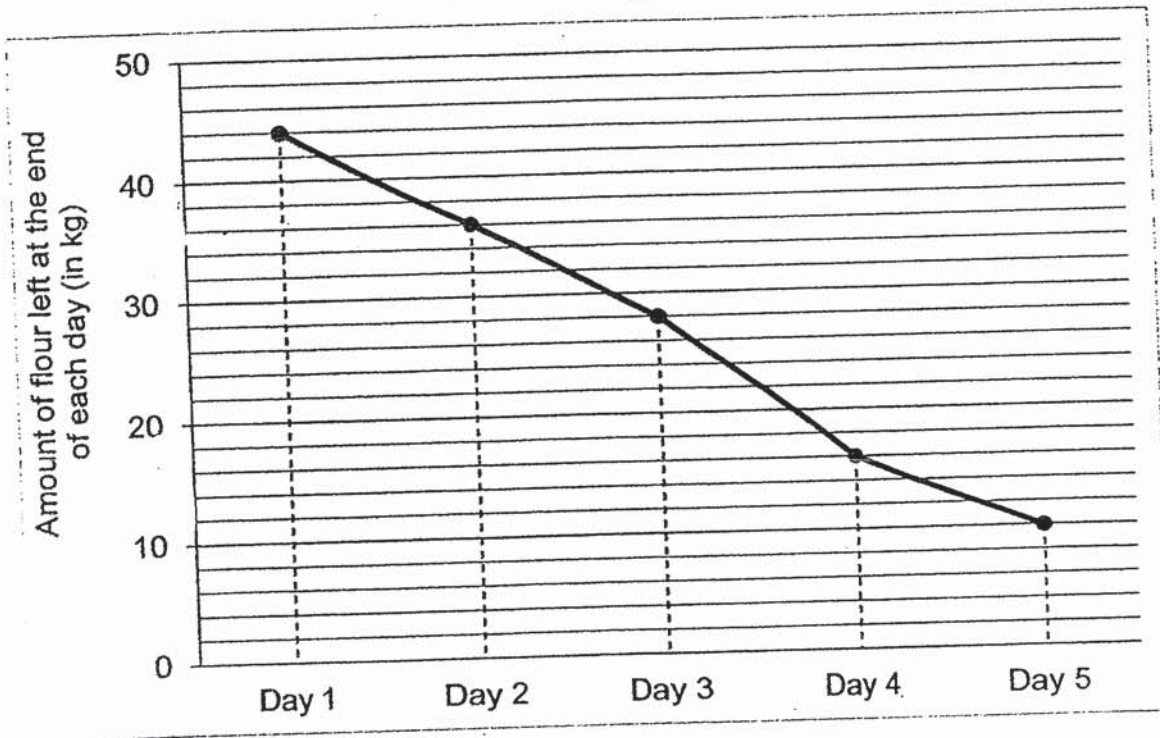
Do not write in this space

Ans: _____ [4]



11. A baker had a 50-kg sack of flour at first. The graph shows the amount of flour left at the end of each day for 5 days.

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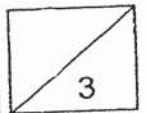


- (a) Which day did the baker use the greatest amount of flour?

Ans: (a) _____ [1]

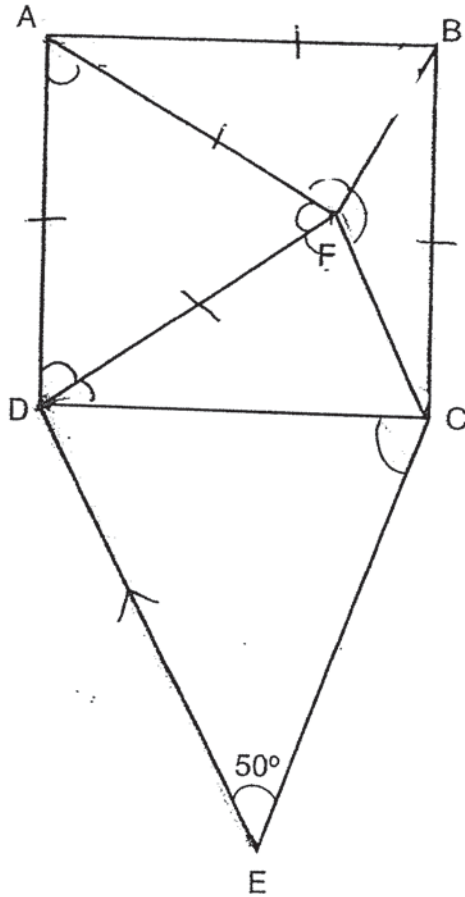
- (b) What percentage of the 50-kg sack of flour was used by day 5?

Ans: (b) _____ [2]



12. In the figure below, ABCD is a square. ADF is an equilateral triangle and DECF is a trapezium. $DE \parallel FC$, $\angle DEC = 50^\circ$.

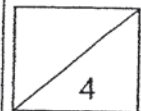
- (a) Find ~~$\angle DCF$~~ $\angle DCE$
 (b) Find $\angle BFC$



Do not write in this space

Ans: (a) _____ [2]

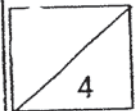
(b) _____ [2]



13. Fred, Gerald and Harry shared \$123 altogether. At a toy shop, Fred spent $\frac{2}{5}$ of his money, Gerald spent $\frac{3}{4}$ of his money and Harry spent $\frac{2}{3}$ of his money. Fred and Gerald spent the same amount of money and Harry spent twice of what Fred spent. Find the amount of money Gerald had at first.

Do not write in this space

Ans. _____ [4]



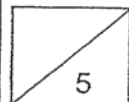
14. Mdm Pang baked some cookies. She gave $\frac{1}{4}$ of it to her relatives and gave 80 cookies to her friends. She was left with $\frac{1}{3}$ of it.
(a) How many cookies had Mdm Pang left?

Do not write in this space

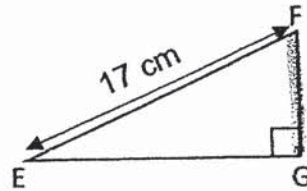
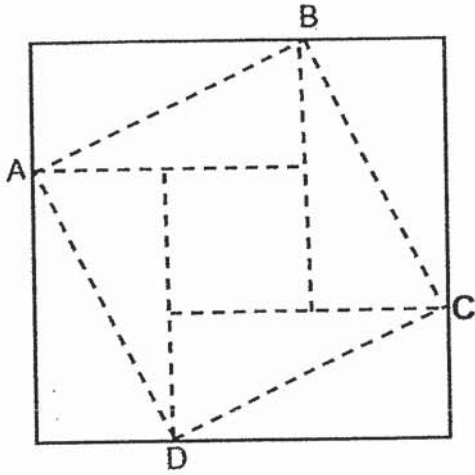
Ans: (a) _____ [3]

- (b) Mdm Pang packed the leftover cookies into 10 small and large bags. The number of cookies in each large bag is twice the number of cookies in each small bag. How many large bags of cookies were there?

Ans: (b) _____ [2]



15. Celine took a square piece of paper and cut along the dotted line shown below. As a result, she got a small square of area 49 cm^2 and 8 identical right-angled triangles. Triangle EFG is one such right-angled triangles.



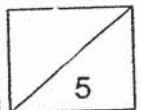
Do not write in this space

(a) Find the area of the square ABCD.

Ans: (a) _____ [1]

(b) Find the length of FG.

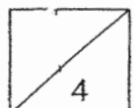
Ans: (b) _____ [4]



16. There were 75 more children than adults at a funfair on Saturday. On Sunday, the number of children increased by 24% while the number of adults decreased by 15%. There were 2810 people on Sunday. How many people were there at the funfair on Saturday?

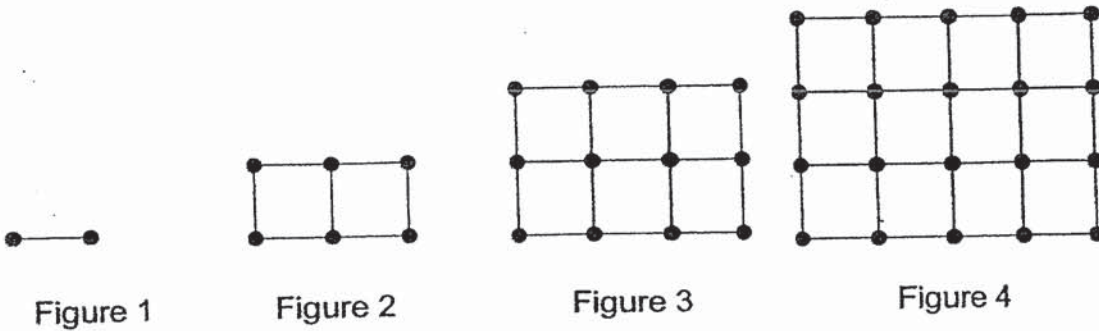
Do not write in
this space

Ans: _____ [4]



17. The diagram below shows figures made up of dots and lines.

Do not write in this space



(a) Complete the table below.

Figure No.	Number of dots	Number of lines
1	2	1
2	6	7
3	12	17
4	20	31
5		

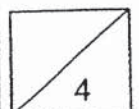
[2]

(b) Which figure no. will it be where there are 156 dots?

Ans: (b) _____ [2]

End of Paper 2

~ Please check your work thoroughly. ~



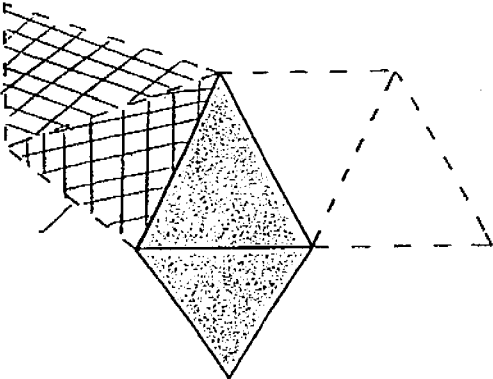
SCHOOL : SINGAPORE CHINESE GIRLS' SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : 2022 PRELIM

BOOKLET A (PAPER 1)

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

BOOKLET B (PAPER 1)

Q16	7.6
Q17	104
Q18	55%
Q19	142°
Q20	$\frac{3}{4}$ L
Q21	Average = 75 $68 + 74 + 83 = 225$ $75 \times 4 = 300$ $300 - 225 = 75$
Q22	1.2km = 1200m $1200 \div 8 = 150$ m/min
Q23	$180 - 90 = 90$ $90 - 60 = 30^\circ$
Q24	$36 \div \frac{4}{5}$ = 45
Q25	60% : \$48 1% : $48 \div 60$ = 0.8 $0.8 \times 100 = \$80$
Q26	$\frac{2}{3}$ of water : $1\frac{4}{5} - 1 = \frac{4}{5}$ $\frac{1}{3}$ of water : $\frac{4}{5} \times \frac{1}{2}$ = $\frac{2}{5}$ $1 - \frac{2}{5} = \frac{3}{5}$ kg

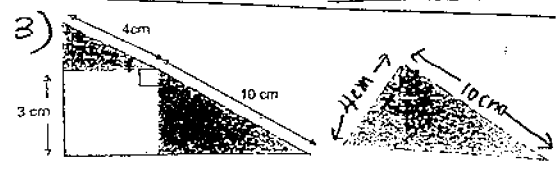
Q27	
Q28	<p>Semicircle : $2\pi r \times \frac{1}{2}$ $= 2\left(\frac{22}{7}\right) \times 14 \times \frac{1}{2}$ $= 44$ $44 + 28 = 72\text{cm}$</p>
Q29	<p>$5u - 2u = 3u$ $3u = 30$ $u = 30 \div 3$ $= 10$ $5u = 10 \times 5$ $= 50 \text{ pages}$</p>
Q30	<p>a) True ✓ b) Not possible to tell ✓</p>

Maths Prelims, 2022 Paper 2

1) P: Total A: 0 | A+0
 1: 2 3:4 | 7
 = 7:14

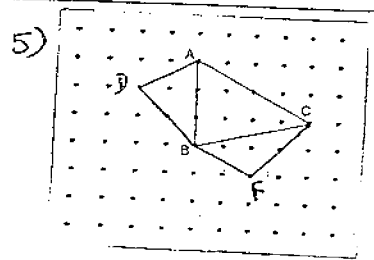
P: 0 — 7:4

2) SGD 10 — MYR 32.35
 x22 (SGD 220 — MYR 32.35 x 22
 = MYR 711.70)



$\angle x + \angle y = 90^\circ$
 Shaded area — $\frac{1}{2} \times 10 \text{ cm} \times 4 \text{ cm}$
 = 20 cm²

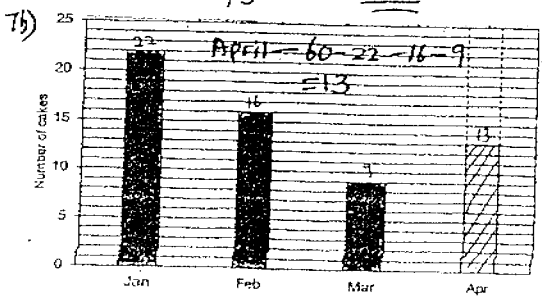
4) Height — $\frac{27 \times 270 \text{ cm}^3}{27 \text{ cm} \times 12 \text{ cm}} = 22\frac{1}{2} \text{ cm}$



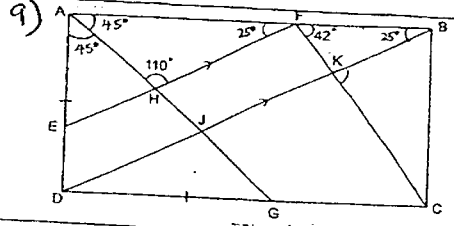
6a) Bonny now — $y + 8 - 3 = y + 5$
 Total now — $(y + 8 + y + 5 + 2 + 2) \text{ yrs}$
 = $(2y + 17) \text{ yrs}$

6b) Total — $(2 \times 5 + 17) \text{ yrs}$
 = 27 yrs

7a) 15% — 9
 100% — $\frac{9}{15} \times 100 = 60$



8) Area of AFD — $\frac{1}{2} \times 14 \text{ cm} \times 14 \text{ cm} = 98 \text{ cm}^2$
 Area of EFD — $98 \text{ cm}^2 - 36.75 \text{ cm}^2 = 61.25 \text{ cm}^2$

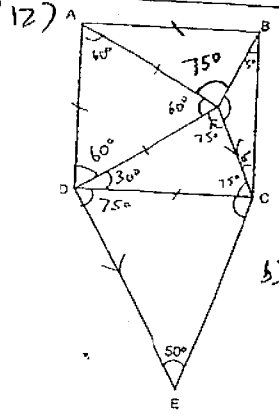


a) $\angle AFE$
 — $180^\circ - 110^\circ - 45^\circ$
 = 25°
 b) $\angle BKC$ — $42^\circ + 25^\circ$
 = 67°

10) If all 500 were children, amount collected will be — $\$32.80 \times 500 = \16400
 Diff in total — $\$28100 - \$16400 = \$11700$
 Diff between 1 adult and 1 child ticket — $\$68.80 - \$32.80 = \$36$
 No. of adults — $\frac{\$11700}{\$36} = 325$

11a) 4 (steepest line between Day 3 and Day 4)

11b) Used — $50 \text{ kg} - 10 \text{ kg} = 40 \text{ kg}$
 % used — $\frac{40 \text{ kg}}{50 \text{ kg}} = \frac{80}{100} = 80\%$



$\angle FDC$ — $90^\circ - 60^\circ = 30^\circ$
 $\angle DCF$ — $\frac{180^\circ - 30^\circ}{2} = 75^\circ$
 a) $\angle DCE$ — $180^\circ - 75^\circ - 50^\circ$
 = 55°
 b) $\angle BFC$ — $360^\circ - 75^\circ - 75^\circ - 60^\circ$
 = 150°

13) $\frac{2}{5}$ of F = $\frac{3}{4}$ of G
 $\frac{6}{15}$ of F = $\frac{6}{8}$ of G
 Harry — $\frac{2}{3} = \frac{12}{18}$

Fred — 15u
 Gerald — 8u
 Harry — 18u
 Total — $15u + 8u + 18u = 41u$
 $41u$ — \$123
 $1u$ — $\frac{\$123}{41} = \3
 $8u$ — $\$3 \times 8 = \24

14a) Gave to relatives — $\frac{1}{4} = \frac{3}{12}$

Left — $\frac{1}{3} = \frac{4}{12}$

Gave to friends — $1 - \frac{3}{12} - \frac{4}{12}$
 $= \frac{5}{12}$

$\frac{5}{12} — 80$

$\frac{1}{12} — \frac{80}{5} = 16$

$\frac{4}{12} — 16 \times 4 = \underline{\underline{64}}$
 (left)

14b) 9 small + 1 large — 10 bags
 (2 small) x

8 small + 2 large — 10 bags
 (4 small) x

7 small + 3 large — 10 bags
 (6 small) x

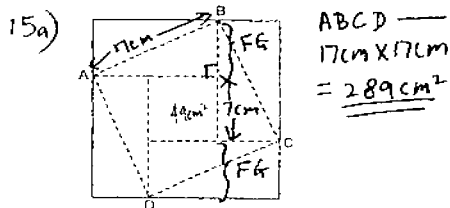
6 small + 4 large — 10 bags
 (8 small) x

5 small + 5 large — 10 bags
 (10 small) x

4 small + 6 large — 10 bags
 (12 small) x

$4 + 12 = 16$, 64 is divisible by 16

Ans: 6



b) 4 triangles — $289\text{cm}^2 - 49\text{cm}^2$
 $= 240\text{cm}^2$

8 triangles — $240\text{cm}^2 \times 2 = 480\text{cm}^2$

Area of large square — $480\text{cm}^2 + 49\text{cm}^2$
 $= 529\text{cm}^2$

Length of small square — $\sqrt{49\text{cm}^2} = 7\text{cm}$

Length of large square — $\sqrt{529\text{cm}^2} = 23\text{cm}$

FG — $\frac{23\text{cm} - 7\text{cm}}{2} = \underline{\underline{8\text{cm}}}$

16) Saturday

C	100%	75
A	100%	

Sunday

children — 124% and $75 + \frac{24}{100} \times 75$
 $= 93$

Adults — 85%

Total on Sunday — 124% + 85% and 93 children
 $= 209\%$ and children

209% — $2810 - 93$
 $= 2717$

1% — $\frac{2717}{209} = 13$

200% — $13 \times 200 = 2600$

Saturday — $2600 + 75 = \underline{\underline{2675}}$

17) No. of dots — Figure number x (Figure number + 1)

No. of lines — (Figure number)² + (F.g. no. - 1) x (F.g. no. + 1)

a) No. of dots in figure 5 — $5 \times (5 + 1)$
 $= \underline{\underline{30}}$

No. of lines in figure 5 — $5 \times 5 + (5 - 1) \times (5 + 1)$
 $= 5 \times 5 + 4 \times 6$
 $= \underline{\underline{49}}$

b) Figure 10 — $10 \times 11 = 110$

Figure 11 — $11 \times 12 = 132$

Figure 12 — $12 \times 13 = 156$

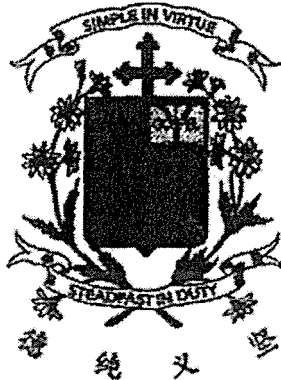
↑ Answer

END
 5.

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



Primary 6 Mathematics

2022 Preliminary Examination

Paper 1

Booklet A

22 August 2022

15 questions
20 marks

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

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

This booklet consists of 11 printed pages.

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

(20 marks)

1. What is the value of 4 hundreds, 9 tenths and 7 hundredths?

- (1) 409.7
- (2) 409.07
- (3) 400.907
- (4) 400.97

2. Find the value of $35 - 5 \times 3 + 48 \div 6$.

- (1) 23
- (2) 28
- (3) 38
- (4) 98

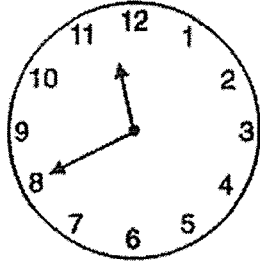
3. There were 16 chairs in a room at first. Another 4 chairs were put in the room. Find the percentage increase in the number of chairs in the room.

- (1) 20%
- (2) 25%
- (3) 75%
- (4) 80%

4. Which of the following is the same as 20 km 57 m?

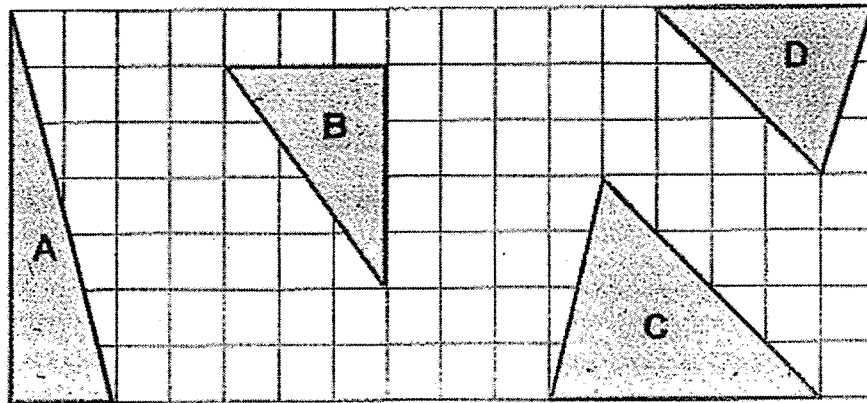
- (1) 2057 m
- (2) 2570 m
- (3) 20 057 m
- (4) 20 570 m

5. What is 45 minutes before the time shown on the clock?



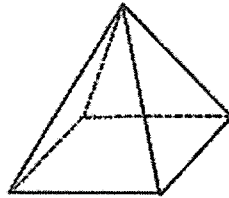
- (1) 19 15
- (2) 20 45
- (3) 22 55
- (4) 23 40

6. Which triangles, A, B, C and D have the same area?



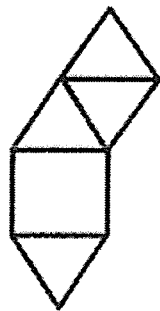
- (1) A and B
- (2) B and C
- (3) B and D
- (4) C and D

7. The figure below shows a pyramid.

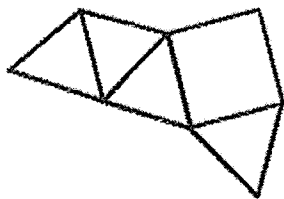


Which of the following nets **cannot** be folded to form the pyramid?

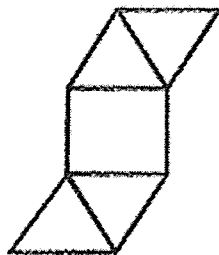
(1)



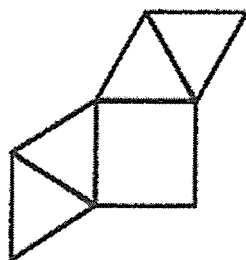
(2)



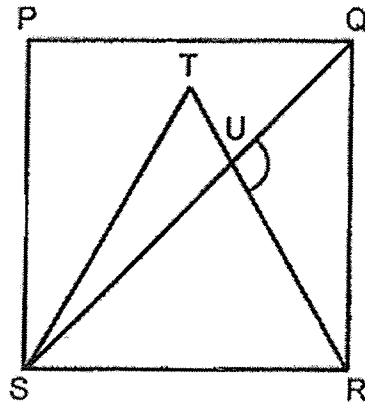
(3)



(4)



8. In the figure, PQRS is a square. RST is an equilateral triangle. QUS is a straight line. Find $\angle QUR$.



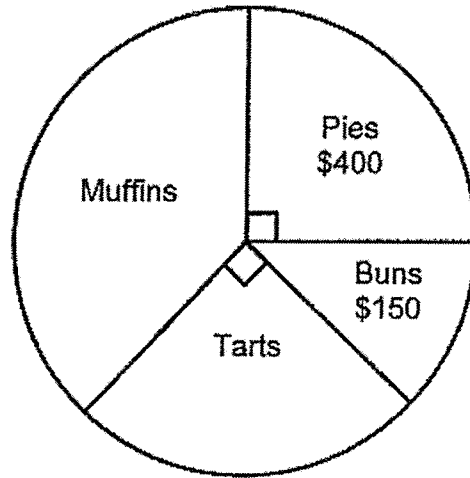
- (1) 135°
(2) 105°
(3) 75°
(4) 60°
9. Wynona wrote the numbers below :

20, 15, 15, 0, 10

What is the average of all the numbers?

- (1) 9
(2) 12
(3) 15
(4) 60

10. The pie chart shows the amount of money collected by a bakery in a day. How much money was collected from the sale of muffins?



- (1) \$250
- (2) \$550
- (3) \$650
- (4) \$950

11. The table shows the number of badges three girls had at first.

Name	Number of badges
Skyla	36
Noemi	21
Goldie	?

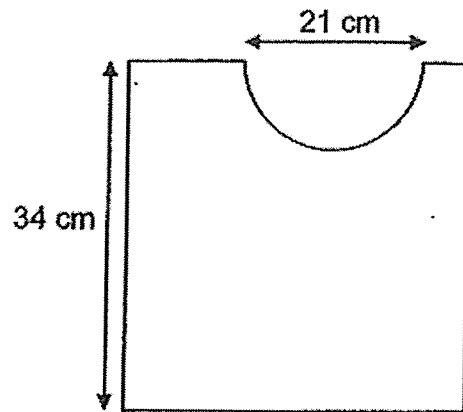
Skyla and Noemi each gave Goldie the same number of badges. Then Skyla and Goldie had 26 badges each. How many badges did Goldie have at first?

- (1) 5
 - (2) 2
 - (3) 6
 - (4) 4
12. Joel packed 36 English books and 54 Chinese books into as many bags as possible, with no remainder. He placed the same number of books in each bag. The number of English books in each bag was the same. How many English books did he pack into each bag?

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

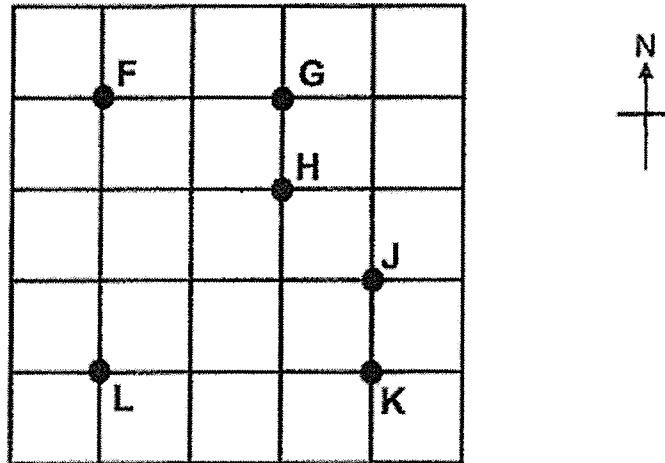
13. A semicircle with a diameter of 21 cm is cut out from a square piece of cardboard.

What is the perimeter of the remaining piece of cardboard? (Take $\pi = \frac{22}{7}$)



- (1) 168 cm
- (2) 157 cm
- (3) 148 cm
- (4) 135 cm

14. Which one of the following statements is TRUE of the diagram shown?



- (1) Point G is north-east of Point L.
- (2) Point G is north-west of Point K.
- (3) Point H is south-west of Point L.
- (4) Point K is south-east of Point F.

15. Levene gave $\frac{1}{5}$ of her balloons to Brissa. She also gave Odette 10 fewer balloons than Brissa. In the end, Levene had 82 balloons. How many balloons did Levene give away altogether?

- (1) 33
- (2) 38
- (3) 115
- (4) 120

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



**Primary 6 Mathematics
2022 Preliminary Examination**

Paper 1

Booklet B

22 August 2022

Booklet A	20
Booklet B	25
Total (Paper 1)	45

15 questions
25 marks

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

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

This booklet consists of 11 printed pages.

Questions 16 to 20 carry 1 mark each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write in this space

16. Write a decimal that is between 8.4 and 8.5

Ans: _____

17. Arrange the following from the greatest to the smallest.

$$1\frac{9}{10}, \quad \frac{14}{5}, \quad \frac{9}{6}, \quad 2$$

Ans: _____

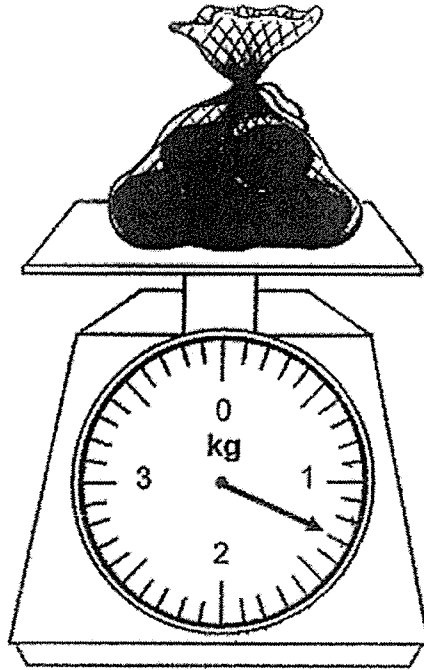
18. Express 0.1% as a fraction.

Ans: _____

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19. What is the mass of the bag of onions?

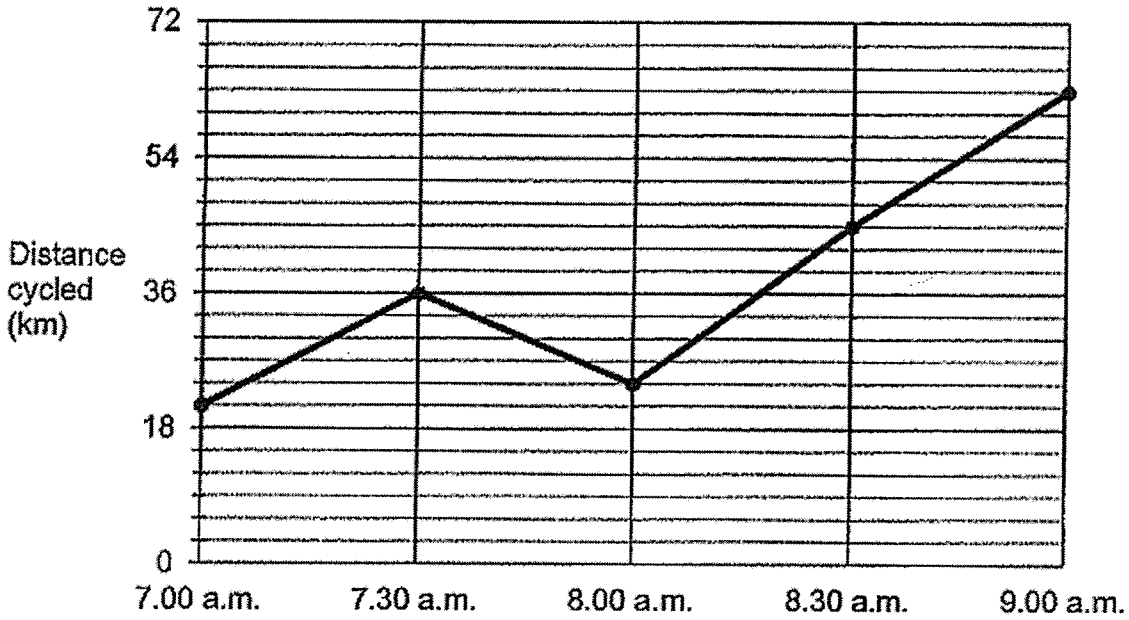
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Ans: _____ kg

20. Kailli took part in a cycling race. The line graph shows the total distance she cycled from 7 a.m. to 9 a.m.

Do not write in this space



During which one-hour period was the distance cycled by Kailli the longest?

Ans: From _____ a.m. to _____ a.m.

MARKS:

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

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21. The table below shows the number of points scored by a group of boys and girls in a quiz. What is the total number of boys and girls who scored at least 4 points?

Number of points scored	1	2	3	4	5
Number of boys	3	9	13	8	7
Number of girls	4	11	6	12	10

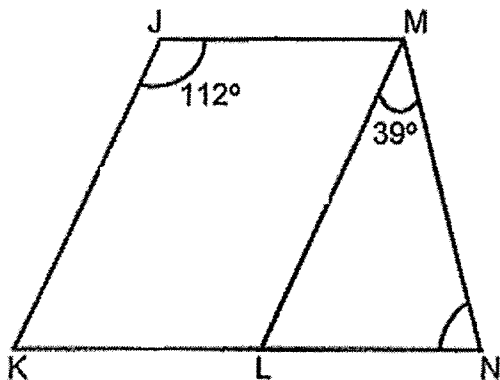
Ans: _____

22. Pam went shopping with $\$14d$. She bought a fan for $\$5d$. She also bought an oven at $\$60$ more than the fan. How much money did she have left? Leave your answer in terms of d .

Ans: \$ _____

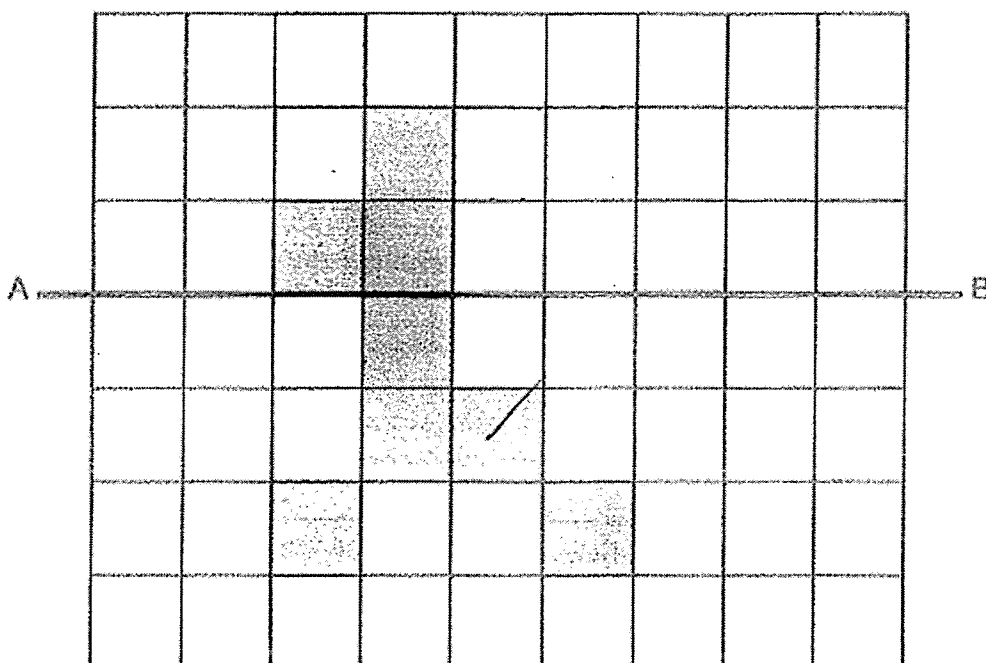
23. In the figure, JKLM is a parallelogram. $\angle KJM = 112^\circ$ and $\angle LMN = 39^\circ$. KLN is a straight line. Find $\angle MNL$.

Do not write in this space



Ans: _____^o

24. The figure below is made up of identical squares. Shade the least number of squares so that AB is the line of symmetry.



25. At first, a container was $\frac{3}{5}$ filled with lemonade. Then 140 cm^3 of lemonade was poured into the container. In the end, the container was $\frac{5}{8}$ filled. What is the capacity of the container?

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Ans: _____ cm^3

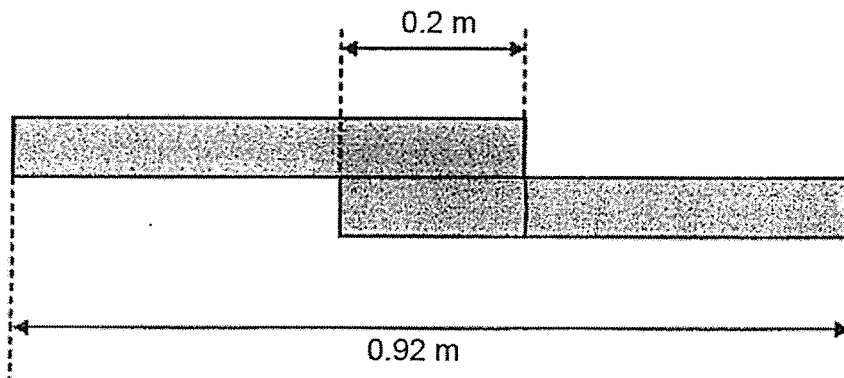
26. Ramesh walked from his house to the park. He walked at a speed of 5 km/h and took 24 minutes to reach the park. If he had walked 1 km/h slower, how long would he take to reach the park?

Ans: _____ h

--

27. In the figure below, two identical poles are taped together.

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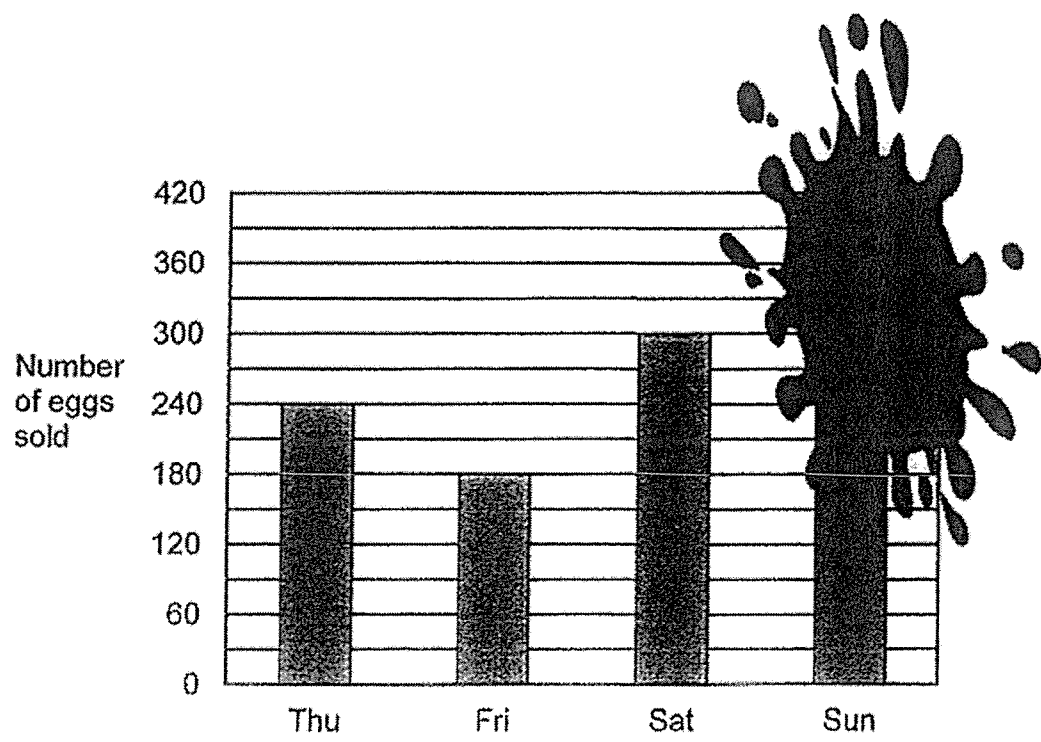


What is the length of each pole?

Ans: _____ cm

28. The bar graph below shows the number of eggs sold at a market over 4 days. The number of eggs sold on Sunday was smudged with ink. The average number of eggs sold over the 4 days was 200.5. How many eggs were sold on Sunday?

Do not write in this space



Ans: _____

MARKS:

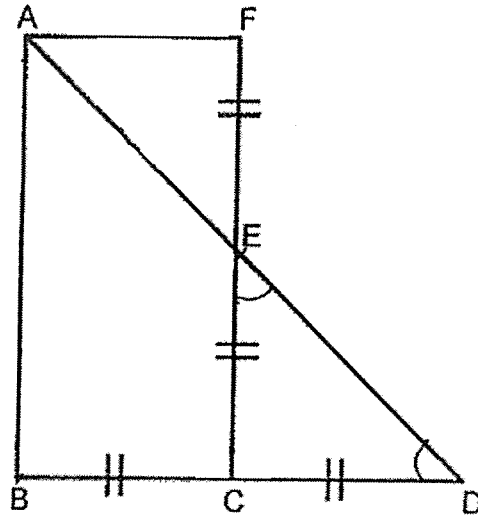
29. There were a total of 71 chocolate buns and kaya buns in a box. $\frac{1}{2}$ of the chocolate buns was 8 more than $\frac{1}{3}$ of the kaya buns. How many kaya buns were there in the box?

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Ans: _____

30. In the figure below, the area of triangle AEF is 18 cm^2 . Find the length of AB.

Do not write in this space



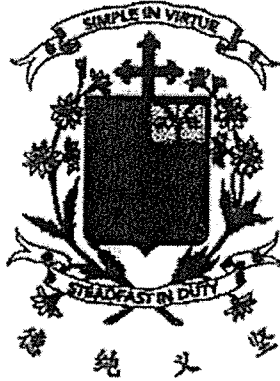
Ans: _____ cm^2

End of Paper

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



Primary 6 Mathematics

2022 Preliminary Examination

Paper 2

22 August 2022

Paper 1	45
Paper 2	55
Total Marks	100

Parent's/Guardian's Signature

Time : 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet

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

This booklet consists of 18 printed pages.

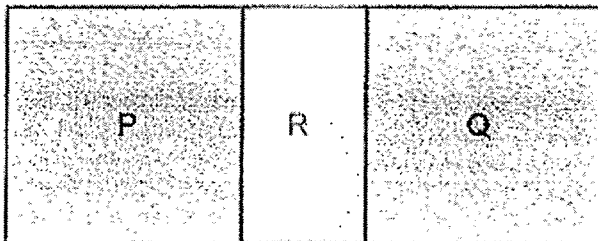
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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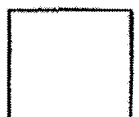
1. Mika had \$80. She wanted to buy 25 muffins at \$7 each. How much money was she short of?

Ans : \$ _____

2. The figure is made up of 2 identical squares, P and Q, and a rectangle, R. The area of the figure is 512 cm^2 . The perimeter of P is 52 cm. Find the area of rectangle R.

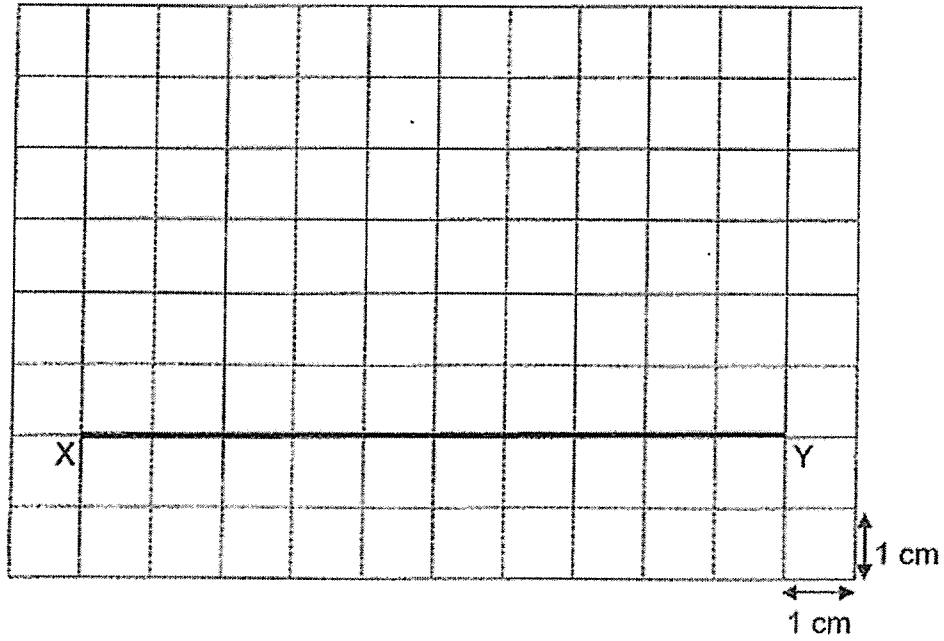


Ans : _____ cm^2

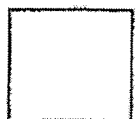


3. Using the grid below, draw and label trapezium WXYZ such that $\angle XYZ = 45^\circ$ and $\angle WXY = 90^\circ$. $XW = WZ = 5$ cm. Measure the length of XZ.

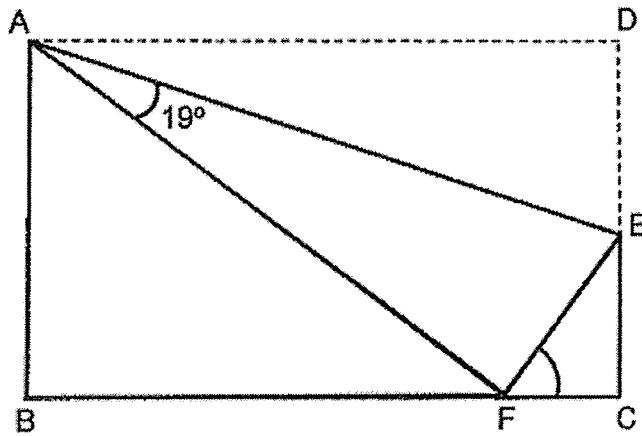
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Ans : _____ cm



4. The figure shows a rectangle ABCD being folded along AE. Find $\angle CFE$.



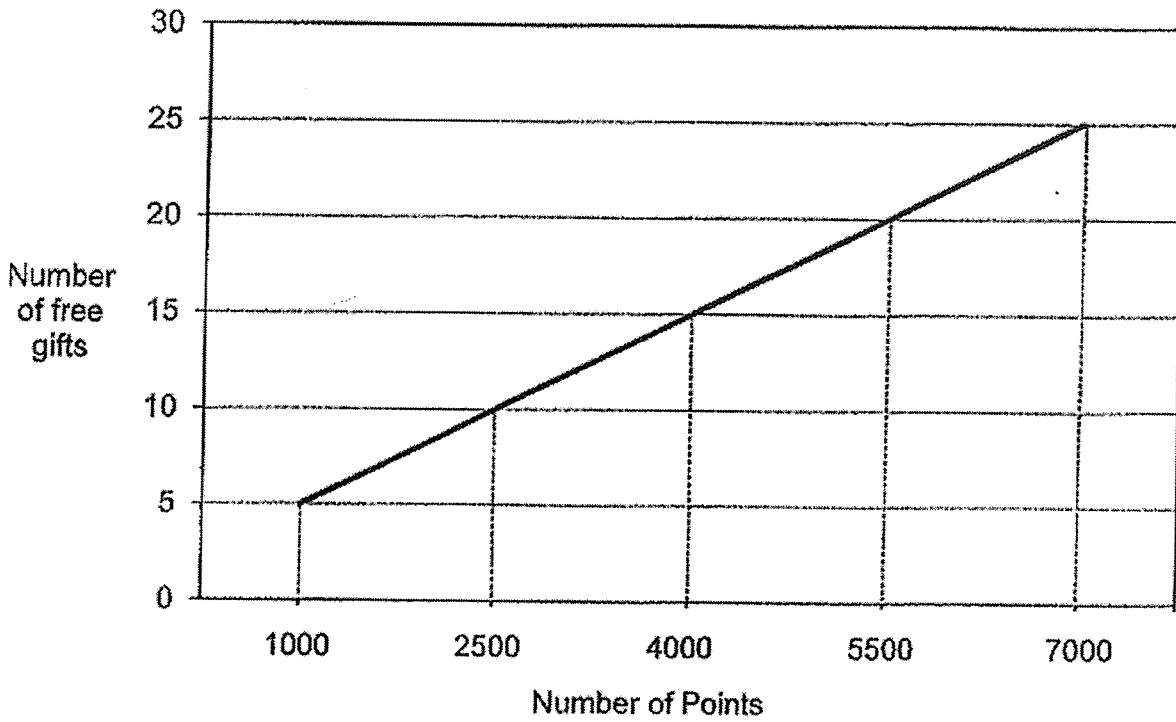
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Ans : _____ °



5. The line graph shows the amount of points needed to exchange for free gifts at a supermarket.

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- (a) How many free gifts can be exchanged with 2800 points?

Ans : (a) _____

- (b) Kai Feng has already earned 2000 points. How many more points does he need in order to exchange for a total of 27 free gifts?

Ans : (b) _____



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

Do not write in this space

6. Box Q and Box R contained a total of 126 beads. Another 24 beads were put into Box R. Then Box Q contained 2 more beads than Box R. How many beads were there in each box at first?

Ans : Box Q _____ [2]

Box R _____ [1]

7. At a cafe, Mona bought 6 chicken wings. She also bought 3 fruit tarts at \$1.50 each. Laretta bought 9 chicken wings. Altogether, Mona spent \$3.90 less than Laretta. How much did 1 such chicken wing cost?

Ans : _____ [3]



8. Brantley is $5k$ years old now. In 8 years' time, Brantley will be 4 times as old as Hailey.

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(a) Find Hailey's age in 8 years' time in terms of k .

Ans : (a) _____ [1]

(b) Given $k = 12$, find Hailey's age now.

Ans : (b) _____ [2]

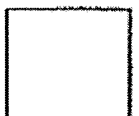


9. Papers of different masses were sold at Crafty Paper. The prices for the masses of paper are shown in the table below. Ethan chose a stack consisting of 35 sheets of paper which had a mass of 15 g each. How much did he pay altogether?

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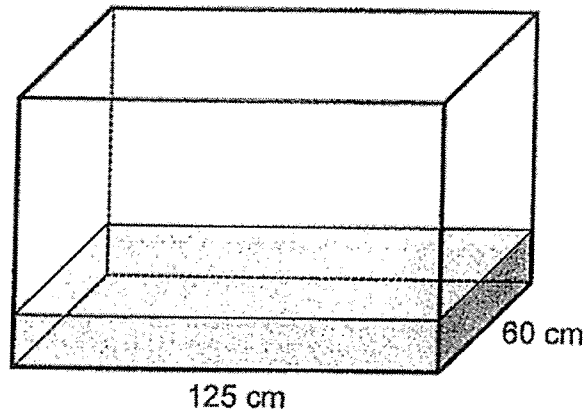
Mass of paper (grams) not exceeding	Price
50 g	\$2
120 g	\$4.50
200 g	\$8.00
For every additional 100 g or part thereof	\$3.80

Ans : _____ [3]



10. A rectangular tank measuring 125 cm by 60 cm was filled with water to a height of 14 cm. When 30 ℓ of water were removed from the tank, the water level dropped to $\frac{2}{5}$ of the height of the tank. What is the capacity of the tank?

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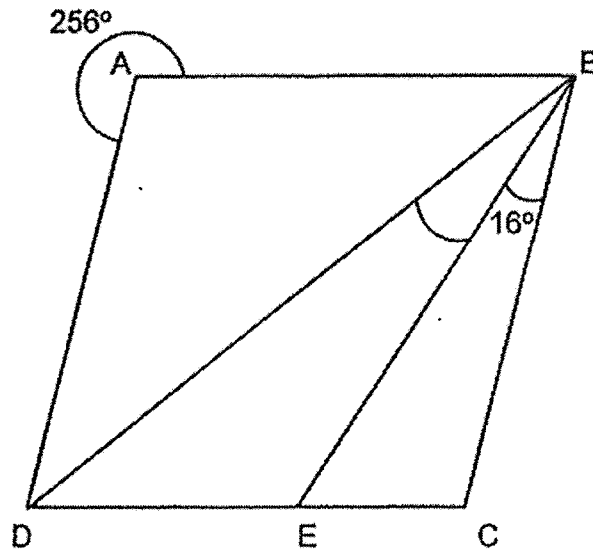


Ans : _____ [3]



11. ABCD is a rhombus. BD and BE are straight lines.

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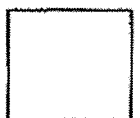
(a) Circle the words that describe BCD in the statement:

BCD (is / is not) an isosceles triangle because BC (is / is not) equal to CD.

[1]

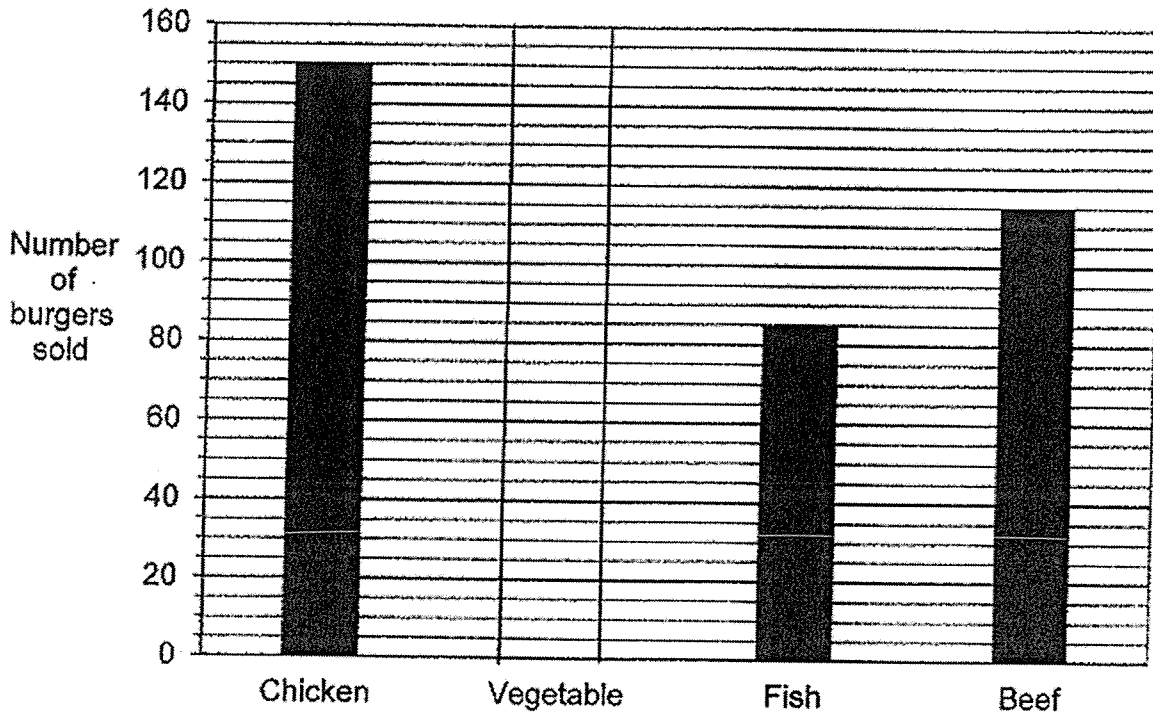
(b) Find $\angle DBE$.

Ans : (b) _____ [2]



12. The bar graph shows the number of each type of burgers sold at a fast food restaurant on a Friday.

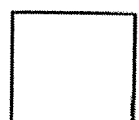
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The table shows the prices of each type of burger.

Type of burger	Price
Chicken	\$4.50
Vegetable	\$3.80
Fish	\$4.20
Beef	\$5.50

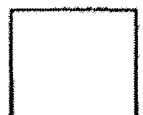
(a) The restaurant collected a total amount of \$437 from the sale of vegetable burgers. How many vegetable burgers were sold? Draw the bar to show the number of vegetable burgers sold. [2]



(b) What was the difference in the amount collected from the most popular burger sold and the least popular burger sold?

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Ans : (b) _____ [2]



13. Alan, Brian, Carl and Dan share a box of game cards. The ratio of the number of game cards Alan has to the total number of game cards Brian, Carl and Dan have is 1 : 5. The ratio of the number of game cards Brian has to the total number of game cards Alan, Carl and Dan have is 5 : 7.

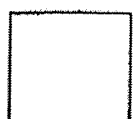
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(a) Find the ratio of the number of game cards Alan has to the number of game cards Brian has.

Ans : (a) _____ [1]

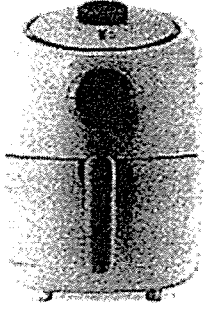
(b) Alan has 30 game cards. How many more game cards must he buy so that he has twice as many game cards as Brian?

Ans : (b) _____ [3]

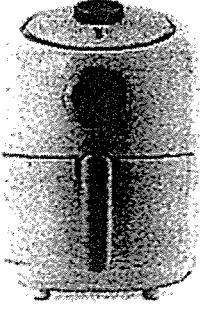


14.

Membership Promotion!



Buy first air fryer
at 15% discount



Buy second air fryer
at 30% discount

For non-members, enjoy a 10% discount for each air fryer.

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Mrs Wong paid \$341 for two air fryers by using the membership promotion shown above. How much would she have paid for 1 air fryer if she was a non-member?

Ans : _____ [4]



15. Fredrick had some coupons to sell at a funfair. Each coupon cost \$5. On the first day, he sold 264 coupons. On the second day, he sold $\frac{1}{5}$ of the remaining coupons. On the third day, he sold the rest of the coupons, and this was $\frac{1}{3}$ of the total number of coupons sold on the first two days.

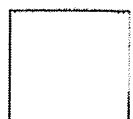
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(a) What fraction of the total number of coupons did Fredrick sell on the first day?

Ans : (a) _____ [2]

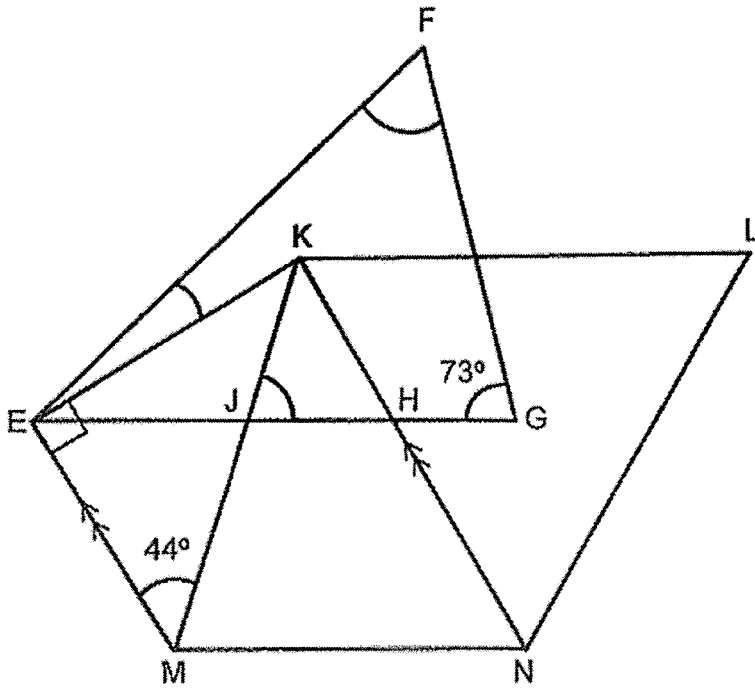
(b) Each coupon cost \$5. What was the total amount of money Fredrick collected from the sale of coupons over the three days?

Ans : (b) _____ [3]



16. EFG and KLN are triangles. KLN is an equilateral triangle. $KL \parallel JG$ and $JG \parallel MN$.

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- (a) Find the sum of $\angle FEK$ and $\angle GFE$.

Ans: (a) _____ [4]

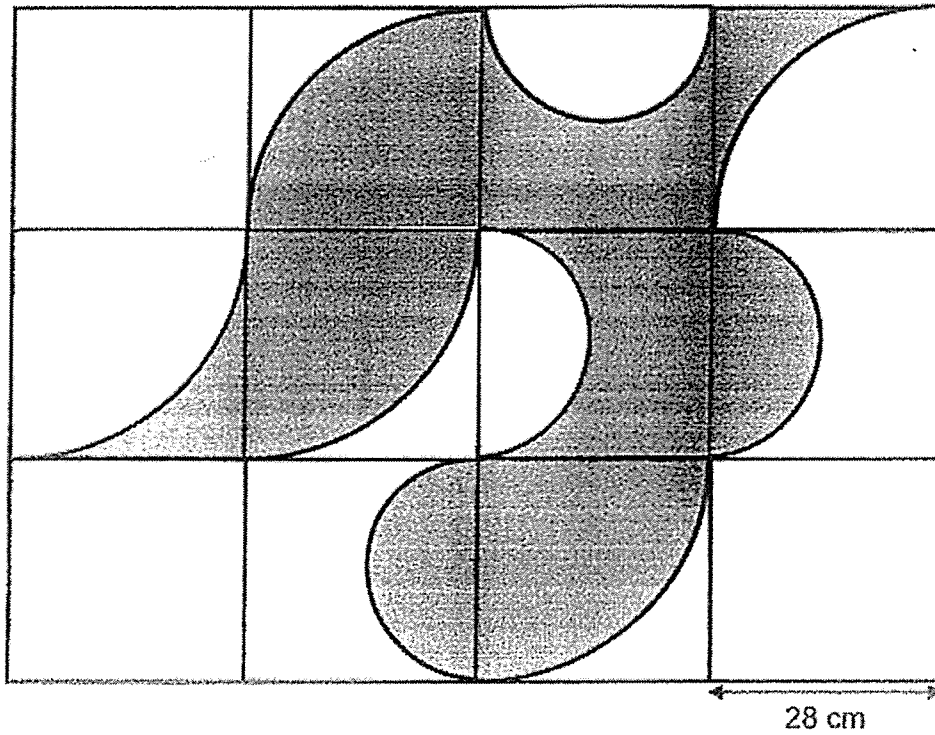
- (b) Find $\angle KJH$.

Ans: (b) _____ [1]



17. The rectangle is made up of identical squares of side 28 cm each. The outline of the shaded figure is formed by 5 identical quarter circles, 4 identical semicircles and two straight lines.

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- (a) What is the perimeter of the shaded figure? (Take $\pi = \frac{22}{7}$)

Ans : (a) _____ [3]



(b) What is the area of the shaded figure? (Take $\pi = \frac{22}{7}$)

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Ans : (b) _____ [2]

End of Paper



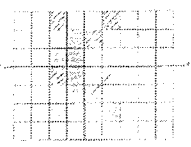
SCHOOL : CHIJ PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : 2022 PRELIMS

PAPER 1 BOOKLET A

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

Q 11	Q12	Q13	Q14	Q15
3	2	3	4	2

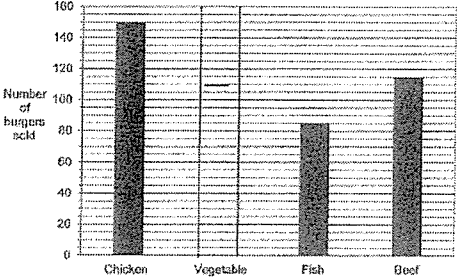
PAPER 1 BOOKLET B

Q16)	8.45
Q17)	$\frac{14}{5}$, 2 , $1\frac{9}{10}$, $\frac{9}{6}$
Q18)	$\frac{1}{1000}$
Q19)	1.3kg
Q20)	8 a.m. to 9 a.m.
Q21)	$8 + 7 + 12 + 10$ $= 37$
Q22)	$14d - 5d - (5d + 60)$ $= 4d - 60$ $= \$(4d - 60)$
Q23)	$180 - 112 = 68$ $180 - 68 - 39 = 73^\circ$
Q24)	

Q25	$\frac{5}{6} - \frac{3}{5} = \frac{25}{30} - \frac{18}{30}$ $= \frac{7}{30}$ $\frac{7}{30} = 140$ $\frac{1}{30} = 140 \div 7 = 20$ $\frac{30}{30} = 20 \times 30$ $= 600\text{cm}^3$
Q26	$S \times T = 5 \times \frac{24}{60}$ $= 2\text{km}$ $\text{New speed} = 5 - 1$ $= 4$ $2 \div 4 = \frac{1}{2} \text{h}$
Q27	$0.92 - 0.2 = 0.72$ $\frac{0.72}{2} = 0.36$ $0.36 + 0.2 = 0.56$ $0.56 \times 100 = 56\text{cm}$
Q28	$200.5 \times 4 = 802$ $802 - 240 - 180 - 300$ $= 562 - 180 - 300$ $= 562 - 480$ $= 82$
Q29	$\frac{71+(8 \times 3)}{5} = \frac{71+24}{5}$ $= \frac{95}{5}$ $= 19$ $(19 \times 3) - 24 = 57 - 24$ $= 33$
Q30	$\frac{1}{2} \times AF \times FE = 18$ $AF \times FE = 18 \times 2$ $= 36$ $36 \div 6 = 6$ $6 + 6 = 12\text{cm}$

PAPER 2

Q1)	$(25 \times 7) - 80 = \$95$
Q2)	$52 \div 4 = 13$ $(13 \times 13) \times 2 = 338$ $512 - 338 = 174\text{cm}^2$
Q3)	7cm
Q4)	$19 + 19 = 38$ $90 - 38 = 52$ $180 - 90 - 38 = 52^\circ$
Q5)	a) $2500 - 1000 = 1500$ $10 - 5 = 5$ $1500 \div 5 = 300$ $2800 - 1000 = 1800$ $1800 \div 300 = 6$ $6 + 5 = 11$ b) $27 - 5 = 22$ $22 \times 300 = 6600$ $6600 + 1000 = 7600$ $7600 - 2000 = 5600$
Q6)	$(126 + 24) - 2 = 148$ $148 \div 2 = 74$ $Q = 74 + 2 = 76$ $R = 74 - 24 = 50$ Box Q = 76 Box R = 50
Q7)	$9\text{cw} = 6\text{cw} + 8.40$ $3\text{cw} = 8.40$ $1\text{cw} = \frac{8.40}{3}$ $= \$2.80$
Q8)	a) $\left(\frac{5k+8}{4}\right)$ b) $12 \times 5 = 60$ $\frac{60+8}{4} = 17$ $17 - 8 = 9$
Q9)	$35 \times 15\text{g} = 525\text{g}$ $8 + (3.80 \times 4) = \$23.20$
Q10)	$125 \times 60 \times 14 = 105000$ $(105000 \div 1000) - 30 = 75$

	$75 \ell = 75 \times 1000$ $= 75000 \text{ml}$ $75000 \div 125 \div 60 = 10$ $\frac{2}{5} = 10$ $\frac{1}{5} = 10 \div 2$ $= 5$ $\frac{5}{5} = 5 \times 5 = 25$ $125 \times 60 \times 25 = 187500 \text{cm}^3$										
Q11)	<p>a) is / is</p> <p>b) $360 - 256 = 104$</p> $\frac{180 - 104}{2} = 38$ $38 - 16 = 22^\circ$										
Q12)	<p>a) $437 \div 3.80$</p> $= 115$  <table border="1"> <caption>Number of burgers sold by category</caption> <thead> <tr> <th>Category</th> <th>Number of burgers sold</th> </tr> </thead> <tbody> <tr> <td>Chicken</td> <td>150</td> </tr> <tr> <td>Vegetable</td> <td>0</td> </tr> <tr> <td>Fish</td> <td>80</td> </tr> <tr> <td>Beef</td> <td>115</td> </tr> </tbody> </table> <p>b) $150 \times 4.50 = 675$</p> $85 \times 4.20 = 357$ $675 - 357 = \$318$	Category	Number of burgers sold	Chicken	150	Vegetable	0	Fish	80	Beef	115
Category	Number of burgers sold										
Chicken	150										
Vegetable	0										
Fish	80										
Beef	115										
Q13)	<p>a) 2 : 5</p> <p>b) 2 units = 30</p> $1 \text{ unit} = 30 \div 2$ $= 15$ $10 \text{ units} = 15 \times 10$ $= 150$ $150 - 30 = 120$										
Q14)	$200 - 15 - 30 = 155$ $155\% = 341$ $1\% = 341 \div 155$ $= 2.2$										

	$100\% = 2.2 \times 100$ $= \$220$
Q15)	<p>a) $1\text{part} = 4u$ $3\text{parts} = 4 \times 3$ $= 12u$ $12u - 1u = 11u$ $12 + 4 = 16$ $\text{Ans} = \frac{11}{16}$</p> <p>b) $11\text{units} = 264$ $1\text{unit} = 264 \div 11$ $= 24$ $16\text{units} = 16 \times 24$ $= 384$ $384 \times \\$5 = \\1920</p>
Q16)	<p>a) $\angle EKL = 90^\circ + 60^\circ$ $= 150^\circ$ $\angle KEJ = 180^\circ - 150^\circ$ $= 30^\circ$ $180^\circ - 30^\circ - 73^\circ = 77^\circ$</p> <p>b) $\angle JEM = 90^\circ - 30^\circ$ $= 60^\circ$ $\angle MKN = 180^\circ - 60^\circ - 44^\circ$ $= 76^\circ$</p>
Q17)	<p>a) $28 \times 2 = 56$ $\frac{1}{4} \pi d = \frac{1}{4} \times \frac{22}{7} \times 56$ $= 44$ $44 \times 5 = 220$ $\frac{1}{4} \times 4 \times \pi d = \frac{1}{2} \times 4 \times \frac{22}{7} \times 28$ $= 176$ $176 + 220 + (28 \times 2)$ $= 452\text{cm}$</p> <p>b) $(28 \times 28) \times 4 = 3136$ $\frac{1}{4} \times \frac{22}{7} \times 28 \times 28 = 616$ $3136 + 616 = 3752\text{cm}^2$</p>



2022 PRIMARY 6 PRELIMINARY EXAMINATION

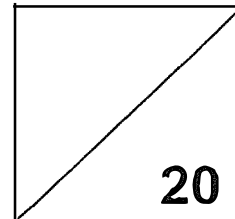
Name: _____ () Date: 19 August 2022

Class: Primary 6 ()

Time: 8.00 a.m. - 9.00 a.m.

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS PAPER 1 (BOOKLET A)



INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. You are **not** allowed to use a calculator.

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

Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

1. Round 324 456 to the nearest hundred.

- (1) 320 000
- (2) 320 060
- (3) 324 400
- (4) 324 500

2. Express 0.375 as a percentage.

- (1) 375%
- (2) 37.5%
- (3) 3.75%
- (4) 0.375%

3. Arrange these fractions in descending order.

$$\frac{11}{12}, \frac{5}{6}, \frac{3}{4}, \frac{7}{9}$$

(1) $\frac{3}{4}, \frac{5}{6}, \frac{7}{9}, \frac{11}{12}$

(2) $\frac{11}{12}, \frac{7}{9}, \frac{5}{6}, \frac{3}{4}$

(3) $\frac{3}{4}, \frac{7}{9}, \frac{5}{6}, \frac{11}{12}$

(4) $\frac{11}{12}, \frac{5}{6}, \frac{7}{9}, \frac{3}{4}$

4. How many seconds are in $\frac{3}{5}$ hour?

- (1) 36
- (2) 60
- (3) 2160
- (4) 6000

5. $340 \times 2.2 = 340 \times \square \times 22$

What is the missing number in the box?

- (1) 1.00
- (2) 0.10
- (3) 0.01
- (4) 10.0

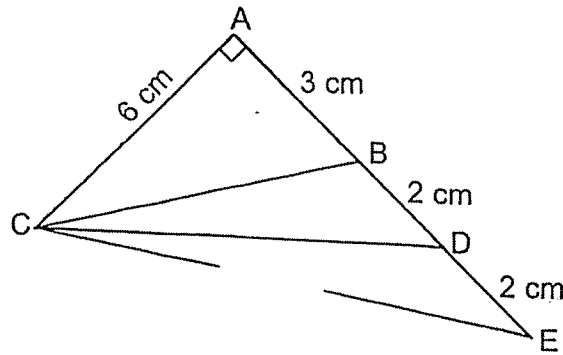
6. Ali, Eddy, Gabriel and Harish wanted to try go-kart driving. The driver has to be taller than 1.4 m. Who is able to drive the go-kart?

Name	Height
Ali	1 m 4 cm
Eddy	1 m 40 cm
Gabriel	1 m 5 cm
Harish	1 m 54 cm



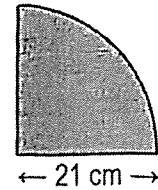
- (1) Ali
- (2) Eddy
- (3) Gabriel
- (4) Harish

7. Which one of the triangles has an area of 12 cm^2 ?



- (1) Triangle ABC
 (2) Triangle BCD
 (3) Triangle BCE
 (4) Triangle ACD
8. Find the perimeter of the quarter circle. (Take $\pi = \frac{22}{7}$)

- (1) 33 cm
 (2) 75 cm
 (3) 132 cm
 (4) 174 cm



9. Jeff is facing north. He makes a $\frac{1}{4}$ – turn clockwise followed by $\frac{1}{2}$ – turn anticlockwise. From here, he makes a final turn to face south-east. Find the angle that he has to make for the final turn.

- (1) 135° anticlockwise
 (2) 45° anticlockwise
 (3) 135° clockwise
 (4) 45° clockwise

10. Study the table carefully.

Machine	Copies Printed	Duration (min)
A	120	3
B	180	4
C	220	4
D	240	5

Which machine printed the most number of copies per minute?

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

11. Matthew is thrice as old as his sister. In 5 years' time, their total age will be h years old. How old is his sister now?

- (1) $\left(\frac{h-5}{4}\right)$ years old
- (2) $\left(\frac{h-10}{4}\right)$ years old
- (3) $\left(\frac{h-15}{2}\right)$ years old
- (4) $\left(\frac{5h}{3}\right)$ years old

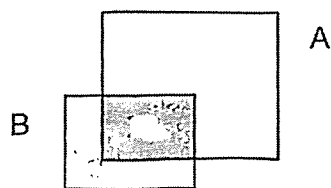
12. Mr Loh planted 120 pots of orchids and roses. $\frac{3}{5}$ of the pots were orchids. Among the roses, there was an equal number of pots of red and pots of yellow roses. How many pots of yellow roses were there?

- (1) 20
- (2) 24
- (3) 36
- (4) 80

13. The average age of 3 dogs was 12 years old. The age of each dog was different. The youngest dog was 8 years old. Which one of the following was a possible age of the oldest dog?

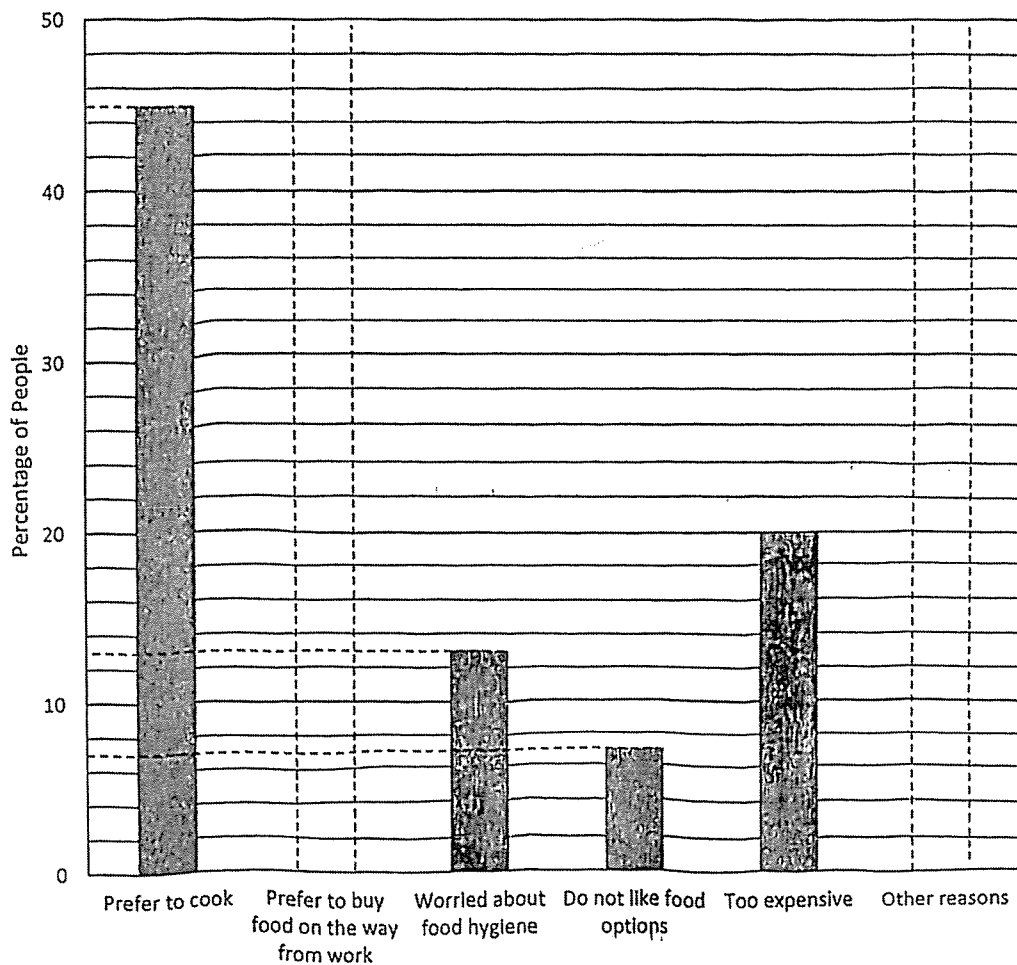
- (1) 15
- (2) 14
- (3) 13
- (4) 12

14. The ratio of the area of Rectangle A to the shaded area of Rectangle A is 7 : 2. The ratio of the area of Rectangle B to the unshaded area of Rectangle B is 5 : 2. Find the ratio of the unshaded area of Rectangle A to the area of the whole figure.



- (1) 1 : 2
- (2) 1 : 7
- (3) 3 : 5
- (4) 3 : 7

15. The bar graph shows the reasons for people not using online food delivery platforms.



The percentage of people who preferred to buy food on the way home from work was twice the percentage of people who gave other reasons. Find the percentage of people who gave other reasons.

- (1) 15
- (2) 10
- (3) 5
- (4) 4

End of Booklet A
Go on to Booklet B



2022 PRIMARY 6 PRELIMINARY EXAMINATION

Name: _____ () Date: 19 August 2022

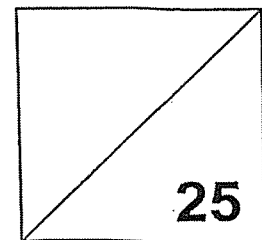
Class: Primary 6 ()

Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature: _____

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS PAPER 1 (BOOKLET B)



INSTRUCTIONS TO CANDIDATES

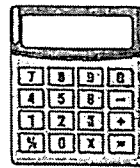
1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction tape or highlighters.
7. You are **not** allowed to use a calculator.

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

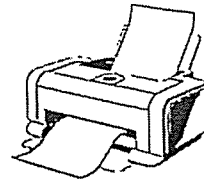
16. Express $7\frac{3}{25}$ as a decimal.

Ans: _____

17. Debbie bought a calculator and a printer at Great Store. She was given a 10% discount for both items. How much did she pay for both items?



Usual Price
\$25



Usual Price
\$95

Ans: \$ _____

18. Tammy recorded the following temperatures for 2 days.

Day 1	30°C
Day 2	24°C

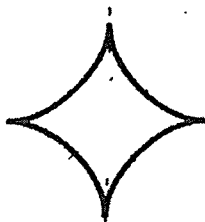
Find the percentage change in the temperature for Day 2.

Ans: _____ %

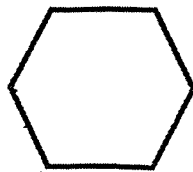
19. Find the maximum number of 2-cm cubes that can be put into a box measuring 10 cm by 8 cm by 5 cm.

Ans: _____

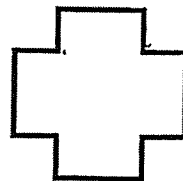
20. Which one of the following shapes has the greatest number of lines of symmetry?



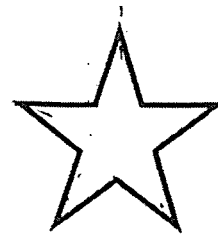
(A)



(B)



(C)



(D)

Ans: _____

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

21. Find the value of the following when $k = 3$.

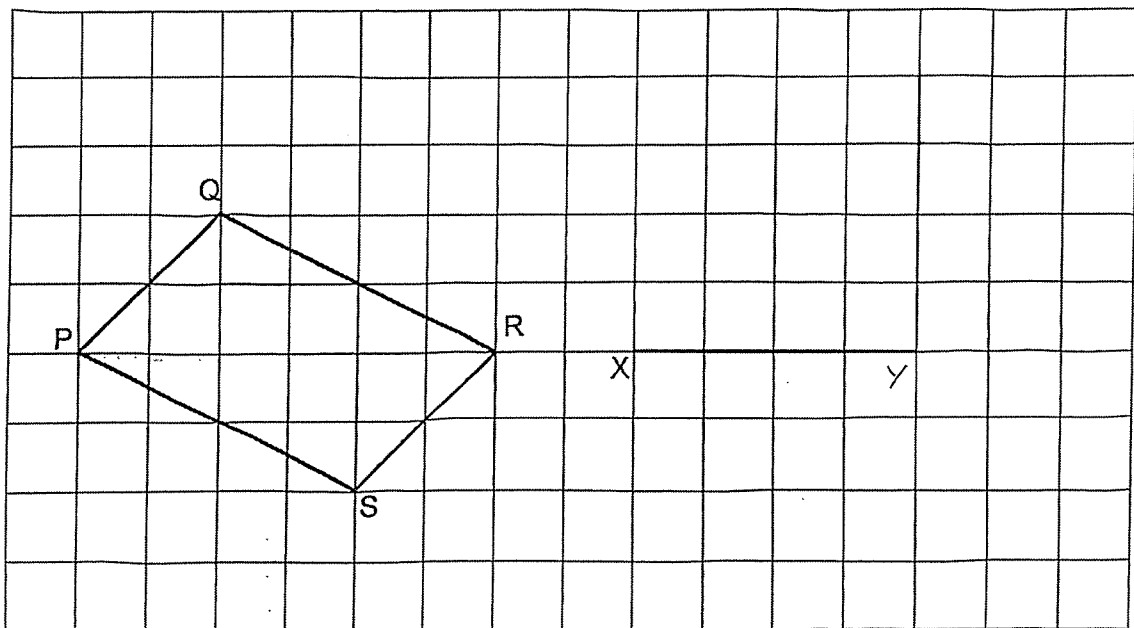
(a) $15 + 2k$

Ans: (a) _____

(b) $k - \frac{5}{9}$

Ans: (b) _____

22. A parallelogram PQRS is drawn on a square grid.

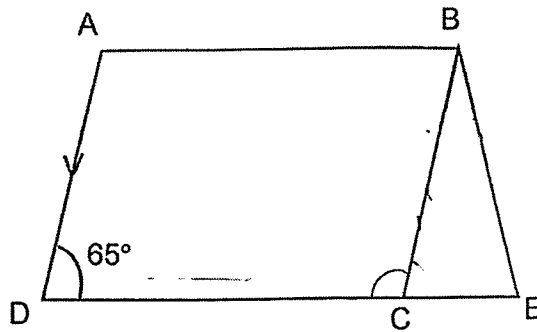


Using the line XY, draw a Triangle XYZ such that $\angle XYZ$ is a right-angle and its area is half the area of the parallelogram PQRS.

Measure $\angle ZXY$.

Ans: _____^o

23. The figure below is not drawn to scale. Triangle BCE is an isosceles triangle. BC is parallel to AD. DCE is a straight line.



(a) Find $\angle DCB$.

Ans: (a) _____^o

(b) Find $\angle CBE$.

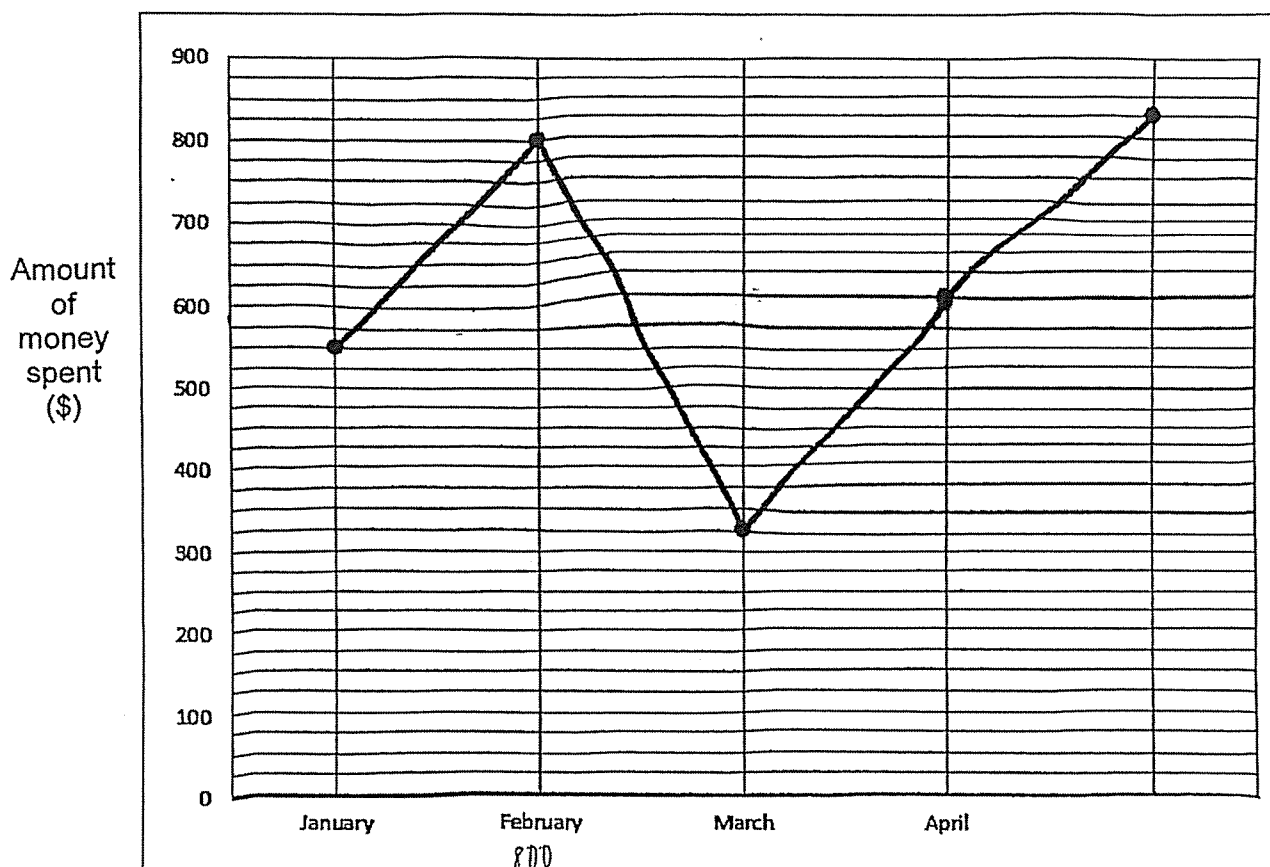
Ans: (b) _____^o

24. In the equation below, the ones digits of the 2 numbers are not shown. The sum of the 2-digit numbers is 180. The difference between them is the greatest possible. What are the 2 numbers?

$$8 \star + 9 \star = 180$$

Ans: _____ & _____

25. The line graph shows the amount of money Jackie spent from January to May.



(a) Find the increase in the amount of money spent between January and February.

Ans: (a) \$ _____

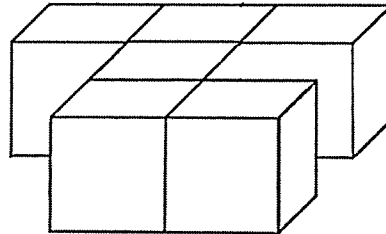
(b) Between which 2 months was there the greatest increase in the amount of money Jackie spent?

Ans: (b) Between _____ and _____

26. Tom and Jerry took a 10-minute Mathematics quiz. They started and ended the quiz at the same time. Tom answered 2 questions more than Jerry for every minute. Together, they answered 58 questions. How many questions did Jerry answer?

Ans: _____

27. The solid is made up of 2-cm cubes glued together as shown. It was painted in red on all sides.



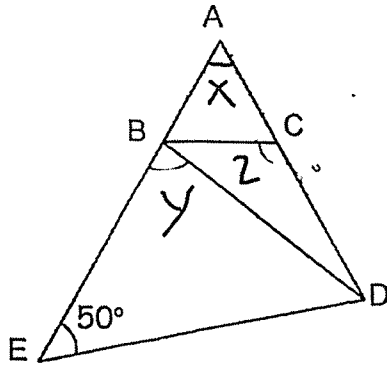
- (a) What is the area of one face of a cube?

Ans: _____ cm^2

- (b) How many faces were painted red?

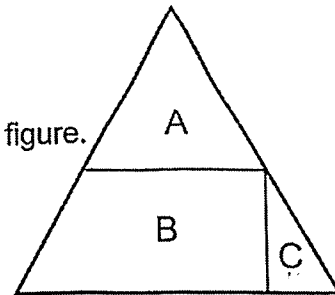
Ans: _____

28. Triangle ABC is an equilateral triangle. ABE and ACD are straight lines. BD = BE. Find the ratio of $\angle x$ to $\angle y$ to $\angle z$.



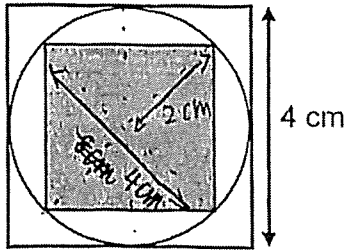
Ans: _____

29. The area of A is 5 times the area of C.
 The area of B is $1\frac{2}{5}$ times the area of A.
 Express the area of A as a fraction of the whole figure.



Ans: _____

30. The figure is made up of a circle and 2 squares. The circle touches each of the 2 squares as shown. Find the shaded area.



Ans: _____ cm^2

End of Booklet B

End of Paper 1



2022 PRIMARY 6 PRELIMINARY EXAMINATION

Name: _____ () Date: 19 August 2022

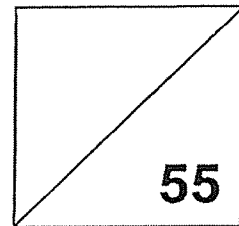
Class: Primary 6 ()

Time: 10.30 a.m. - 12.00 p.m.

Parent's Signature: _____

MATHEMATICS

PAPER 2



INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Show your workings clearly as marks are awarded for correct working.
6. Use a dark blue pen or black ballpoint pen to write your answers in the space provided for each question.
7. Do not use correction tape or highlighters for your solutions.
8. You are allowed to use a calculator.

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

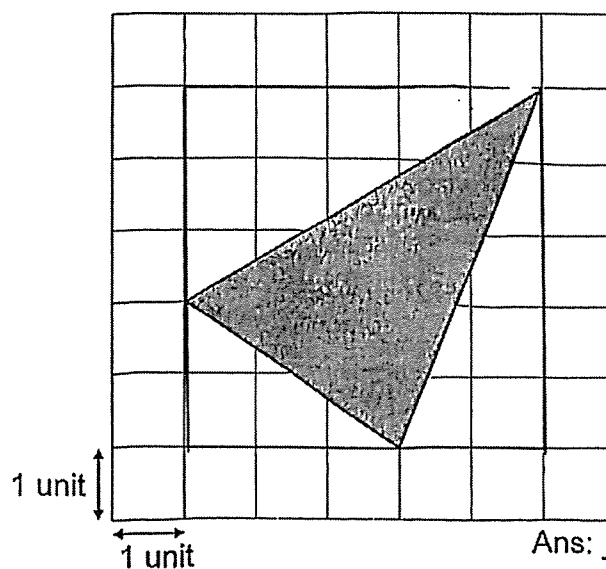
1. Mr Loh buys 10 kg of rice. He packs $\frac{2}{5}$ of the rice into smaller bags. The mass of each smaller bag of rice is $\frac{1}{4}$ kg. How many smaller bags of rice are there?

Ans: _____

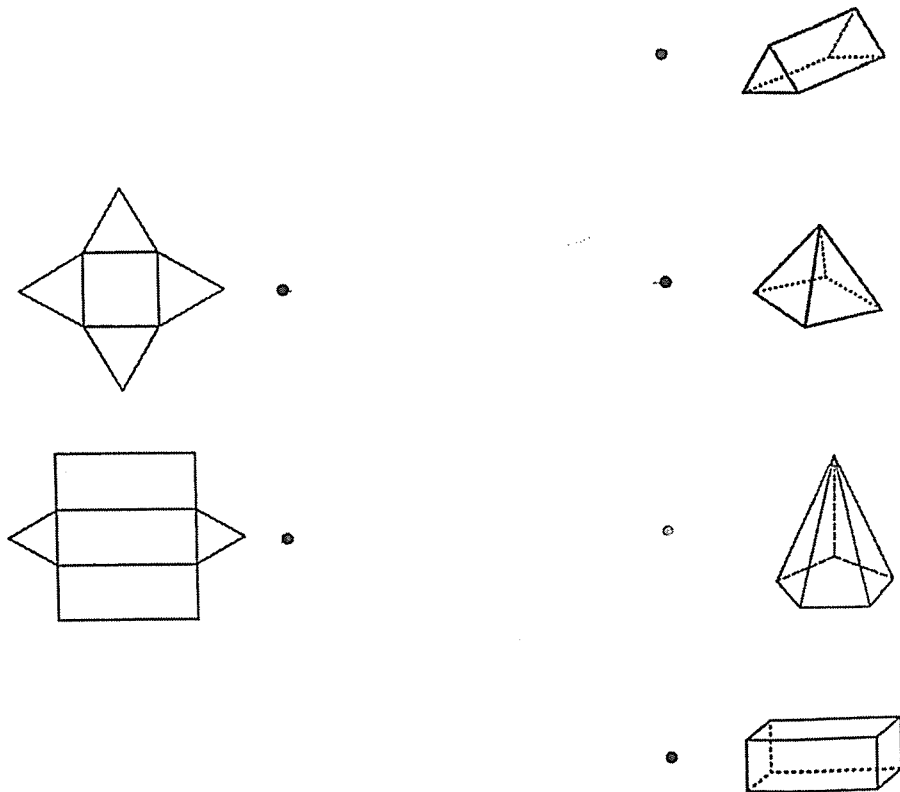
2. The ratio of Amal's money to Bill's money is 5 : 3. Amal spends $\frac{1}{3}$ of her money. What is the new ratio of Bill's money to Amal's remaining money?

Ans: _____

3. Find the area of the shaded triangle.



4. Match each net of solid to the correct solid formed.

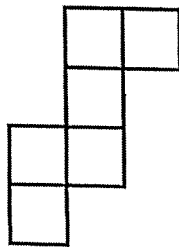


5. Chandra bought 7 stamps at n cents each. He paid with a five-dollar note. How much change did he receive?

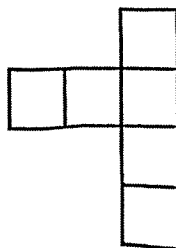
Ans: \$ _____

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

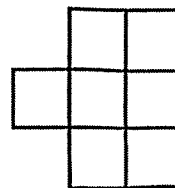
6. (a) Which one of the following shows a net of a cube?



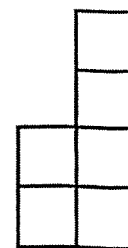
Net A



Net B



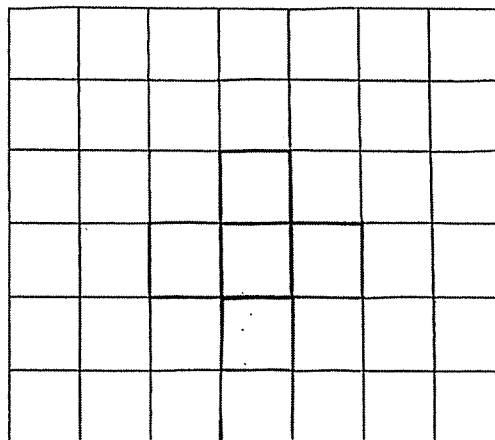
Net C



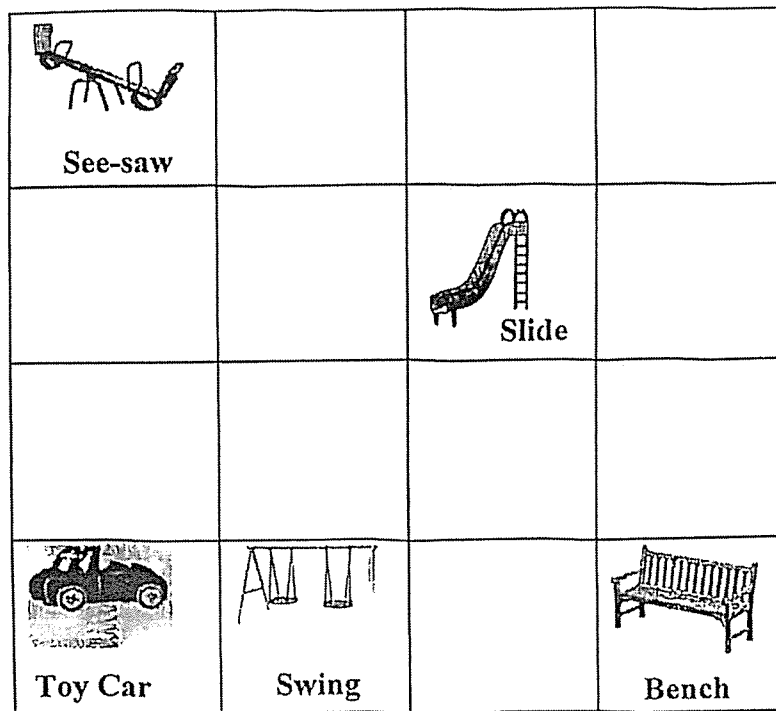
Net D

Ans: (a) _____ [1]

(b) Complete the following net of a cube such that it has one line of symmetry. [2]



7. The square grid below shows the plan of a playground.



(a) Is what direction is the bench from the see-saw?

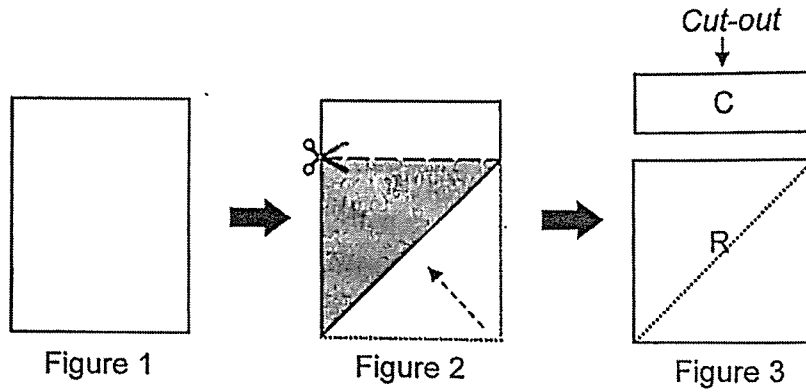
Ans: (a) _____ [1]

(b) A tree is to be planted in the playground.
The location of the tree is to be north-west of the bench and south of the slide and.
Put a tick () in the square where the tree will be planted. [1]

(c) The toy car is south-west of the _____ .

Ans: (c) _____ [1]

8. Figure 1 shows a rectangular piece of paper. The ratio of its length to its breadth is 4 : 3. In Figure 2, the piece of paper is folded and cut along the dotted line. Figure 3 shows the cut-out, C, and the remaining area of paper, R.



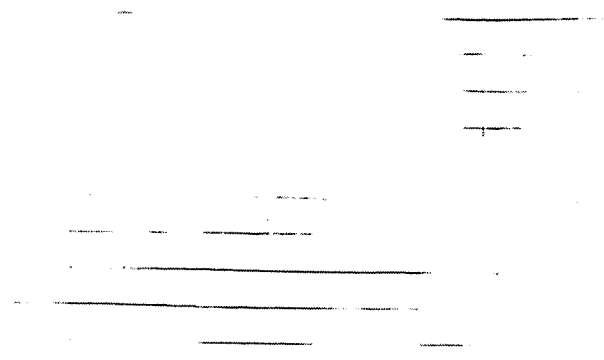
- (a) What is the ratio of the length to the breadth of C?

Ans: (a) _____ [1]

- (b) What percentage of the area of C is the area of R?

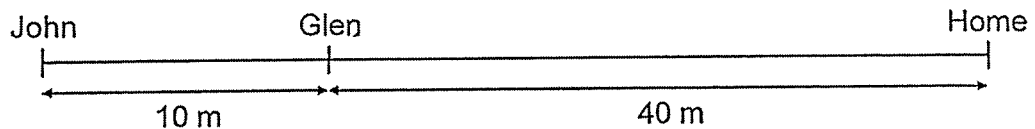
Ans: (b) _____ [2]

9. Ella wrote her composition in 45 minutes. Fandi completed his composition 5 minutes faster than Ella. Ella wrote an average of 24 words per minute. Their compositions had a total of 2000 words. What was the average number of words Fandi wrote per minute?



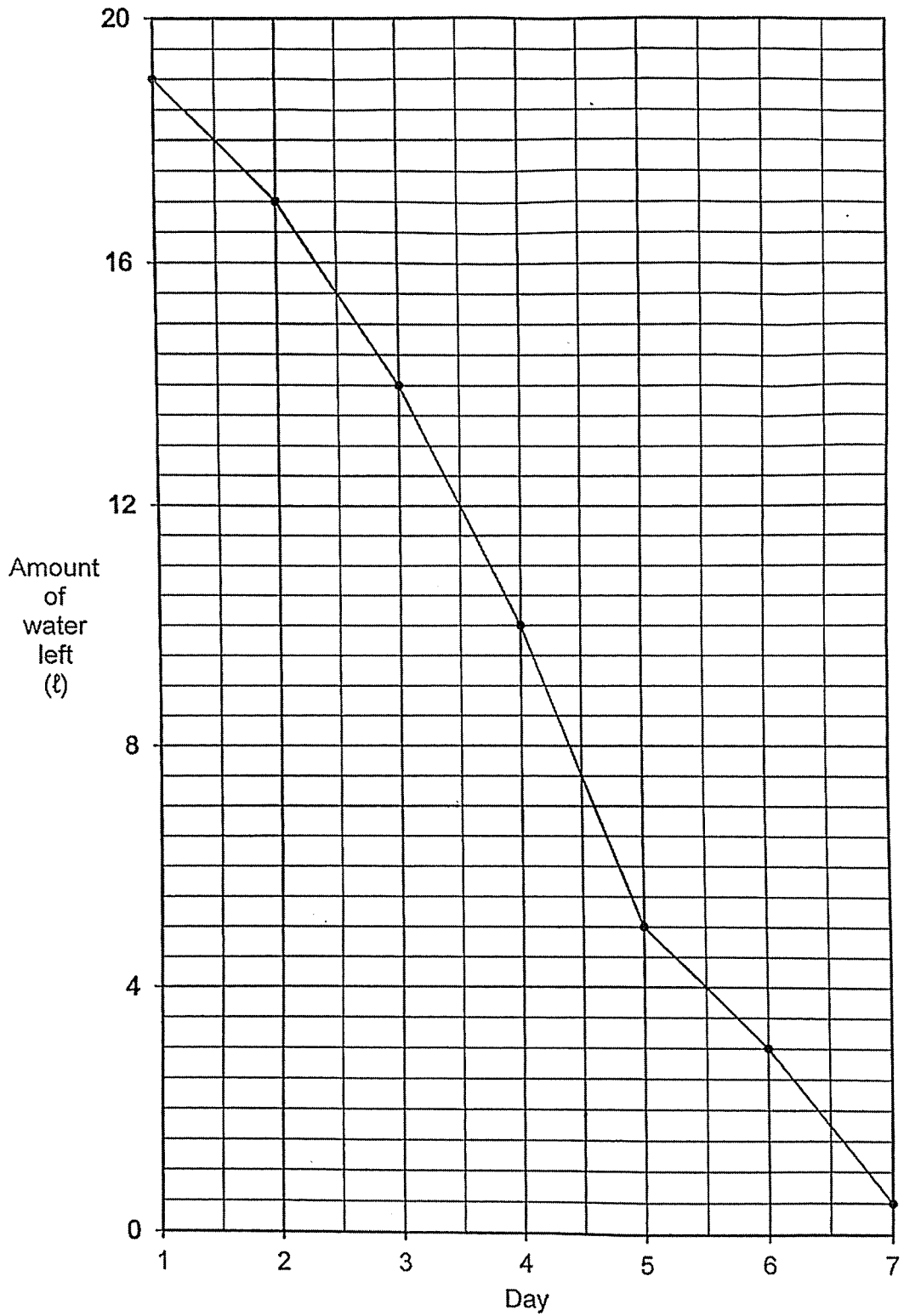
Ans: _____ [3]

10. Glen was 40 m away from home. He and his brother, John, were 10 m apart when they started running home at the same time. Glen ran at an average speed of 5 m/s while John, ran at an average speed of 8 m/s. What was the distance between the brothers when one of them reached home first?



Ans: _____ [3]

11. The line graph shows the amount of water left in a water dispenser at the start of each day from Day 1 to 7.



(11a) How much water is left in the container at the end of Day 6?

Ans: (a) _____ [1]

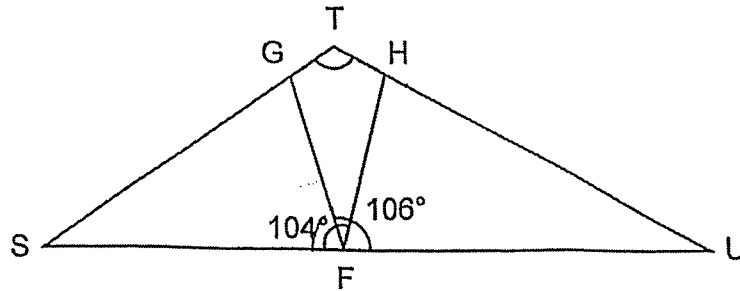
(11b) The amount of water dispensed for two days was the same.
Which were the two days?

Ans: (b) Day ____ and Day ____ [1]

(11c) What was the average amount of water dispensed from the start of
Day 1 to the end of Day 5?

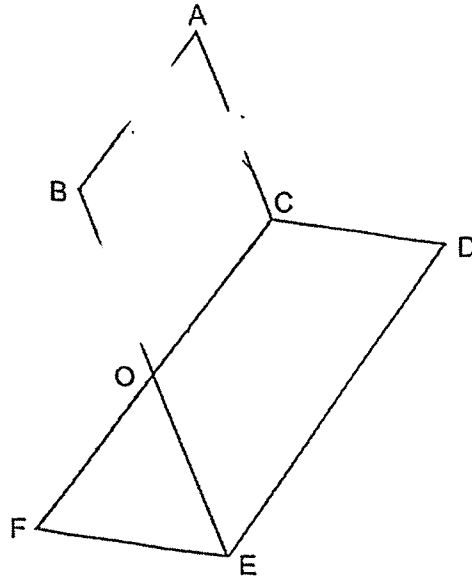
Ans: (c) _____ [2]

- 12a. In the figure, STU is a triangle. F, G and H are points on the triangle. SF = SG and UF = UH. $\angle HFS = 104^\circ$ and $\angle UFG = 106^\circ$. Find $\angle STU$.



Ans: _____ [2]

12b. In the figure, ACOB is a rhombus and CDEF is a parallelogram.



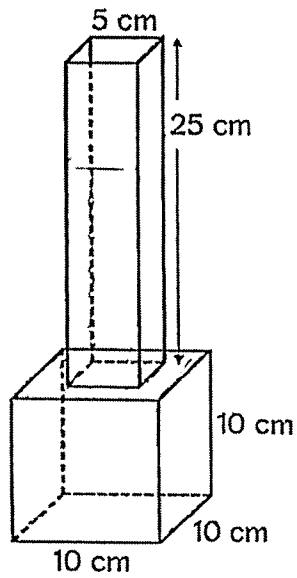
Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick () to indicate your answer.

Statement	True	False	Not possible to tell
i) $\angle ABO$ is twice of $\angle OFE$			
ii) $\angle ACD$ is equal to $\angle BOF$			

[1]

[1]

13. The figure shows an empty vase that is made from 2 containers. The bottom container is a cube of side 10 cm. The top container is a cuboid with a square base of 5 cm and a height of 25 cm. 1465 cm^3 of water is poured into the empty vase. Find the height of the water level from the base of the vase.



Ans: _____ [5]

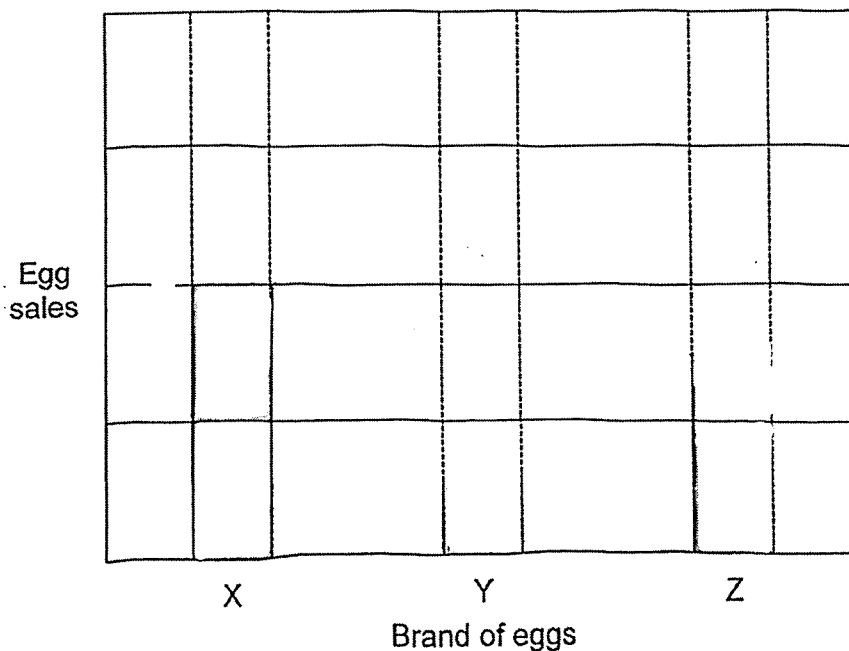
14. The table shows some information on three brands of eggs.

Brand	Cost per carton of eggs	Number of cartons of eggs sold in a week
X	\$5.60	240
Y	\$3.20	315
Z	\$2.80	120

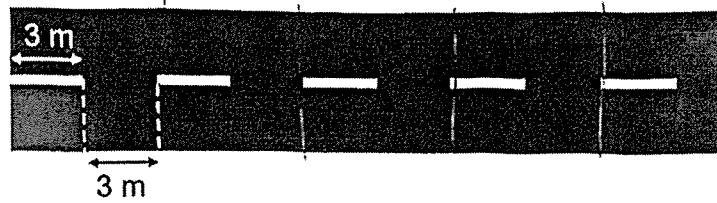
- (a) How much money was collected from the sale of the 3 brands of eggs in a week?

Ans: (a) _____ [2]

- (b) Complete the bar graph to show the proportion of the amount of money collected for each brand of eggs in a week. Shade the bars. [2]



15. The figure shows the start of an 11-km road with white lane markings. One fully painted white lane marking is 3 m long. It is as long as the distance between two fully painted white lane markings.



- (a) Find the maximum number of fully painted white lane markings.

Ans: (a) _____ [2]

- (b) What is the length of the last white lane marking that is not fully painted?

Ans: (b) _____ [2]

- (c) What fraction of a fully painted white lane marking is the last white lane marking?

Ans: (c) _____ [1]

16. A baker made 225 fewer cheese buns than kaya buns.
He sold half of the cheese buns and $\frac{7}{9}$ of the kaya buns.
There were 128 buns left in the end.
How many buns did he sell?

Ans: _____ [4]

17. Two identical wheels with centres P and Q are 264 cm apart. Figure 1 shows the wheels turn along straight line CD towards each other.

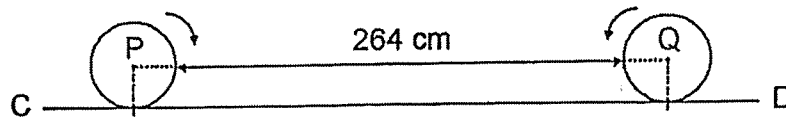


Figure 1

After each wheel makes 6 complete turns, they touch each other as shown in Figure 2.

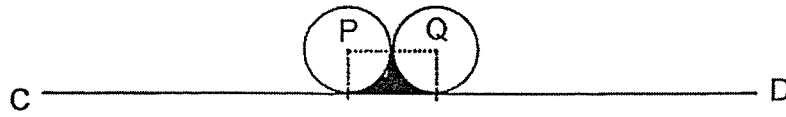


Figure 2

- (a) What is the radius of each wheel?

Ans: (a) _____ [2]

- (b) Find the perimeter of the shaded part in Figure 2. (Take $\pi = \frac{22}{7}$)

Ans: (b) _____ [2]

End of Paper 2

ANSWER KEY

YEAR: 2022
LEVEL: P6
SCHOOL: TAO NAN SCHOOL
SUBJECT: MATHEMATICS
TERM: PRELIMINARY

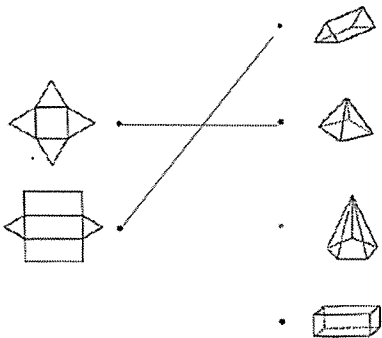
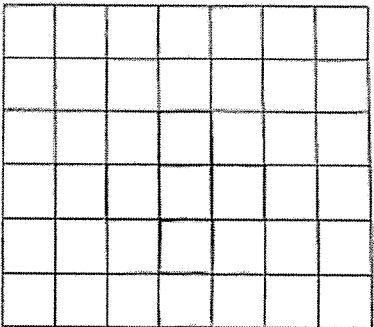
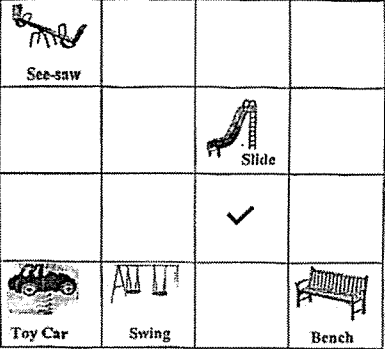
BOOKLET A (PAPER 1)

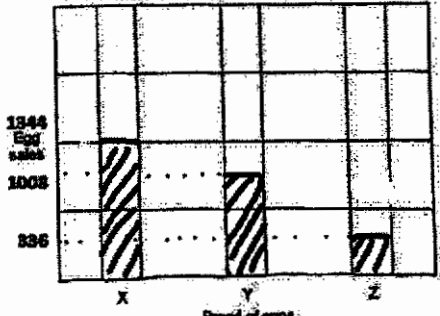
Q1. 4	Q2. 2	Q3. 4	Q4. 3	Q5. 2
Q6. 4	Q7. 3	Q8. 2	Q9. 1	Q10. 3
Q11. 2	Q12. 2	Q13. 1	Q14. 3	Q15. 3

BOOKLET B (PAPER 1)

Q16	7.12	Q17	108
Q18	20%	Q19	40
Q20	D	Q21	a) 21 b) $2\frac{4}{9}$
Q22		Q23	a) $\angle DCB = 180^\circ - 65^\circ = 115^\circ$ b) $\angle BCE = 180^\circ - 115^\circ = 65^\circ$ $\angle CBE = 180^\circ - 65^\circ - 65^\circ = 50^\circ$
Q24	99 & 81	Q25	a) 250 b) March and April
Q26	19	Q27	a) 4 cm^2 b) 26
Q28	3:6:4	Q29	$\frac{5}{13}$
Q30	8 cm^2		

PAPER 2

Q1	$10 \times \frac{2}{5} = 4$ $4 \div \frac{1}{4} = 16$	Q2	9:10
Q3	$\Delta A = \frac{1}{2} \times 3 \times 5 = 7.5$ $\Delta B = \frac{1}{2} \times 2 \times 5 = 5$ $\Delta C = \frac{1}{2} \times 2 \times 3 = 3$ $5 \times 5 = 25$ $\Delta D = 25 - 7.5 - 5 - 3 = 9.5$	Q4	
Q5	$7 \times n = 7n\text{¢}$ $\$5 - 7n\text{¢} = \$5 - \$\frac{7n}{100} = \$\left(5 - \frac{7n}{100}\right)$	Q6	a) A b) 
Q7	a) South-East  b) c) Slide	Q8	a) 3:1 b) $3 \times 1 = 3$ $3 \times 3 = 9$ $\frac{9}{3} \times 100\% = 300\%$
Q9	$45 - 5 = 40$ $24 \times 45 = 1080$ $2000 - 1080 = 920$ $920 \div 40 = 23$	Q10	$40 \div 5 = 8$ $10 + 40 = 50$ $50 \div 8 = 6\frac{1}{4}$ $5 \times 6\frac{1}{4} = 31\frac{1}{4}$ $40 - 31\frac{1}{4} = 8\frac{3}{4} \text{ m}$

Q11	a) 0.5¢ b) Day 1 and Day 5 c) 3.2 ¢	Q12	a) $\angle HFU = 180^\circ - 104^\circ = 76^\circ$ $\angle HUF = 180^\circ - 76^\circ - 76^\circ = 28^\circ$ $\angle GFS = 180^\circ - 106^\circ = 74^\circ$ $\angle GSF = 180^\circ - 74^\circ - 74^\circ = 32^\circ$ $\angle STU = 180^\circ - 28^\circ - 32^\circ = 120^\circ$ b) i) True ii) Not possible to tell												
Q13	$10 \times 10 \times 10 = 1000$ $1465 - 1000 = 465$ $5 \times 5 = 25$ $465 \div 25 = 18.6$ $18.6 + 10 = 28.6 \text{ cm}$	Q14	a) $5.60 \times 240 = 1344 \text{ (x)}$ $3.20 \times 315 = 1008 \text{ (y)}$ $2.80 \times 120 = 336$ $1344 + 1008 + 336 = \$2688$ b) 												
Q15	a) $11\text{km} = 11000\text{m}$ $2 \times 3 = 6$ $11000 \div 6 = 1833 \text{ R } 2$ $1833 \times 1 = 1833$ b) $11000 \div 6 = 1833 \text{ R } 2$ 2m c) $\frac{2}{3}$	Q16	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Cheese</th> <th>Kaya</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>18u</td> <td>18u + 225</td> </tr> <tr> <td>Change</td> <td>-9u</td> <td>-14u - 175</td> </tr> <tr> <td>After</td> <td>9u</td> <td>4u + 50</td> </tr> </tbody> </table> $2 \times 9 = 18$ $9u + 4u + 50 = 128$ $13u = 78$ $u = 78 \div 13 = 6$ $9u + 4u + 175 = 23u + 175 = 23 \times 6 + 175 = 313$		Cheese	Kaya	Before	18u	18u + 225	Change	-9u	-14u - 175	After	9u	4u + 50
	Cheese	Kaya													
Before	18u	18u + 225													
Change	-9u	-14u - 175													
After	9u	4u + 50													
Q17	a) $2 \times 6 = 12$ $264 \div 12 = 22$ $\frac{22}{7} \times D = 22$ $D = 7\text{cm}$ $R = 7 \div 2 = 3.5\text{cm}$ b) $D = 7\text{cm}$ $\frac{1}{2} \times \frac{22}{7} \times 7 = 11$ $11 + 7 = 18\text{cm}$														

