METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2024
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 August 2024

This booklet consists of **7** 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 50 000 + 6000 + 300 + 7 = _____

(1) 56 370
(2) 56 307
(3) 56 037
(4) 50 637

2 Round 6.745 to the nearest hundredths.

(1) 6.70
(2) 6.74
(3) 6.75
(4) 6.80

3 Which of the following fractions is greater than $\frac{1}{3}$?

(1) $\frac{7}{27}$
(2) $\frac{8}{21}$
(3) $\frac{5}{18}$
(4) $\frac{4}{15}$

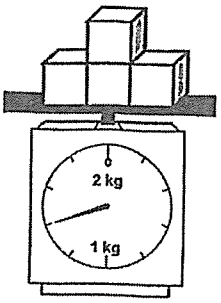
(Go on to the next page)

4 Arrange the following from the lightest to the heaviest.

6 kg 500 g	$6\frac{1}{5}$ kg	6.05 kg

	Lightest		Heaviest
(1)	$6\frac{1}{5}$ kg	6.05 kg	6 kg 500 g
(2)	6.05 kg	6 kg 500 g	$6\frac{1}{5}$ kg
(3)	6.05 kg	$6\frac{1}{5}$ kg	6 kg 500 g
(4)	6 kg 500 g	6.05 kg	$6\frac{1}{5}$ kg

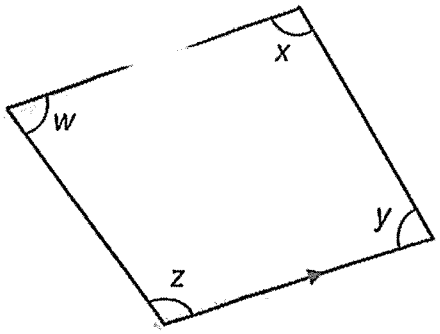
5 The weighing scale shows the mass of 4 identical wooden blocks.
What is the mass of 1 block?



(1) 175 g
(2) 300 g
(3) 350 g
(4) 675 g

(Go on to the next page)

6 The figure below is a trapezium.



Which of the following statements is true?

(1) $\angle x = \angle y$

(2) $\angle w = \angle y$

(3) $\angle w + \angle z = 180°$

(4) $\angle w + \angle x = 180°$

7 The button 7 on a scientific calculator is not working.
Which of the following should Mina key in to find the value of 37×18?

(1) $36 + 1 \times 18$

(2) $36 \times 18 + 18$

(3) $38 \times 18 - 1$

(4) $40 \times 18 - 18$

8 Rahul bought an apple and a dozen of oranges for \$20y.
Each orange cost \$3. Find the cost of an apple.

(1) \$20y

(2) \$$(20y - 3)$

(3) \$60y

(4) \$$(20y - 36)$

(Go on to the next page)

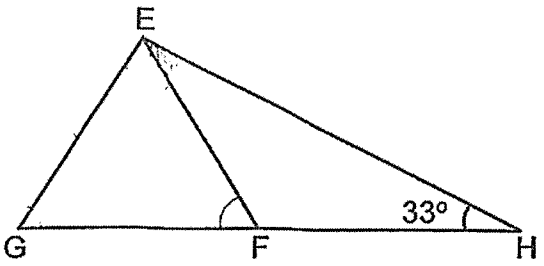
9 In the television guide shown, one programme leads to another without any break in between.

Start Time	Programme
8.30 a.m.	News
9.00 a.m.	Football
10.40 a.m.	Local Drama
11.25 a.m.	Music

How much longer is the Football programme than the Local Drama programme?

(1) 45 minutes
(2) 55 minutes
(3) 1 hour 35 minutes
(4) 1 hour 40 minutes

10 EFG is an equilateral triangle. GFH is a straight line.



Find ∠HEF.

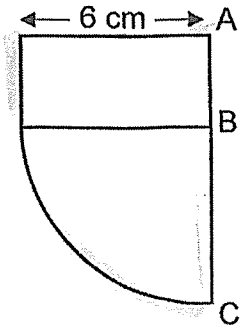
(1) 27°
(2) 33°
(3) 60°
(4) 87°

(Go on to the next page)

11 Machine A prints 5 pages in a minute. Machine B prints 3 times as fast as Machine A. Both machines start printing at the same time.
How long will it take both machines to print a total of 120 pages?

(1) 6 minutes
(2) 8 minutes
(3) 12 minutes
(4) 24 minutes

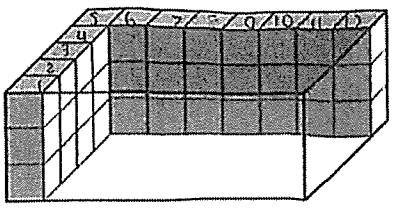
12 The figure is made up of a quadrant and a rectangle
The ratio of the length of AB to the length of AC is 1 : 3.
Find the perimeter of the figure in terms of π.



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

13 A rectangular container is partially filled with 1-cm cubes as shown.
How many more cubes are needed to fill the container completely?

(1) 56
(2) 64
(3) 84
(4) 86



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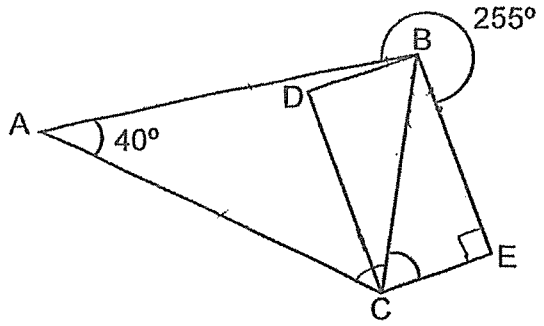
14 ABC is an isosceles triangle where AB = AC. CDBE is a rectangle.



Find ∠BCE.

(1) 35°
(2) 45°
(3) 55°
(4) 70°

15 Some children took part in a swimming competition. $\frac{1}{3}$ of the boys and $\frac{1}{5}$ of the girls were prize winners. There were 45 prize winners and $\frac{4}{9}$ of them were girls. How many children took part in the swimming competition?

(1) 75
(2) 100
(3) 130
(4) 175

(Go on to Booklet B)

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PRELIMINARY EXAMINATION 2024
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 August 2024

/ 25

Parent's Signature: _____

This booklet consists of 9 printed pages including this page.

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

(5 marks)

Do not write in this space

16 Find the value of 8.09×7.

Ans: _____

17 Express $6 \div 7$ as a decimal correct to 2 decimal places.

Ans: _____

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

Express your answer as a fraction in its simplest form.

Ans: _____

(Go on to the next page)

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

Do not write in this space

16 Find the value of 8.09×7.

Ans: _____

17 Express $6 \div 7$ as a decimal correct to 2 decimal places.

Ans: _____

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

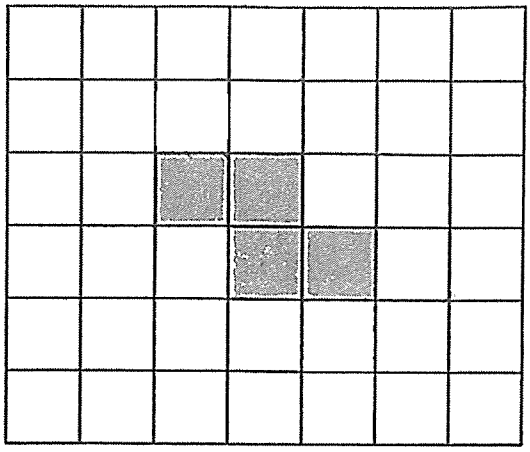
Express your answer as a fraction in its simplest form.

Ans: _____

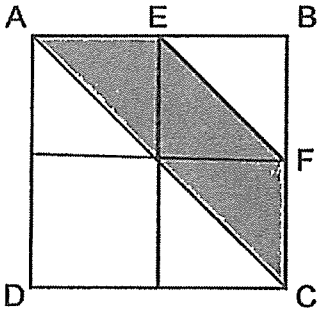
(Go on to the next page)

19 In the square grid below, shade 2 more squares to form the net of a cube.

Do not write in this space



20 ABCD is a square. E is the mid-point of AB. F is the mid-point of BC. What fraction of the figure is shaded?



Ans: _____

(Go on to the next page)

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

Do not write in this space

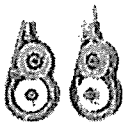
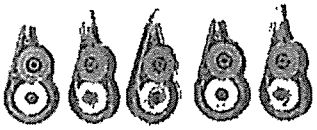
21 **(a)** Find the value of $5p - \frac{1}{3}$ when $p = 4$

Ans: (a) _____

(b) Simplify the expression $9w + 10 - 7w + 3$

Ans: (b) _____

22 At a bookshop, correction tapes are sold in packs of 2 or 5. Jane needs to buy 9 correction tapes. What is the least amount of money she needs to pay?

	
2 for $1.80	5 for $4.20

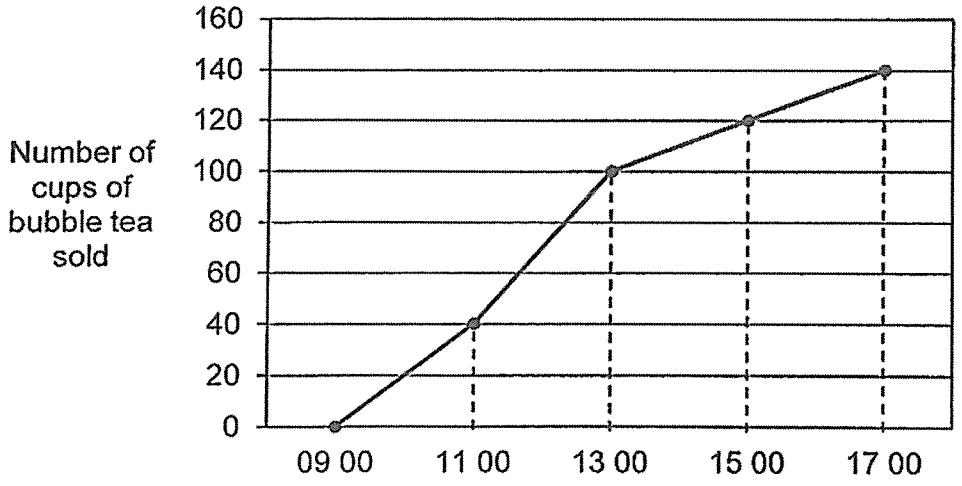
Ans: $ _____

23 Raj had enough money to buy exactly 20 pens. During a sale, the price of each pen was reduced by \$0.15. With the money he saved from the discount, he was able to buy 4 more pens and had \$0.20 left.
What was the price of each pen during the sale?

Do not write in this space

Ans: \$ _____

24 The line graph shows the number of cups of bubble tea sold in a shop on Friday from 09 00 to 17 00.



What was the average number of cups of bubble tea sold per hour from 11 00 to 15 00?

Ans: _____

(Go on to the next page)

25 John bought some plants at an average price of \$7. After buying another plant at \$21, the average price became \$9. Find the total number of plants John bought.

Do not write in this space

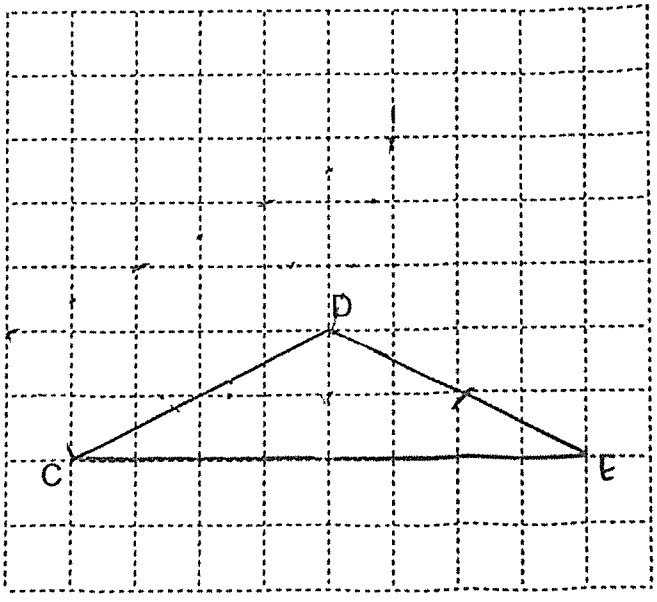
Ans: _____

26 The square grid shows line CD.

(a) Using the line CD, draw an isosceles triangle CDE, such that CD = DE.

(b) Using the line CD, draw a trapezium ABCD, such that CD is parallel to BA. The trapezium should not overlap the isosceles triangle.

Use a pencil to draw your diagrams and label them clearly.

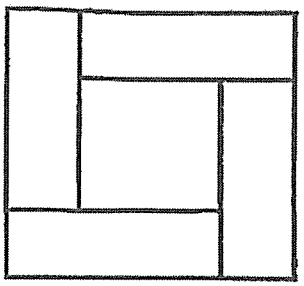


27 A group of students is divided equally into two teams, A and B
The ratio of the number of boys to the number of girls in Team A is 1 : 3.
The ratio of the number of boys to the number of girls in Team B is 5 : 11.
What is the ratio of the total number of boys to the total number of girls in the group?

Do not write in this space

Ans: _____

28 The figure is made up of 4 identical rectangles and a square.
The length of the rectangle is three times its breadth.
The area of the square is 64 cm^2.
Find the area of one rectangle.



Ans: _____

(Go on to the next page)

29 The pie chart represents the number of each type of animals at a pet store.

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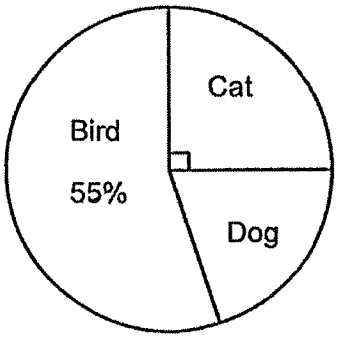
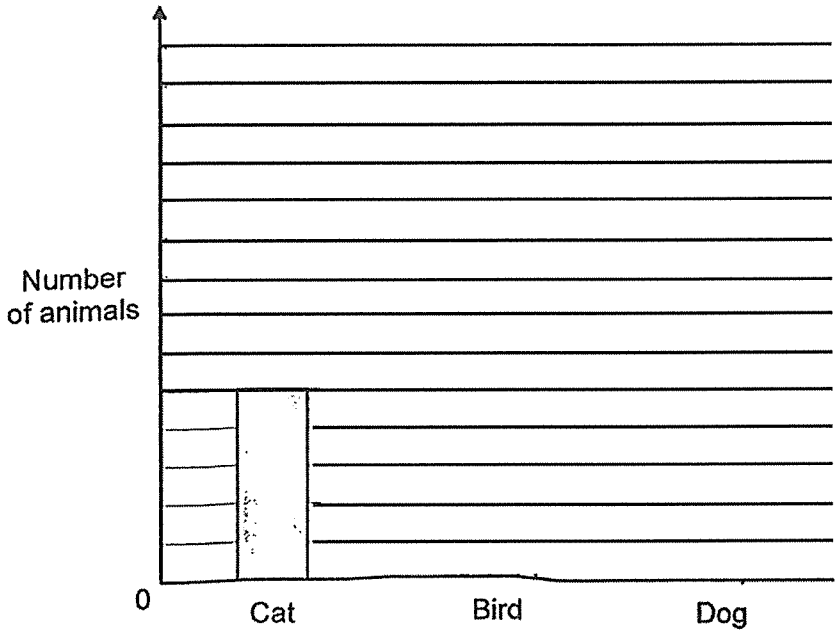


The number of animals is also represented by the bar graph below.
The bars for the number of birds and dogs have not been drawn.
Draw the bars to show the number of birds and dogs in the graph below.



30 The table below shows the number of each type of books in a class library. There were 40 students in the class. Each student borrowed either 3 or 5 books home to read. No books were left in the class library. How many students borrowed 5 books?

Do not write in this space

Types of books	Number of books borrowed
Horror	35
Scientific	32
Comic	30
Art and Craft	20
Mystery	25

Ans: _____

END OF PAPER

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2024
PRIMARY 6
MATHEMATICS

PAPER 2

Duration: 1h 30 min

INSTRUCTIONS TO CANDIDATES

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

Name: _____ ( )

Class: Primary 6._____

Date: 19 August 2024

Parent's Signature: _____

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

This booklet consists of **19** printed pages including this page.

Questions 1 to 5 carry 2 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. (10 marks)

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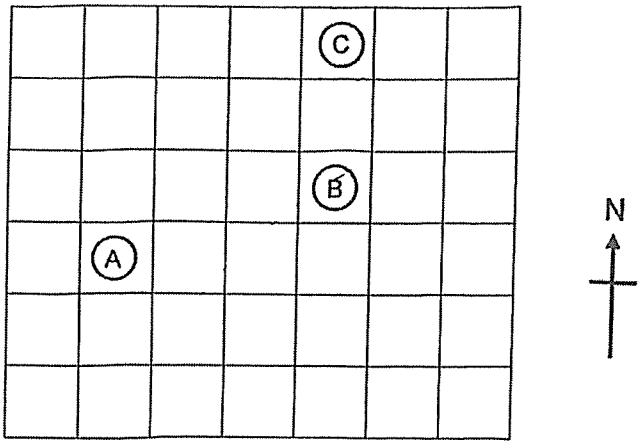
1 The figure shows 3 counters, A, B and C, placed in a square grid.



(a) John places Counter X such that it is North-east of A and North-west of B. Mark the position of Counter X in the grid above, by writing X in the correct square.

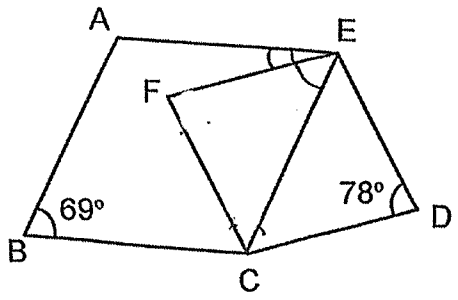
(b) Amy placed Counter Y on one of the squares in the grid. She moved it 2 squares North and then 2 squares East so that it landed on the same square as Counter C. Mark the original position of Counter Y in the grid above, by writing Y in the correct square.

2 Mr Lim is $12n$ years old. He is now 3 times as old as his son. How many years old will Mr Lim be when his son is 25 years old? Give your answer in terms of n.

Ans: _____

(Go on to the next page)

3 In the figure, ABCE and CDEF are rhombuses. Find ∠AEF.



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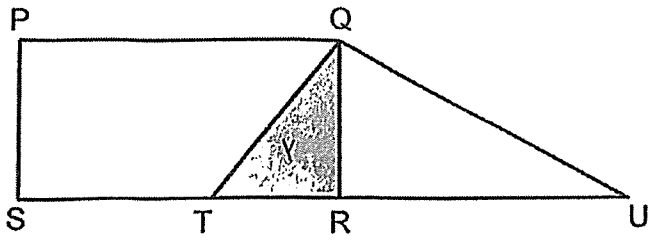
Ans: _____ °

4 $\frac{1}{6}$ of rectangle PQRS and $\frac{2}{5}$ of triangle QTU is shaded.
What percentage of the figure is shaded?



Ans: _____ %

5 The pie chart below shows the favourite ice-cream flavours of 380 pupils from a survey.

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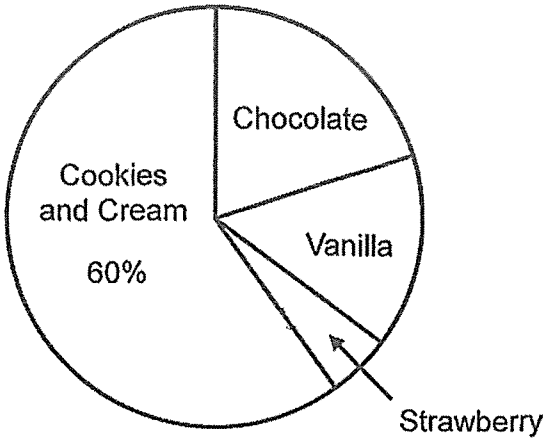


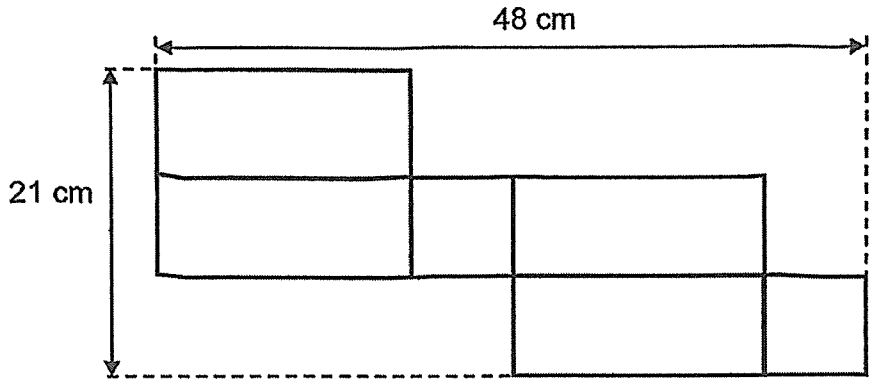
The number of pupils who like Strawberry is $\frac{1}{3}$ of the number of pupils who like Vanilla. The number of pupils who like Chocolate is the same as the total number of pupils who like Strawberry and Vanilla. How many pupils like Vanilla ice-cream?

Ans: _____

For questions to **6** to **17**, show your workings 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 The digram below shows the net of a cuboid with a square base.



(a) What is the height of the cuboid?

Ans: _____ [1]

(b) What is the volume of the cuboid?

Ans: _____ [2]

7 The line graph shows the amount of electricity used by the Wong family from January to June.

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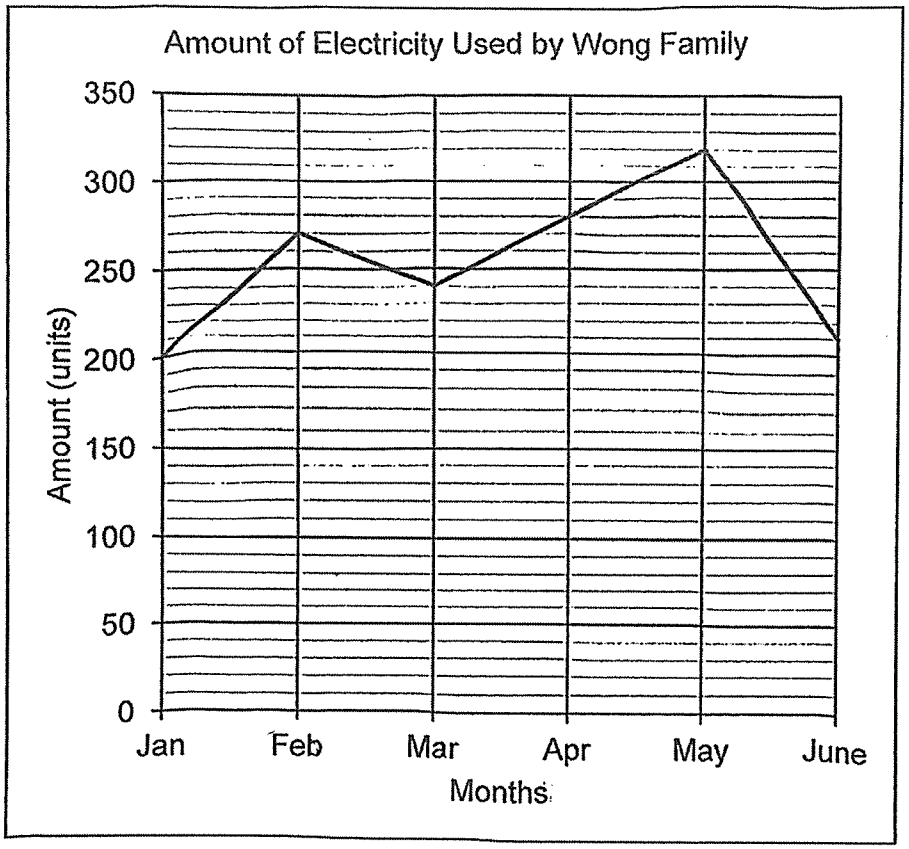


(a) Find the percentage decrease in the amount of electricity used from February to March.

Ans: _____ [1]

Do not write in this space

(b) In which month was the amount of electricity used $\frac{3}{4}$ that of the amount of electricity used in April?

Ans: _____ [1]

(c) The Wong family had to pay 9% GST on top of charges for electricity used. Electricity is charged at $0.15 per unit. How much did they pay for the electricity used in May?

Ans: _____ [2]

8 Aaron, Benny and Charlie had some marbles. Aaron gave $\frac{2}{5}$ of his marbles to Benny and $\frac{1}{4}$ of the remainder to Charlie. In the end, all 3 of them had the same number of marbles left.

Do not write in this space

(a) What fraction of his marbles did Aaron have left?

Ans: (a) _____ [1]

(b) What was the ratio of the number of marbles Aaron had to the number of marbles Benny had to the number of marbles Charlie had at first?

Ans: (b) _____ [2]

9 A box of greeting cards was shared equally among 35 pupils. 7 of them gave all their cards to the rest of the pupils. As a result, the rest of the pupils received 3 more cards each. How many cards were there in the box at first?

Do not write in this space

Ans: _____ [3]

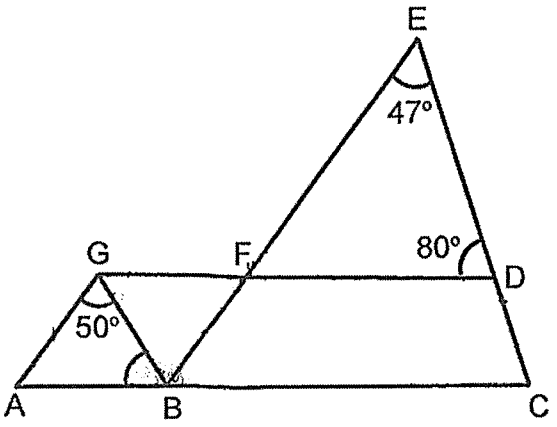
10 Mr Ahmad left his home at 9.15 a.m. to travel to Town B, 261 km away. He drove for 90 km at an average speed of 75 km/h. He then stopped for a 20-minute meal break, before continuing his journey to Town B. He reached Town B at 12.35 p.m. What was his average speed for the journey after his meal break?

Do not write in this space

Ans: _____ [3]

11 In the figure, AG // BE and AC // GD.

Do not write in this space



(a) Name an angle that is equal to ∠EFD.

Ans: _____ [1]

(b) Find ∠GBA.

Ans: _____ [2]

(c) Circle the words that describe BCDG in the statement below.

[1]

Since ∠CBG (is / is not) equal to ∠CDG, BCDG is a (parallelogram / trapezium).

12 Xinli and Mark want to save $164 to buy a gift. Xinli started saving earlier and she saves $3 each day. When Xinli has saved for 20 days, Mark would have saved $20. When Xinli has saved for 26 days, Mark would have saved $44. Mark saves a same amount each day.

Do not write in this space

(a) How much does Mark save each day?

Ans: (a) _____ [2]

(b) How many days would Xinli need to save so that they have exactly $164 to buy the gift?

Ans: (b) _____ [2]

Shop X sells a dress at $450. Shop Y sells the same dress at 80% of the price at Shop X.

Do not write in this space

(a) What is the price of the dress in Shop Y?

Ans: (a) _____ [1]

(b) During the Great Singapore Sale, Shops X and Y offered the same percentage discount on the dress. Shumei bought the dress in Shop Y and paid $82.80 less than the discounted price in Shop X. What was the percentage discount offered?

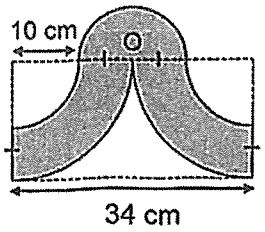
Ans: (b) _____ [3]

(Go on to the next page)

14 The diagram below is made up of 1 semicircle, 2 identical small quadrants and 2 identical big quadrants. O is the centre of the semicircle. The radius of the small quadrant is 10 cm.

Do not write in this space

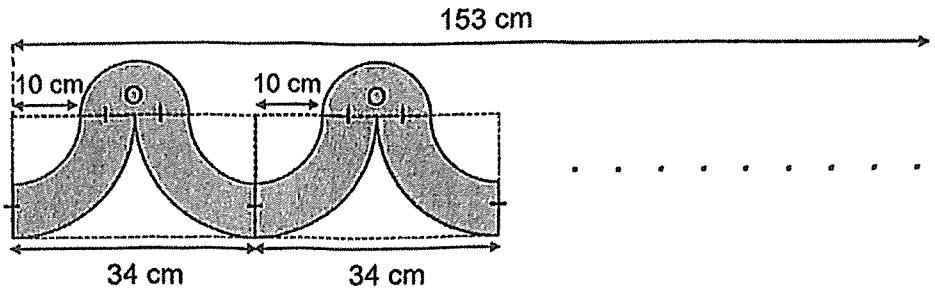
(a) Find the area of the shaded figure. (Take $\pi = 3.14$)



Ans: (a) _____ [2]

(b) The shaded figure is used to form a repeated pattern measuring 153 cm long to make a border design. What is the perimeter of the border design? (Take $\pi = 3.14$)

Do not write in this space



Ans: (b) _____ [3]

15 Figure A shows a 40-cm tall, sealed container that is made up of 2 cuboids. The top of the container is a cuboid which has a square base of side 5 cm and a height of 25 cm. The bottom is a cuboid with a rectangular base, measuring 32 cm by 12 cm. The container contains 5.755 ℓ of water which can flow freely between the 2 cuboids through the opening.

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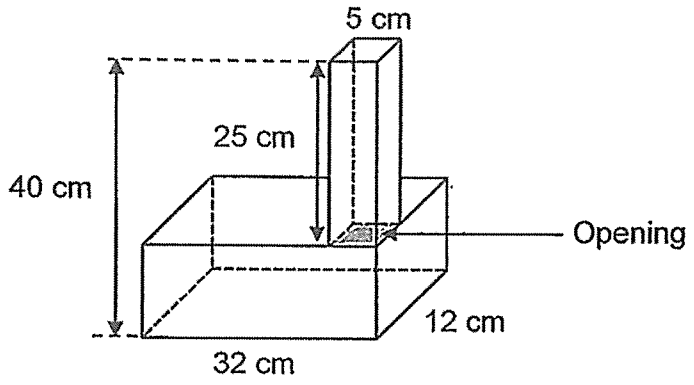

Figure A

(a) How much more water could the container hold?

Ans: (a) _____ [2]

(b) The container was then turned to rest horizontally as shown in Figure B. Find the height of the water level in Figure B.

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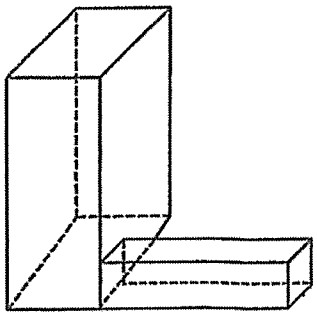
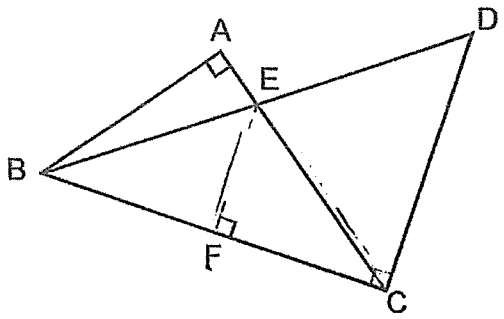


Figure B

Ans: (b) _____ [2]

16 In the figure below, ABC and BCD are right-angled triangles. BC = 20 cm, EF = 9 cm and EC = 15 cm. The ratio of the length of CD to the length of BA is 5 : 4. What is the area of triangle BCD?

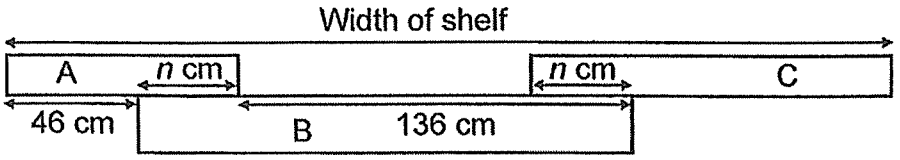
Do not write in this space



Ans: _____ [3]

17 Mr Leong used 3 wooden planks, A, B and C to build a shelf as shown below. The length of plank A is $\frac{5}{11}$ the length of plank B. The length of plank C is $\frac{1}{2}$ the total length of planks A and B.

Do not write in this space



(a) Find the value of n.

Ans: (a) _____ [3]

(b) What is the width of the shelf?

Ans: (b) _____ [2]

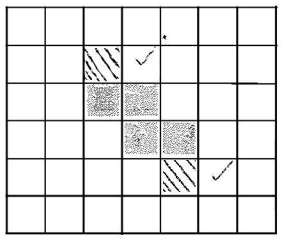
END OF PAPER

SCHOOL : MGS PRIMARY SCHOOL

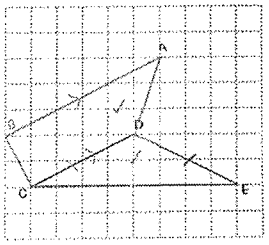
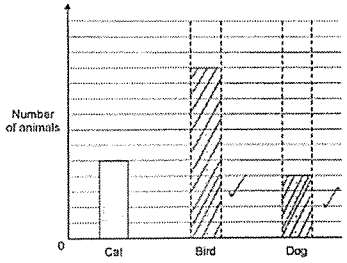
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2024 PRELIM

Q1	Q2	Q3	Q4	Q5	Q 6	Q7	Q8	Q9	Q10
2	3	2	3	3	3	2	4	2	1

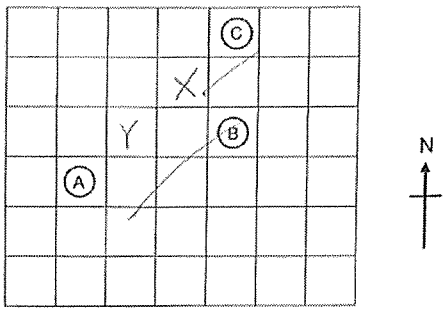
Q11	Q12	Q13	Q14	Q15
1	2	3	3	4

16)	56.63
17)	0.86
18)	1/10
19)	
20)	3/8
21)	a) $19\frac{2}{3\square}$ b) (2w+13)
22)	$7.80
23)	$0.70
24)	20
25)	7

16) 56.63

26)	
27)	9 : 23
28)	48 cm2
29)	
30)	11

PAPER 2

Q1)	a,b 
Q2)	12n ÷ 3 = 4n 12n – 4n = 8n (25 + 8n) years

Q3)	(180 – 78) ÷ 2 = 5 69 – 51 – 18
Q4)	$13\frac{1}{3}$ %
Q5)	100 – 60 = 40 40 ÷ 2 = 20 40 = 20 10 = 20 ÷ 4 = 5 30 = 5 x 3 = 15 15% x 380 = 57
Q6)	a)21 ÷ 3 = 7 48 – 7 x 2 = 34 34 ÷ 2 = 17cm b)7 x 7 x 17 = 833 cm2
Q7)	a)270 – 240 = 30 $\frac{30}{270}$ x 100 = $11\frac{1}{9}$ % b)4u = 280 1u = 280 ÷ 4 = 70 3u = 270 x 3 = 210 Ans: June c)320 x 0.15 = 48 48 x 109% = $52.32
Q8)	a) $\frac{9}{20}$ b)20 : 1 : 6
Q9)	35 – 7 = 28 28u + 8u = 35u 7u = 84 1u = 84 ÷ 7 = 12 35u = 12 x 35 = 420

Q10)	D→261 – 90 = 171 90 ÷ 75 = 1.2 1.2h = 1h 12min 10.27 am → 10.47 am (20min) 10.47 am → 12.35 pm (1h 48min) 1h 48min = $1\frac{4}{5}$ h 171 ÷ $1\frac{4}{5}$ h = 95 km/h
Q11)	a)<GFB b)180 – 80 – 47 = 53 180 – 50 – 53 – 77° c)not / trapezium
Q12)	a)26 – 20 = 6 6d → 44 – 20 = 24 1d →24 ÷ 6 = $4 b)164 – 45 = 119 4 + 3 = 7 119 ÷ 7 = 17 17 + 15 = 32
Q13)	a)80% x 450 = $360 b)450 – 360 = 90 $\frac{82.8}{90\square}$ x 100 = 92 100 – 92 = 8%
Q14)	a)34 – 10 x 2 = 14 14 ÷ 2 = 7 ½ x 3.14 x 7 x 7 = 76.93 10 + 7 = 17 ½ x 3.14 x 17 x 17 = 453.73 ½ x 3.14 x 10 x 10 = 157 453.73 + 57 = 296.73 296.73 + 76.93 = 373.66 cm2 b)494.42 cm
Q15)	a)40 – 25 = 15 15 x 32 x 12 = 5760 5755 L = 5755ml 5760 – 5755 = 5 25 x 5 x 5 = 625 625 + 5 = 630 ml

	b)25 x 5 x 5 = 625 5 x 12 x 15 = 900 900 + 625 = 1525 5755 – 1525 = 4230 4230 ÷ 12 ÷ 15 = 23.5 23.5 + 5 = 28.5 cm
Q16)	½ x 20 x 9 = 90 90 ÷ 15 = 6 6 x 2 = 12 12 ÷ 4 = 3 3 x 5 = 15 ½ x 20 x 15 = 150 cm2
Q17)	a)29 cm b)302 cm