

NANYANG PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2025

PRIMARY 5
MATHEMATICS
PAPER 1
(BOOKLET A)

Total Time for Booklets A and B: 1 hour 10 minutes

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
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 2B pencil to shade your answers on the Optical Answer Sheet (OAS).
6. The use of calculators is **NOT** allowed.

Name: _____ ()

Class: Primary 5 ()

This booklet consists of 13 printed pages and 3 blank pages.

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Questions 1 to 10 carry 1 mark each. Questions 11 to 18 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. (26 marks)

1 In 96.452, which digit is in the tenths place?

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

2 Which of the following is the same as 30 400 m?

- (1) 3.04 km
- (2) 30.04 km
- (3) 30.4 km
- (4) 304 km

3 A photocopier prints 40 pages per minute. At the same rate, how many minutes will it take to print 240 pages?

(1) 12

(2) 8

(3) 6

(4) 4

4 Priya baked 72 chocolate buns, 80 custard buns and 48 kaya buns. What percentage of the buns Priya baked were kaya buns?

(1) 24%

(2) 36%

(3) 40%

(4) 48%

5 There were 750 people at a concert. 30% of them were adults and the rest were children. How many adults were at the concert?

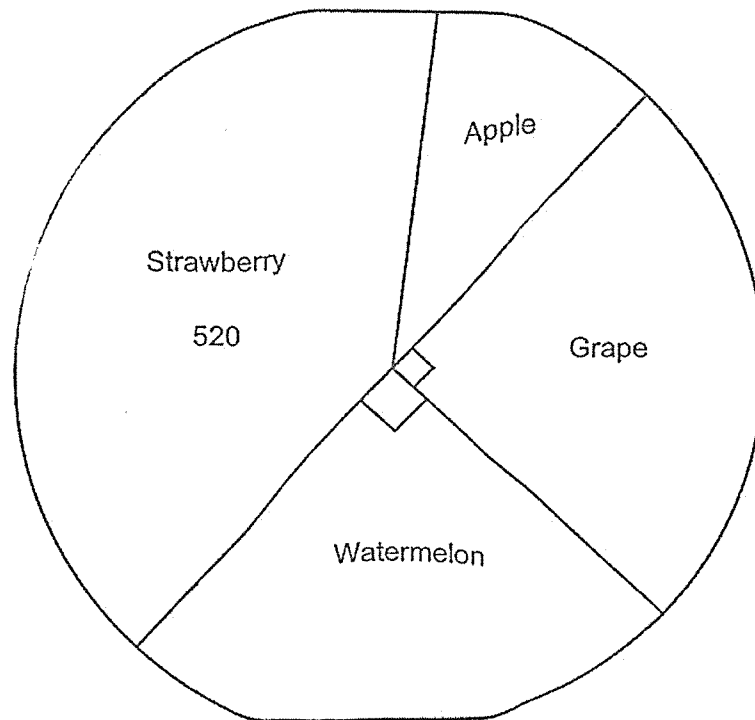
(1) 70

(2) 225

(3) 300

(4) 525

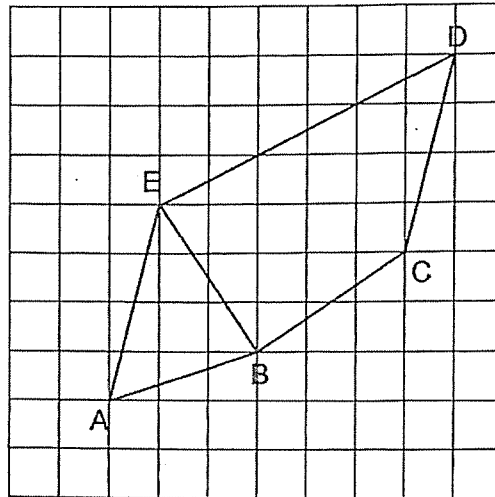
- 6 The pie chart below shows the number of fruits sold by Mr Tan. The number of strawberries sold was 4 times as many as the number of apples sold.



How many watermelons were sold?

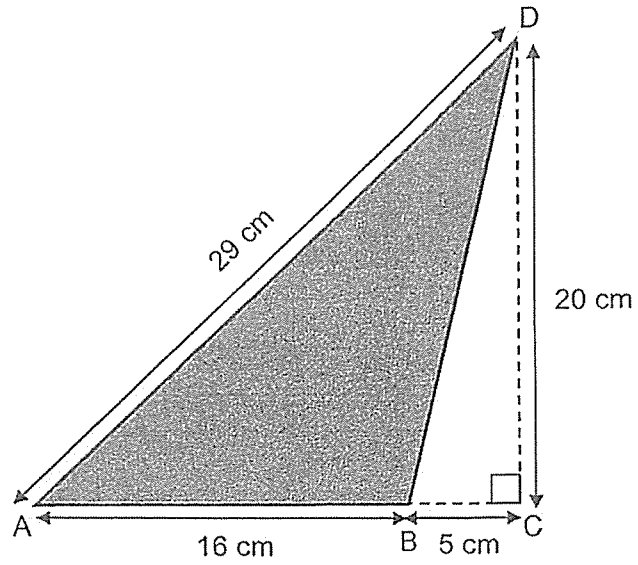
- (1) 130
- (2) 260
- (3) 325
- (4) 650

7 Which pair of lines are parallel?



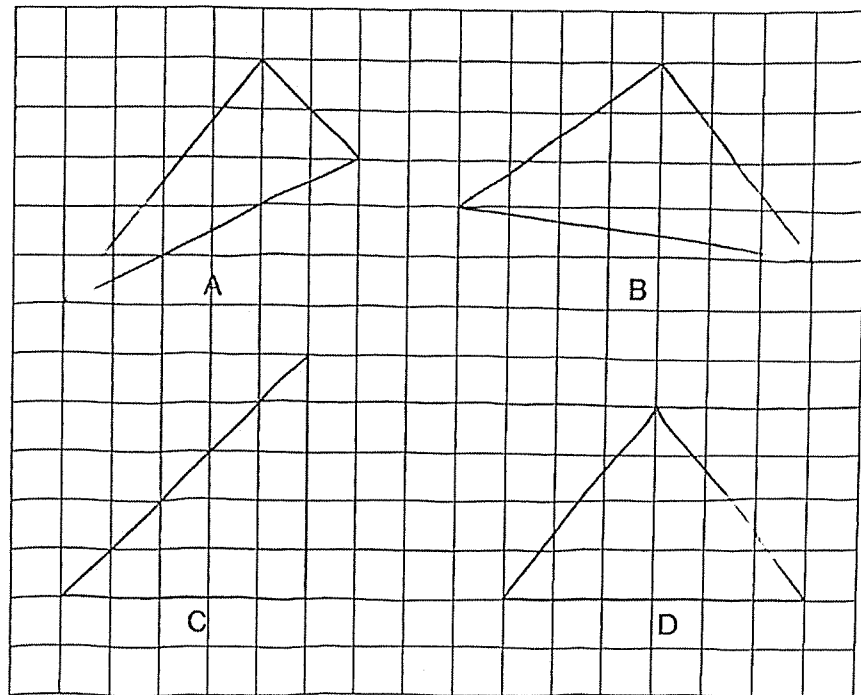
- (1) BC and ED
- (2) AE and CD
- (3) EB and ED
- (4) EB and BC

8 Find the area of shaded triangle ABD.



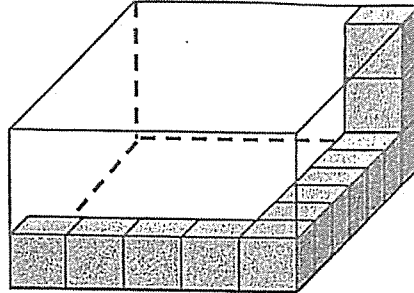
- (1) 160 cm^2
- (2) 210 cm^2
- (3) 232 cm^2
- (4) 320 cm^2

9 Which of the following are right-angled triangles?



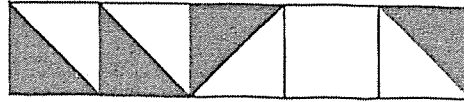
- (1) A and B
- (2) A and C
- (3) B and C
- (4) B and D

- 10 A rectangular tank is partially filled with 1-cm cubes as shown below. How many more such cubes are needed to fill the tank completely?



- (1) 13
- (2) 90
- (3) 92
- (4) 105

- 11 The figure is made up of 5 squares. Some squares are divided equally into 2 triangles. What fraction of the figure is shaded?



- (1) $\frac{2}{5}$
 (2) $\frac{1}{2}$
 (3) $\frac{3}{5}$
 (4) $\frac{4}{9}$

- 12 Arrange the following fractions from the smallest to the largest.

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

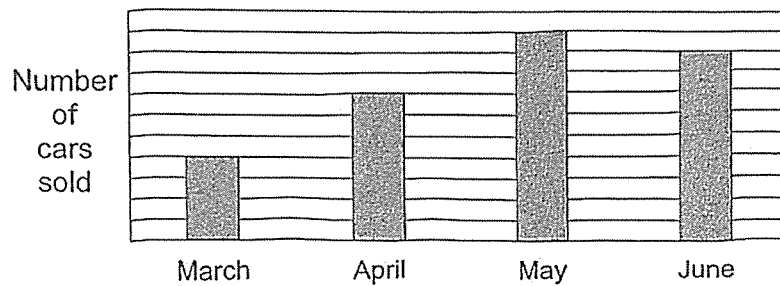
- | | <u>Smallest</u> | | <u>Largest</u> |
|-----|-----------------|---------------|----------------|
| (1) | $\frac{1}{2}$ | $\frac{3}{4}$ | $\frac{5}{8}$ |
| (2) | $\frac{5}{8}$ | $\frac{3}{4}$ | $\frac{1}{2}$ |
| (3) | $\frac{3}{4}$ | $\frac{5}{8}$ | $\frac{1}{2}$ |
| (4) | $\frac{1}{2}$ | $\frac{5}{8}$ | $\frac{3}{4}$ |

- 13 The table below shows the number of cars sold by a car shop from March to June.

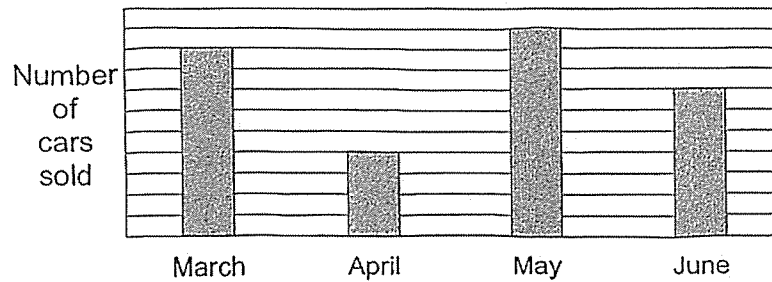
Month	Number of cars sold
March	28
April	16
May	40
June	36

Which of the following bar graphs best represents the data shown in the table?

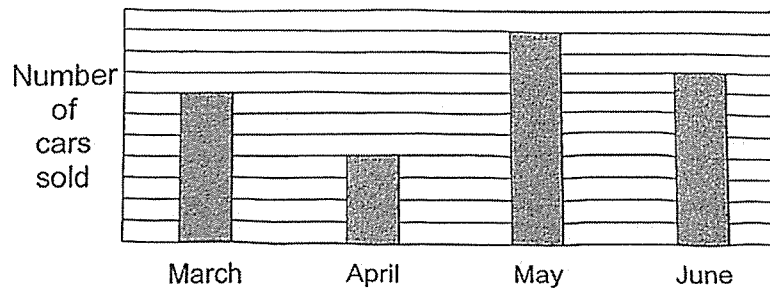
(1)



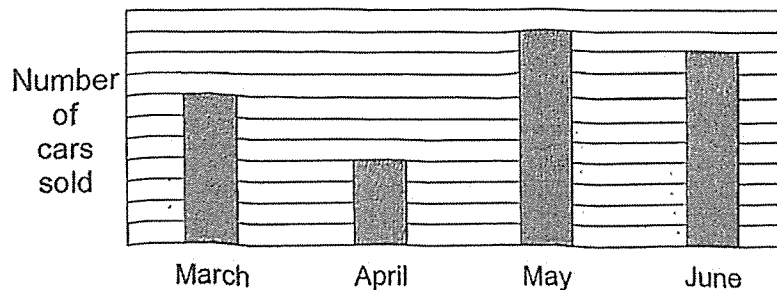
(2)



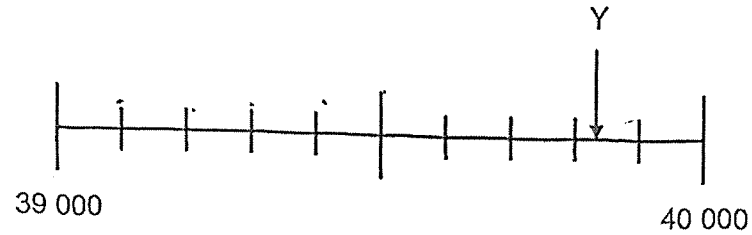
(3)



(4)



- 14 The figure below shows a number line. Which of the following is closest to the value of Y?



- (1) 39 080
(2) 39 090
(3) 39 800
(4) 39 900
- 15 The cost of a laptop was \$4098. A washing machine cost \$1258 more than the laptop. Find the total cost of 70 such washing machines.

- (1) \$286 360
(2) \$286 860
(3) \$322 860
(4) \$374 920

16 Mary had 52.8 ℓ of orange juice. She poured all the orange juice equally into 600 small cups. How many litres of orange juice did each small cup contain?

(1) 0.088

(2) 0.88

(3) 8.8

(4) 88

17 Jane and Ali cooked the same amount of soup to sell. When Jane packed her soup in packets of 2.5 ℓ, she had 1.5 ℓ of soup left unpacked. When Ali packed all his soup in packets of 1.5 ℓ, he had no soup remaining and had 5 more packets of soup than Jane. How much soup did Jane have at first?


(1) 9 ℓ

(2) 16.5 ℓ

(3) 21.5 ℓ

(4) 29 ℓ

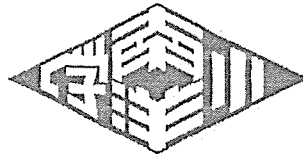
- 18 The table below shows the number of books read by students in a school. $\frac{5}{12}$ of the students read at least 4 books. Part of the table is smeared with ink.

Number of books read	2	3	4	5	6
Number of students	66	74	20		

Which statement(s) is/are not possible to tell?

- A The total number of students is 240.
- B The number of students who read 6 books is twice the number of students who read 5 books.
- C Most students read 3 books.

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



NANYANG PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2025

PRIMARY 5

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 1 hour 10 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
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.

Name: _____ ()

Class: Primary 5 ()

Booklet B

/ 24

This booklet consists of 12 printed pages and 4 blank pages.

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Questions 19 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. (24 marks)

19 (a) Find the value of $100 \div (24 - 14) + 8 \times 10$.

Ans: (a) _____

(b) Round 32 409 to the nearest hundred.

Ans: (b) _____

20 (a) Express $\frac{9}{4}$ as a decimal.

Ans: (a) _____

(b) Find the value of $3 \div 8$. Express your answer as a decimal correct to 2 decimal places.

Ans: (b) _____

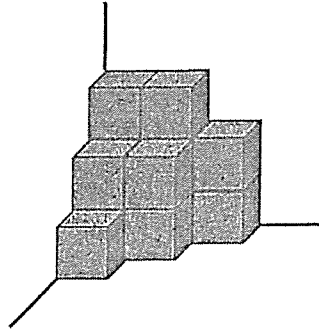
21 (a) Find the value of $\frac{7}{6} \times 5$. Express your answer as a mixed number.

Ans: (a) _____

(b) Find the value of $\frac{6}{7} \times \frac{14}{9}$. Express your answer as a mixed number in its simplest form.

Ans: (b) _____

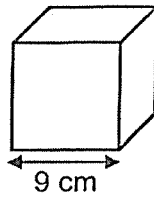
22 The solid below is made up of 1-cm cubes.



(a) How many 1-cm cubes are there in the solid?

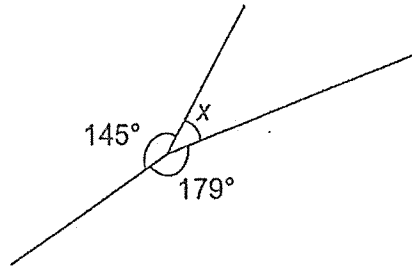
Ans: (a) _____

(b) What is the volume of the cube shown below?



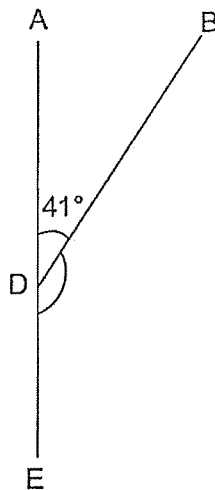
Ans: (b) _____ cm^3

23 (a) Find $\angle x$.



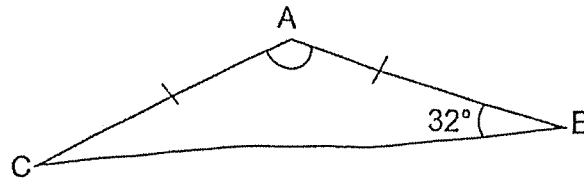
Ans: (a) _____ $^\circ$

(b) ADE is a straight line. Find $\angle BDE$.



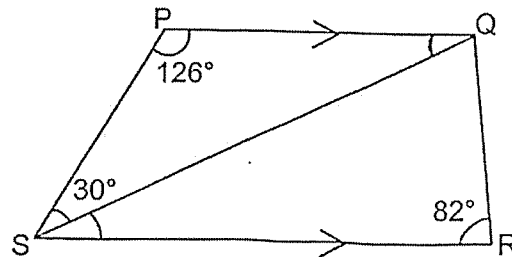
Ans: (b) _____ $^\circ$

- 24 (a) ABC is a triangle and $AB = AC$. Find $\angle CAB$.



Ans: (a) _____ $^\circ$

- (b) PQRS is a trapezium. $PQ \parallel SR$, $\angle QRS = 82^\circ$, $\angle QPS = 126^\circ$ and $\angle PSQ = 30^\circ$. Find $\angle QSR$.



Ans: (b) _____ $^\circ$

- 25 In a camp, $\frac{2}{7}$ of the children were girls and the rest were boys. There were 120 more boys than girls. How many boys were there?

Ans: _____

- 26 Aileen saved \$3.20 every day from 1st June 2025. A few days later, Bernard started to save. He saved an equal amount of money each day. At the end of 7th June 2025, Bernard saved \$14.40. At the end of 9th June 2025, Aileen's total savings and Bernard's total savings were the same. How much did Bernard save each day?

Ans: \$ _____

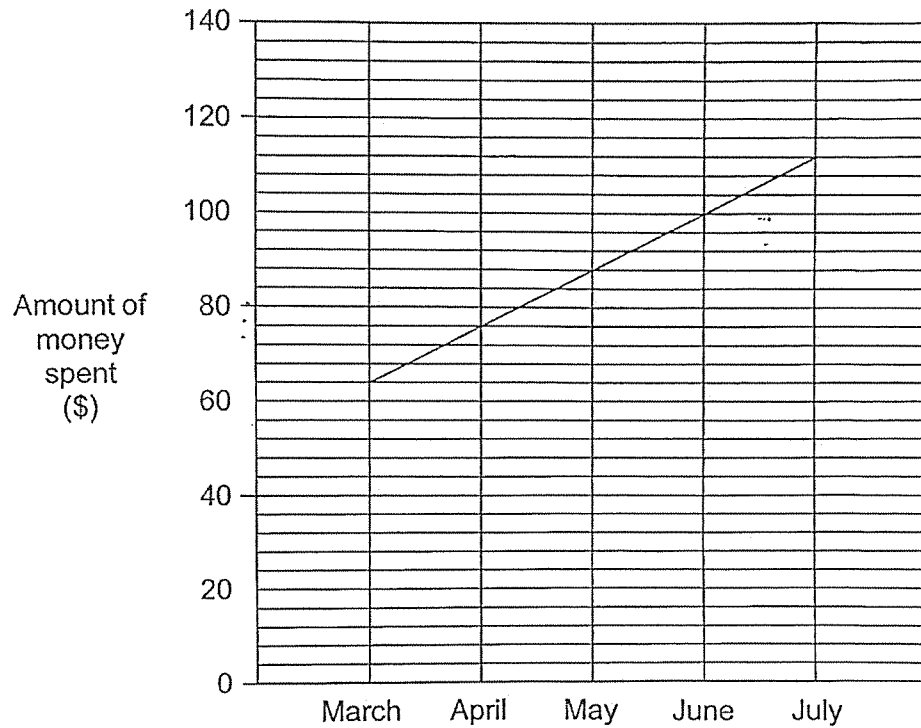
27 The table below shows the parking charges at a car park.

Parking Charges	
For the first hour	\$1.90
For every additional $\frac{1}{2}$ hour or part thereof	\$1.10

Mrs Sim parked her car at the car park for 3 h 40 min. How much did she pay in total for the parking charges?

Ans: \$ _____

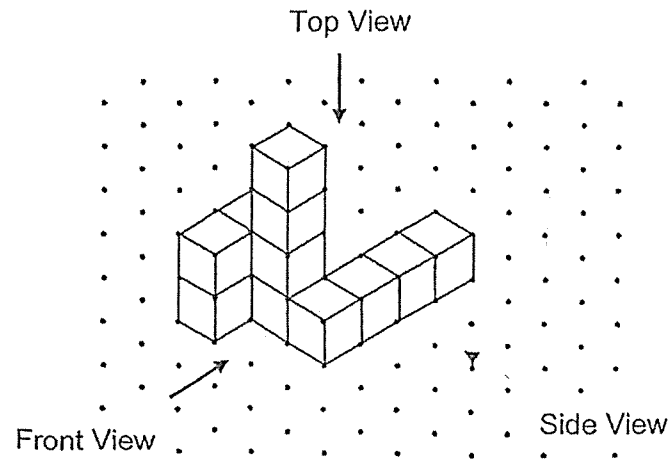
- 28 Jia Hao was given \$120 each month. He spent some money and saved the remaining amount of money each month. The line graph below shows the amount of money he spent from March to July.



Find the total amount of money Jia Hao saved in May and June.

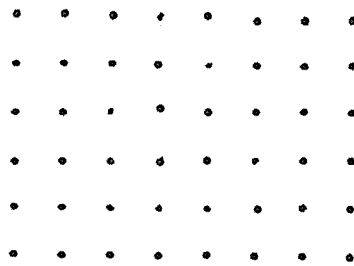
Ans: \$ _____

- 29 Ahmad stacked 12 unit cubes and glued them together to form the solid below.

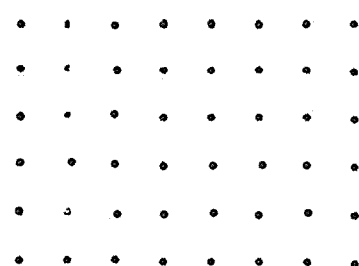


Draw the front view and the side view of the solid on the grids below.

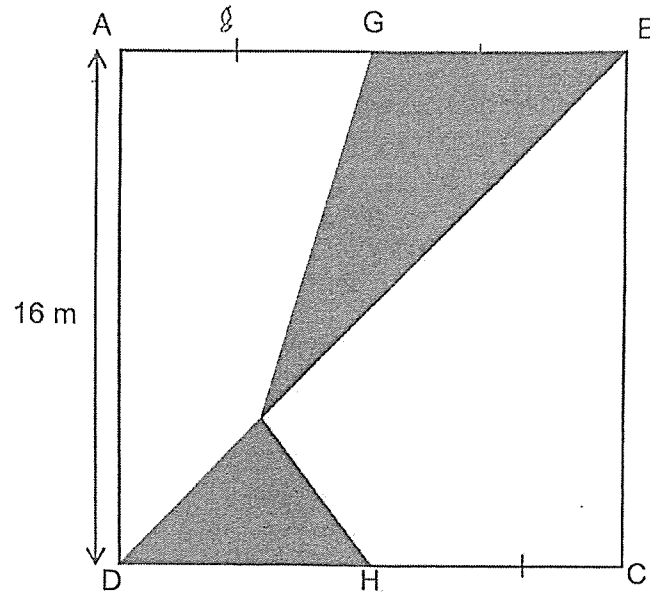
Front View



Side View



- 30 ABCD is a square and $AG = GB = DH = HC$. AGB and DHC are straight lines. Find the total area of the shaded triangles.



Ans: _____ m²

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NANYANG PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2025

PRIMARY 5
MATHEMATICS
PAPER 2

Time: 1 hour 20 minutes

INSTRUCTIONS TO CANDIDATES

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

Name: _____ ()

Class: Primary 5 ()

Parent's Signature: _____

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

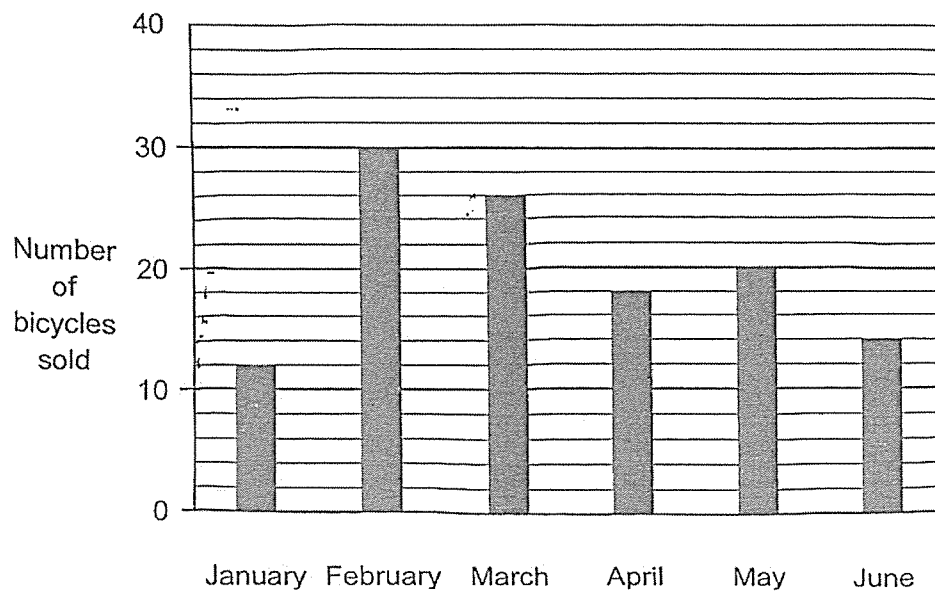
Booklet A	/ 26
Booklet B	/ 24
Paper 2	/ 50
Total	/ 100

This booklet consists of 16 printed pages and 4 blank pages.

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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 bar graph below shows the number of bicycles sold at a shop from January to June.



How many bicycles were sold from January to May?

Ans: _____

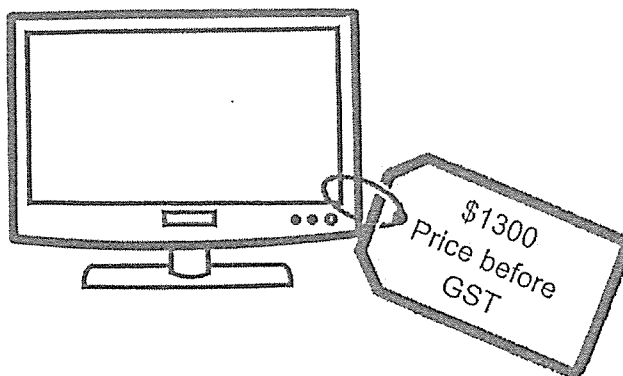
- 2 The length of Rope A is $5\frac{3}{4}$ m. Rope B is $1\frac{3}{5}$ m shorter than Rope A. What is the length of Rope B? Express your answer as a mixed number.

Ans: _____ m

- 3 John bought 7 packets of potatoes. The mass of each packet of potatoes was $1\frac{3}{8}$ kg. Find the total mass of the 7 packets of potatoes that John bought. Express your answer as a mixed number.

Ans: _____ kg

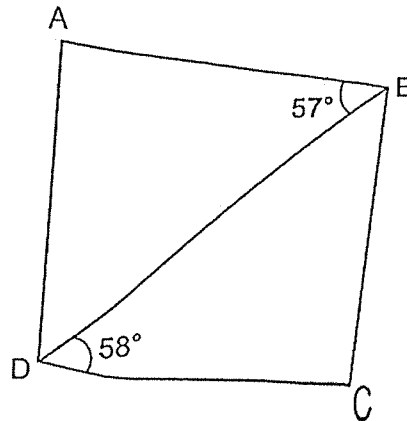
- 4 Wee Kiat bought a television set.



How much did Wee Kiat pay for the television set, including 9% GST?

Ans: \$ _____

- 5 ABCD is a quadrilateral. BCD is an isosceles triangle. $BC = CD$, $\angle BDC = 58^\circ$ and $\angle ABD = 57^\circ$.



The figure above is not drawn to scale. Each statement is either true, false, or not possible to tell from the information given. Put a tick (\checkmark) to indicate your answer.

Statement	True	False	Not possible to tell
$\angle BCD = 58^\circ$.			
$\angle BAD = 64^\circ$.			
ABCD is a rhombus.			

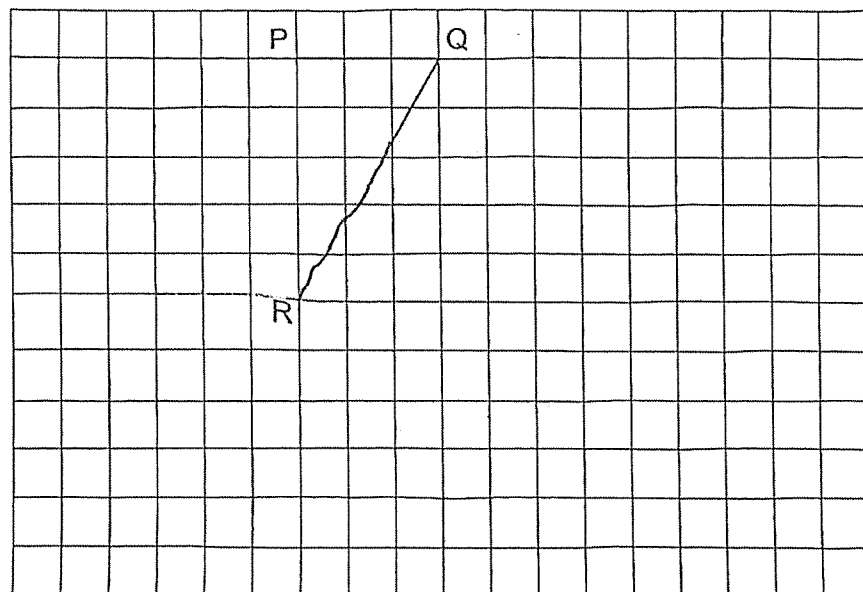
A2

For questions 6 to 15, show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. The number of marks available is shown in brackets [] at the end of each question or part-question. (40 marks)

6 In the square grid, two sides of a parallelogram PQRS have been drawn.

(a) Complete the drawing of the parallelogram PQRS. [1]

(b) QR forms one side of a triangle QRT in which $\angle QRT$ is a right angle and $RQ = RT$. Complete the drawing of the triangle QRT within the grid. Parallelogram PQRS does not overlap with triangle QRT. [2]



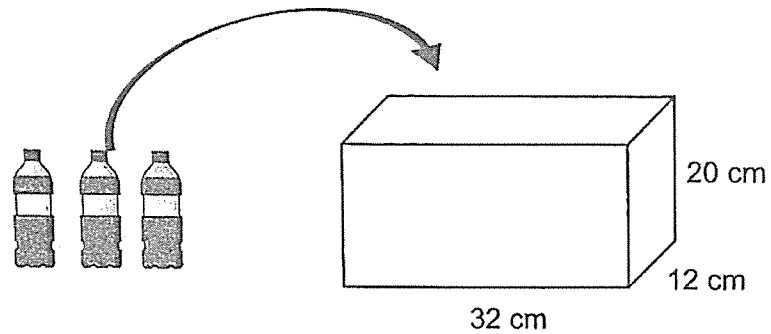
- 7 Ryan baked 750 cookies. He sold 50% of the cookies and gave $\frac{2}{3}$ of the remaining cookies to his neighbour. He then ate some cookies and had 80 cookies left. What percentage of the cookies baked did Ryan eat?

Ans: _____% [3]

- 8 Charlene had \$102 less than Bernice. After Charlene gave Bernice \$90, Bernice had 5 times as much as what Charlene had left. How much money did Charlene have at first?

Ans: \$ _____ [3]

- 9 A rectangular tank measuring 32 cm by 12 cm by 20 cm was empty at first. There were 3 identical bottles which were completely filled with water. Mr Kim poured all the water from the 3 bottles into the tank. In the end, the tank was $\frac{1}{5}$ – filled with water.



- (a) What was the volume of water in each bottle? Express your answer in litres.

Ans: (a) _____ ℓ [2]

- (b) How much more water was needed to fill the tank to the brim?

Ans: (b) _____ cm³ [2]

- 10 There were some fruits in a crate. $\frac{4}{9}$ of them were strawberries and $\frac{2}{3}$ of the remainder were mangoes. The rest of them were pineapples.

There were 105 more strawberries than pineapples.

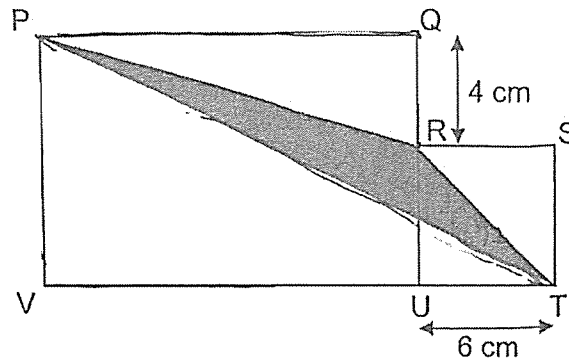
- (a) How many mangoes were there?

Ans: (a) _____ [3]

- (b) How many fruits were there in the crate?

Ans: (b) _____ [1]

- 11 The figure is made up of a rectangle PQUV, a square RSTU and a triangle PRT. QRU and VUT are straight lines. $UT = 6$ cm and $QR = 4$ cm. The perimeter of rectangle PQUV is 46 cm.



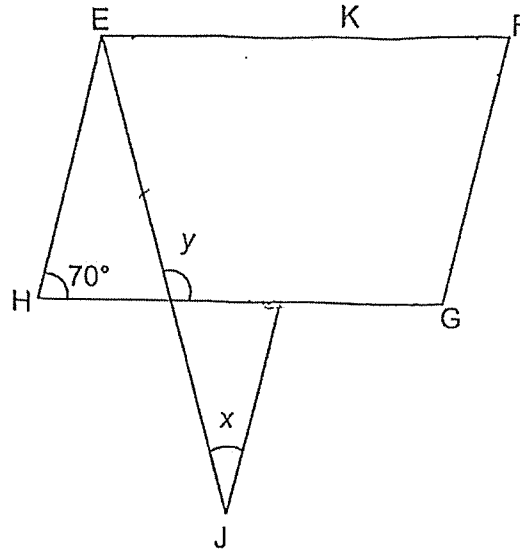
- (a) Find the length of PQ.

Ans: (a) _____ cm [1]

- (b) Find the area of triangle PRT.

Ans: (b) _____ cm^2 [3]

- 12 In the figure below, EFGH is a parallelogram and EJK is an isosceles triangle. FG is parallel to KJ. $\angle EHG = 70^\circ$ and $JE = JK$.



- (a) Find $\angle x$.

Ans: (a) _____° [2]

- (b) Find $\angle y$.

Ans: (b) _____° [2]

13 Peter has some 20-cent coins and 50-cent coins. The number of 20-cent coins is four times as many as the number of 50-cent coins. The value of the 20-cent coins is \$11.40 more than the value of the 50-cent coins.

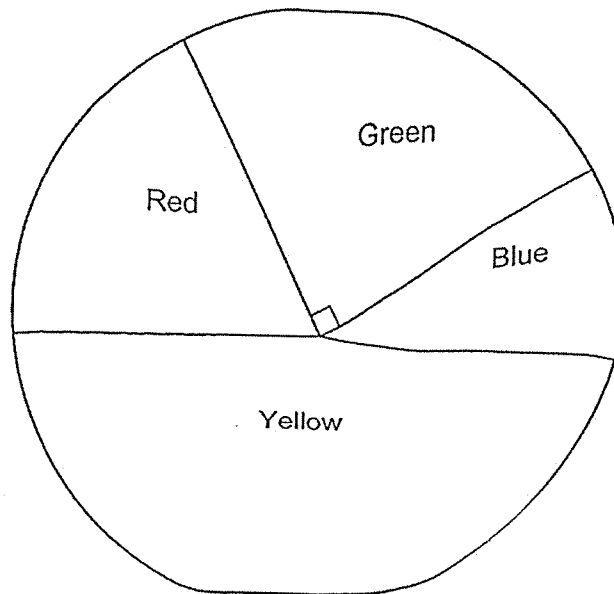
(a) How many fewer 50-cent coins than 20-cent coins does Peter have?

Ans: (a) _____ [3]

(b) How much money does Peter have?

Ans: (b) \$_____ [2]

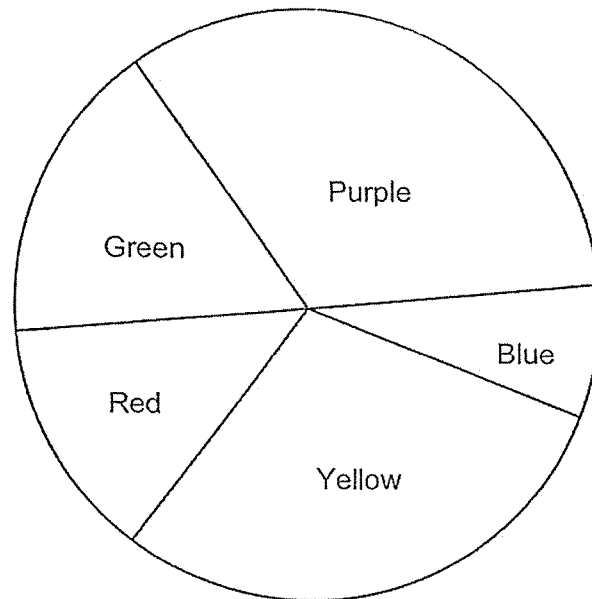
- 14 The pie chart below shows the different coloured beads Rahim has. $\frac{1}{5}$ of the beads Rahim has are red. The number of yellow beads is 4 times as many as the number of blue beads.



- (a) What percentage of the beads are blue?

Ans: (a) _____% [3]

- (b) Rahim has a total of 600 beads after he is given some purple beads. $\frac{1}{3}$ of the beads Rahim has now are purple. The pie chart below shows the different coloured beads Rahim has after he is given some purple beads.



How many green beads are there?

Ans: (b) _____ [2]

15 The figures below are formed by squares of the same size.

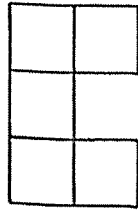


Figure 1

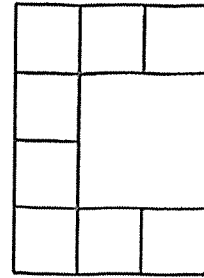


Figure 2

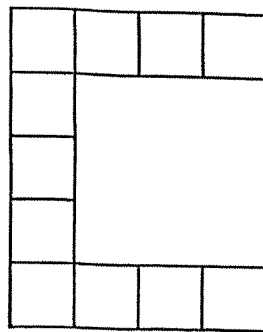


Figure 3

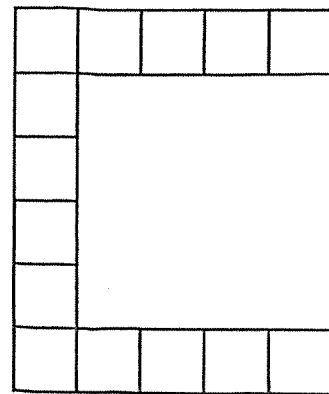


Figure 4

(a) Complete the table below for Figure 5.

Figure	1	2	3	4	5
No. of Squares	5	8	11	14	

[1]

(b) How many squares are there in Figure 29?

Ans: (b) _____ [2]

(c) Which figure will have 311 squares?

Ans: (c) _____ [2]

End of Paper

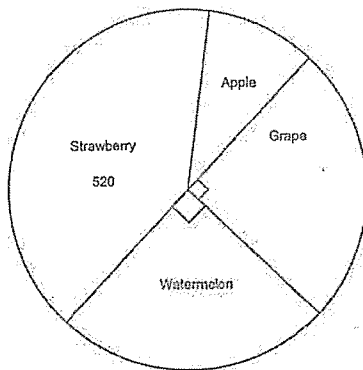
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Questions 1 to 10 carry 1 mark each. Questions 11 to 18 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (26 marks)

- 1 In 96.452, which digit is in the tenths place?
 96.452
- (1) 5
 (2) 2
 (3) 4
 (4) 9 ✓ (4)

- 2 Which of the following is the same as 30 400 m?
 $30\ 400 \div 1000$
- (1) 3.04 km
 (2) 30.04 km
 (3) 30.4 km ✓
 (4) 304 km (3)

6 The pie chart below shows the number of fruits sold by Mr Tan. The number of strawberries sold was 4 times as many as the number of apples sold.



- How many watermelons were sold?
 $Apples \rightarrow 520 \div 4 = 130$
- (1) 130
 (2) 260
 (3) 325 ✓
 (4) 650
- $Strawberry + Apple + Grape + Watermelon = 520 + 130 + 130 + 130 = 910$
 $910 \div 2 = 455$
 $455 - 130 = 325$ (3)

3 A photocopier prints 40 pages per minute. At the same rate, how many minutes will it take to print 240 pages?

- (1) 12
 (2) 8
 (3) 6 ✓
 (4) 4
- $240 \div 40 = 6$ (3)

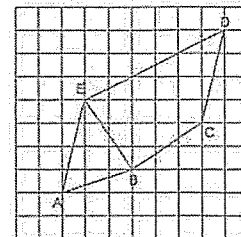
Priya baked 72 chocolate buns, 80 custard buns and 48 kaya buns. What percentage of the buns Priya baked were kaya buns?

- (1) 24% ✓
 (2) 36%
 (3) 40%
 (4) 48%
- Total $\rightarrow 72 + 80 + 48 = 152 + 48 = 200$
 $\frac{48}{200} = \frac{24}{100} = 24\%$ (1)

5 There were 750 people at a concert. 30% of them were adults and the rest were children. How many adults were at the concert?

- (1) 70
 (2) 225 ✓
 (3) 300
 (4) 525
- $750 \times 30\% = 225$ (2)

7 Which pair of lines are parallel?

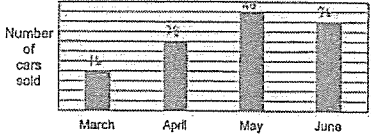
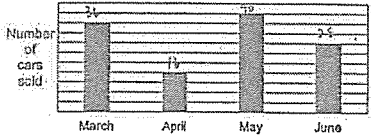
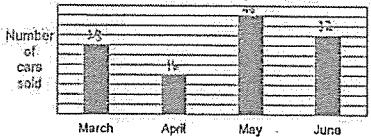
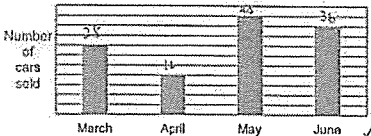


- (1) BC and ED
 (2) AE and CD ✓
 (3) EB and ED
 (4) EB and BC
- (2)

- 13 The table below shows the number of cars sold by a car shop from March to June.

Month	Number of cars sold
March	28
April	16
May	40
June	36

Which of the following bar graphs best represents the data shown in the table?

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

11

- 16 Mary had 52.8 l of orange juice. She poured all the orange juice equally into 600 small cups. How many litres of orange juice did each small cup contain?

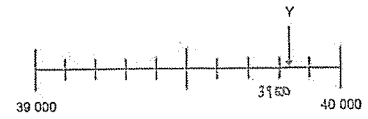
- (1) 0.088 ✓ $52.8 \div 600 = 52.8 \div 6 \div 100 = 8.8 \div 100 = 0.088$
- (2) 0.88
- (3) 8.8
- (4) 88

- 17 Jane and Ali cooked the same amount of soup to sell. When Jane packed her soup in packets of 2.5 l, she had 1.5 l of soup left unpacked. When Ali packed all his soup in packets of 1.5 l, he had no soup remaining and had 5 more packets of soup than Jane. How much soup did Jane have at first?

- (1) 9 l
- (2) 16.5 l ✓
- (3) 21.5 l
- (4) 29 l
- Handwritten solution:*
- | | | | | | | |
|------|-----|-----|-----|------|------|-----|
| Jane | 2.5 | 5.0 | 7.5 | 10.0 | 12.5 | 15 |
| Ali | 1.5 | 3.0 | 4.5 | 6.0 | 7.5 | 9.0 |
- (2)

13

- 14 The figure below shows a number line. Which of the following is closest to the value of Y?



- (1) 39 080
- (2) 39 090
- (3) 39 800 ✓ (3)
- (4) 39 900

- 15 The cost of a laptop was \$4098. A washing machine cost \$1258 more than the laptop. Find the total cost of 70 such washing machines.

- (1) \$288 360
- (2) \$286 860
- (3) \$322 860
- (4) \$374 920 ✓
- Handwritten solution:*
- $$\$4098 + \$1258 = \$5356$$
- $$\$5356 \times 70 = \$374920$$
- (4)

12

- 18 The table below shows the number of books read by students in a school. $\frac{5}{12}$ of the students read at least 4 books. Part of the table is smeared with ink.

Number of books read	2	3	4	5	6
Number of students	66	74	20	[Smeared]	[Smeared]

Which statement(s) is/are not possible to tell?

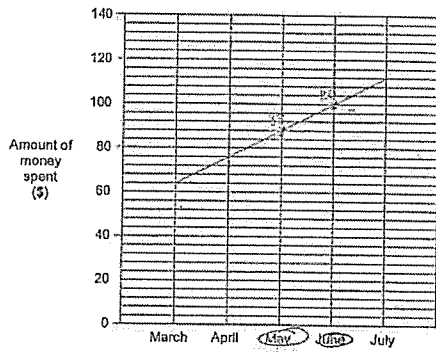
- A The total number of students is 240. True
- B The number of students who read 6 books is twice the number of students who read 5 books. False
- C Most students read 3 books. NOT T

- (1) B only
- (2) C only ✓
- (3) B and C only
- (4) A, B and C
- Handwritten solution:*
- Let number of students who read 5 books be x and who read 6 books be y .
- Total students = $66 + 74 + 20 + x + y = 160 + x + y$
- $\frac{5}{12}$ of students read at least 4 books: $\frac{5}{12}(160 + x + y) = 20 + x + y$
- $5(160 + x + y) = 12(20 + x + y)$
- $800 + 5x + 5y = 240 + 12x + 12y$
- $560 = 7x + 7y$
- $80 = x + y$
- Number of students who read 5 or 6 books = 80
- Books read = $5x + 6y = 5(x+y) + y = 5(80) + y = 400 + y$
- Since the number of students who read 5 or 6 books is 80, and under the number of students who read 5 books nor the number of students who read 6 books is known, it is possible that more than 74 students read either 5 or 6 books. So C is Not Possible to Tell.
- 80 is not divisible by 3 (if the number of students who read 6 books is twice the number who read 5 books). So B is False.
- This number should be divisible by 3.

Q19a	$100 \div (14 - 14) + 8 \times 10$ $= 100 \div 10 + 8 \times 10$ $= 10 + 8 \times 10$ $= 10 + 80$ $= 90$ <p>Ans: 90</p>
Q19b	<p>Thousands Hundreds Tens Ones</p> <p>32 409</p> <p>Ans: 32 400</p>
Q20a	$\frac{9}{4} = 2 \frac{1}{4} = 2.25$ <p>Ans: 2.25</p>
Q20b	$8 \overline{) 3.000}$ $\begin{array}{r} 0.375 \\ 8 \overline{) 3.000} \\ \underline{- 0} \downarrow \\ 30 \downarrow \\ \underline{- 24} \downarrow \\ 60 \downarrow \\ \underline{- 56} \downarrow \\ 40 \\ \underline{- 40} \\ 0 \end{array}$ <p>$0.375 \approx 0.38$</p> <p>Ans: 0.38</p>
Q21a	$\frac{7}{6} \times \frac{5}{1} = \frac{7 \times 5}{6 \times 1} = \frac{35}{6} = 5 \frac{5}{6}$ <p>Ans: $5 \frac{5}{6}$</p>

Q21b	$\frac{6}{7} \times \frac{14}{9} = \frac{2 \times 2}{1 \times 3} = \frac{4}{3} = 1\frac{1}{3}$ <p>Ans: $1\frac{1}{3}$</p>
Q22a	<p>Tota = $5 + 6 + 2 = 13$</p> <p>Ans:13</p>
Q22b	<p>Volume = $9 \times 9 \times 9 = 729$</p> <p>Ans:729</p>
Q23a	<p>$360 - 145 - 179 = 36$</p> <p>Ans: 36</p>
Q23b	<p>$180 - 41 = 139$</p> <p>Ans: 139</p>
Q24a	<p>$180 - 32 - 32 = 116$</p> <p>Ans: 116</p>
Q24b	<p>$180 - 126 - 30 = 24$</p> <p>Ans: 24</p>
Q25	<p>$3u = 120$ $1u = 120 / 3 = 40$ $5u = 40 \times 5 = 200$</p> <p>Ans: 200</p>
Q26	<p>(Aileen's) 9 days = $\\$3.20 \times 9 = \\28.80 Bernard saving in 2 days = $\\$28.80 - \\$14.40 = \\$14.40$ Bernard saving in 1 day = $\\$14.40 \div 2 = \\7.20</p> <p>Ans: \$7.20</p>
Q27	<p>1st 1 h = \$1.90 Subsequent 2 h 40 min = $6 \times \\$1.10 = \\6.60 Total = $\\$6.60 + \\$1.90 = \\$8.50$</p> <p>Ans: \$8.50</p>

- 28 Jia Hao was given \$120 each month. He spent some money and saved the remaining amount of money each month. The line graph below shows the amount of money he spent from March to July.



Find the total amount of money Jia Hao saved in May and June.

Each gap $\rightarrow 20 \div 10 = 2$

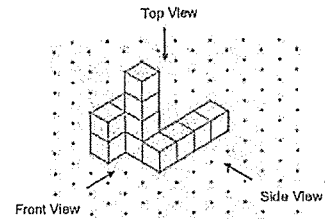
Total (May and June) $\rightarrow 100 + 80 = 180$
Spent

Saved $\rightarrow (120 \times 2) - 180$
 $= 240 - 180$
 $= 60$

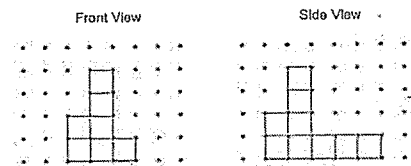
Ans: \$ 60

11

- 29 Ahmad stacked 12 unit cubes and glued them together to form the solid below.

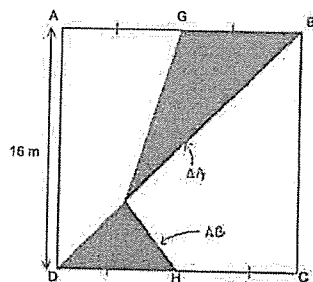


Draw the front view and the side view of the solid on the grids below.



12

- 30 ABCD is a square and $AG = GB = DH = HC$. AGB and DHC are straight lines. Find the total area of the shaded triangles.



$GB = DH =$ base of triangles $\rightarrow 16 \div 2 = 8$

height of ΔA and $\Delta B \rightarrow 16$

Area of ΔA and $\Delta B \rightarrow \frac{1}{2} \times 16 \times 8 = 64$

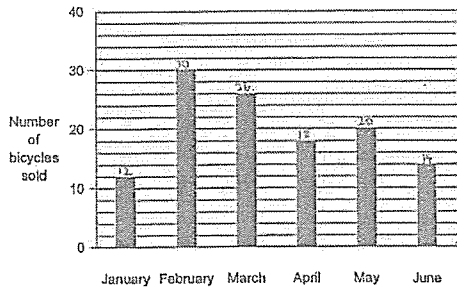
Ans: 64 m²

End of Paper

13

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 bar graph below shows the number of bicycles sold at a shop from January to June.



How many bicycles were sold from January to May?

$$12 + 30 + 26 + 18 + 20 = 106 \text{ (ans)}$$

Ans: 106

2 The length of Rope A is $5\frac{3}{4}$ m. Rope B is $1\frac{3}{5}$ m shorter than Rope A. What is the length of Rope B? Express your answer as a mixed number.

$$5\frac{3}{4} \text{ m} - 1\frac{3}{5} \text{ m} = 4\frac{3}{20} \text{ m (ans)}$$

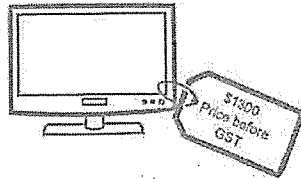
Ans: $4\frac{3}{20}$ m

3 John bought 7 packets of potatoes. The mass of each packet of potatoes was $1\frac{3}{8}$ kg. Find the total mass of the 7 packets of potatoes that John bought. Express your answer as a mixed number.

$$7 \times 1\frac{3}{8} \text{ kg} = 9\frac{5}{8} \text{ kg (ans)}$$

Ans: $9\frac{5}{8}$ kg

4 Wee Kiat bought a television set.



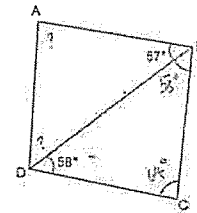
How much did Wee Kiat pay for the television set, including 9% GST?

$$\text{GST paid} \rightarrow \frac{9}{100} \times \$1300 = \$117$$

$$\$1300 + \$117 = \$1417 \text{ (ans)}$$

Ans: \$ 1417

5 ABCD is a quadrilateral. BCD is an isosceles triangle. $BC = CD$, $\angle BDC = 58^\circ$ and $\angle ABD = 57^\circ$.



The figure above is not drawn to scale. Each statement is either true, false, or not possible to tell from the information given. Put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
$\angle BCD = 58^\circ$		✓	
$\angle BAD = 64^\circ$			✓
ABCD is a rhombus.		✓	

$BC = CD$
So $\angle BDC = \angle BCD = 58^\circ$
 $\angle BCD = 180^\circ - 58^\circ - 58^\circ = 64^\circ$
(false, not 58°)
 $\angle BDA$ cannot be found based on the information given, so neither can $\angle BAD$ be calculated. (NPTT)

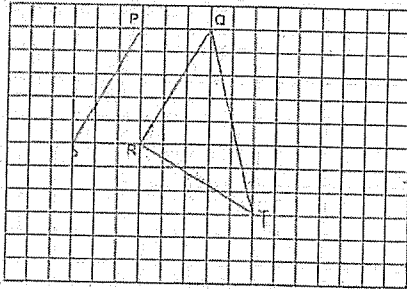
If ABCD is a rhombus,
 $\angle ABC + \angle BCD = 180^\circ$ (angles between a pair of parallel lines)
 $(57^\circ + 58^\circ) + 64^\circ = 179^\circ$
So, AB is not parallel to DC, and ABCD cannot be a rhombus. (False)

For questions 6 to 15, show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. The number of marks available is shown in brackets [] at the end of each question or part-question. (40 marks)

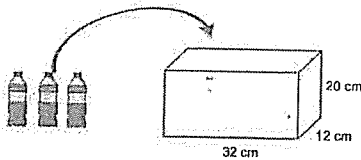
6 In the square grid, two sides of a parallelogram PQRS have been drawn.

(a) Complete the drawing of the parallelogram PQRS. [1]

(b) QR forms one side of a triangle QRT in which $\angle QRT$ is a right angle and $RQ = RT$. Complete the drawing of the triangle QRT within the grid. Parallelogram PQRS does not overlap with triangle QRT. [2]



9 A rectangular tank measuring 32 cm by 12 cm by 20 cm was empty at first. There were 3 identical bottles which were completely filled with water. Mr Kim poured all the water from the 3 bottles into the tank. In the end, the tank was $\frac{1}{5}$ filled with water.



(a) What was the volume of water in each bottle? Express your answer in litres.

Water in bottle (cm³) $\rightarrow \frac{1}{5} \times 32 \times 12 \times 20 = 1536$
 Water in each bottle (cm³) $\rightarrow 1536 \div 3 = 512$
 $512 \div 1000 = 0.512$ (ans)

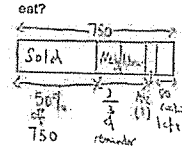
Ans: (a) 0.512 l [2]

(b) How much more water was needed to fill the tank to the brim?

Capacity of tank (cm³) $\rightarrow 32 \times 12 \times 20 = 7680$
 $7680 - 1536 = 6144$ (ans)

Ans: (b) 6144 cm³ [2]

7 Ryan baked 750 cookies. He sold 50% of the cookies and gave $\frac{2}{3}$ of the remaining cookies to his neighbour. He then ate some cookies and had 80 cookies left. What percentage of the cookies baked did Ryan eat?



$\frac{2}{3}$ of remaining cookies (given to neighbour) $\rightarrow \frac{2}{3} \times 375 = 250$

cookies eaten $\rightarrow 375 - 250 - 80 = 45$

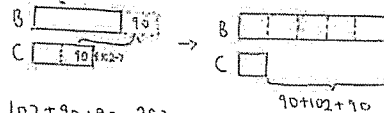
Sold $\rightarrow \frac{50}{100} \times 750 = 375$

$\frac{45}{750} \times 100\% = 6\%$ (ans)

Remaining cookies $\rightarrow 375$

Ans: 6 % [3]

8 Charlene had \$102 less than Bernice. After Charlene gave Bernice \$80, Bernice had 5 times as much as what Charlene had left. How much money did Charlene have at first?



$102 + 90 + 90 = 282$

4 units $\rightarrow 282$

1 unit $\rightarrow 282 \div 4 = 70.50$

$70.50 + 90 = 160.50$ (ans)

Ans: \$ 160.50 [3]

10 There were some fruits in a crate. $\frac{4}{9}$ of them were strawberries and $\frac{2}{3}$ of the remainder were mangoes. The rest of them were pineapples. There were 105 more strawberries than pineapples.

(a) How many mangoes were there?

$1 - \frac{4}{9} = \frac{5}{9}$ $\frac{7}{27}$ of total fruits $\rightarrow 105$

Remainder $\rightarrow \frac{5}{9}$ of total fruits

$1 - \frac{2}{3} = \frac{1}{3}$ Fraction of remainder that were pineapples

$\frac{1}{3} \times \frac{5}{9} = \frac{5}{27}$ Fraction of total fruits that were pineapples

$\frac{1}{27}$ of total fruits $\rightarrow 105 \div 7 = 15$

Mangoes $\rightarrow \frac{10}{27}$ of total $\rightarrow 15 \times 10 = 150$ (ans)

$\frac{4}{9} - \frac{5}{27} = \frac{1}{27}$

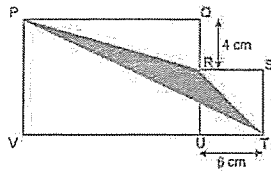
$1 - \frac{4}{9} - \frac{5}{27} = \frac{10}{27}$ Fraction of total fruits that were mangoes. Ans: (a) 150 [3]

(b) How many fruits were there in the crate?

$15 \times 27 = 405$ (ans)

Ans: (b) 405 [1]

- 11 The figure is made up of a rectangle PQUV, a square RSTU and a triangle PRT. QRU and VUT are straight lines. UT = 6 cm and QR = 4 cm. The perimeter of rectangle PQUV is 46 cm.



(a) Find the length of PQ.
 $RU = UT = 6 \text{ cm}$ $PQ = (46 \text{ cm} - 10 \text{ cm}) \div 2$
 $QU = 4 \text{ cm} + 6 \text{ cm} = 10 \text{ cm (ans)}$
 $= 10 \text{ cm}$
 Ans: (a) 13 cm [1]

(b) Find the area of triangle PRT.
 $VT = 6 \text{ cm} + 6 \text{ cm} = 12 \text{ cm}$
 $VI = 6 \text{ cm} + 13 \text{ cm} = 19 \text{ cm}$
 $\text{Area of } PVT = \frac{1}{2} \times 10 \text{ cm} \times 19 \text{ cm} = 95 \text{ cm}^2$
 $\text{Area of } RST = \frac{1}{2} \times 6 \text{ cm} \times 6 \text{ cm} = 18 \text{ cm}^2$
 $\text{Area of } PQR = \frac{1}{2} \times 4 \text{ cm} \times 12 \text{ cm} = 24 \text{ cm}^2$
 $\text{Area of rectangle and square} = (13 \text{ cm} \times 10 \text{ cm}) + (6 \text{ cm} \times 6 \text{ cm}) = 166 \text{ cm}^2$
 $\text{Shaded area} = (166 - 24 - 18 - 95) \text{ cm}^2 = 29 \text{ cm}^2 \text{ (ans)}$
 Ans: (b) 27 cm² [2]

11

- 13 Peter has some 20-cent coins and 50-cent coins. The number of 20-cent coins is four times as many as the number of 50-cent coins. The value of the 20-cent coins is \$11.40 more than the value of the 50-cent coins.

(a) How many fewer 50-cent coins than 20-cent coins does Peter have?

$\$0.20 \times 4 = \0.80
 $\$0.80 - \$0.50 = \$0.30 \rightarrow$ small difference
 $\$11.40 \rightarrow$ big difference
 $\$11.40 \div \$0.30 = 38 \rightarrow$ No. of groups (1 group has 4 20c coins and 1 50c coin)
 Number of 20c coins $\rightarrow 38 \times 4 = 152$
 $152 - 38 = 114 \text{ (ans)}$
 Ans: (a) 114 [3]

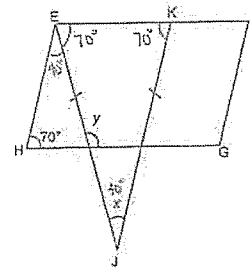
(b) How much money does Peter have?

$\$0.80 + \$0.50 = \$1.30$
 $38 \times \$1.30 = \49.40 (ans)

Ans: (b) \$ 49.40 [2]

13

- 12 In the figure below, EFGH is a parallelogram and EJK is an isosceles triangle. FG is parallel to KJ. $\angle EHG = 70^\circ$ and $JE = JK$.



(a) Find $\angle x$.
 Since $FG \parallel KJ$, EH must also be parallel to KJ (or $EH \parallel FG$)

$\angle EKJ = \angle JEK = 70^\circ$
 $\angle x = 180^\circ - 70^\circ - 70^\circ = 40^\circ \text{ (ans)}$

$\angle KEJ = \angle EKJ = 70^\circ$

Ans: (a) 40 [2]

(b) Find $\angle y$.

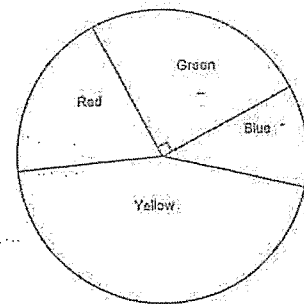
$\angle HEJ = 180^\circ - 70^\circ - 70^\circ = 40^\circ$

$\angle y = 180^\circ - (180^\circ - 70^\circ - 40^\circ) = 180^\circ - 70^\circ = 110^\circ \text{ (ans)}$

Ans: (b) 110 [2]

12

- 14 The pie chart below shows the different coloured beads Rahim has. $\frac{1}{5}$ of the beads Rahim has are red. The number of yellow beads is 4 times as many as the number of blue beads.



(a) What percentage of the beads are blue?

Green $\rightarrow 25\%$

Red $\rightarrow \frac{1}{5} = \frac{20}{100} = 20\%$

Blue + Yellow $\rightarrow 100\% - 20\% - 25\% = 55\%$

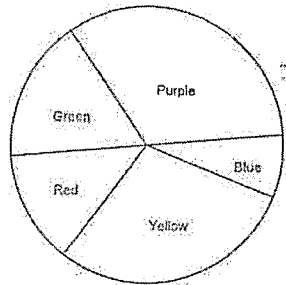
Blue $\rightarrow 55\% \div 5$

$= 11\% \text{ (ans)}$

Ans: (a) 11 % [3]

14

- (b) Rahim has a total of 600 beads after he is given some purple beads. $\frac{1}{3}$ of the beads Rahim has now are purple. The pie chart below shows the different coloured beads Rahim has after he is given some purple beads.



How many green beads are there?

$$1 - \frac{1}{3} = \frac{2}{3}$$

$$\frac{2}{3} \times 600 = 400 \rightarrow \text{Number of beads Raju had at first}$$

$$\frac{25}{100} \times 400 = 100 \text{ (ans)}$$

Ans: (b) 100 [2]

15

- 15 The figures below are formed by squares of the same size.

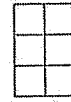


Figure 1

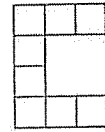


Figure 2

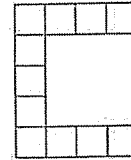


Figure 3

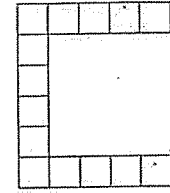


Figure 4

- (a) Complete the table below for Figure 5.

Figure	1	2	3	4	5
No. of Squares	5	8	11	14	17

$$\begin{array}{cccc} \curvearrowright & \curvearrowright & \curvearrowright & \curvearrowright \\ +3 & +3 & +3 & +3 \end{array}$$

[1]

18

- (b) How many squares are there in Figure 28?

$$\text{Total number of squares} \rightarrow (\text{figure number} \times 3) + 2$$

$$5 \text{ (Figure 1)} \rightarrow (1 \times 3) + 2 = 5$$

$$(28 \times 3) + 2 = 86 \text{ (ans)}$$

Ans: (b) 86 [2]

- (c) Which figure will have 311 squares?

$$311 - 2 = 309$$

$$309 \div 3 = 103 \text{ (ans)}$$

Ans: (c) 103 [2]

End of Paper

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