NAN HUA PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2025

PRIMARY SIX

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 : _____ ( )

Form Class : 6_____ **Teaching Group: 6M**_____

Date : 21 August 2025

This booklet consists of 8 printed pages.

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

(20 marks)

---

1 Eight hundred thousand and fourteen in numerals is _____.

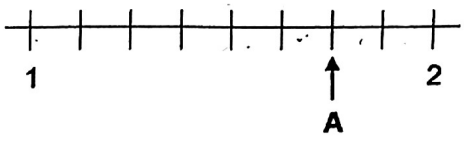
(1) 80 014

(2) 80 040

(3) 800 014

(4) 800 040

2 In the number line, what is the value represented by A?



(1) 1.125

(2) 1.250

(3) 1.600

(4) 1.750

3 $12 + 6 \div 2 \times 3 =$ _____.

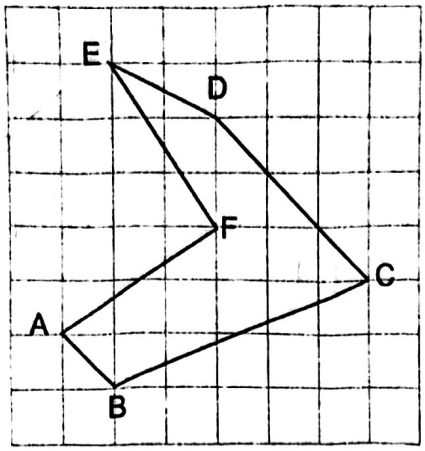
(1) 13

(2) 21

(3) 27

(4) 45

4 Which pair of lines in the square grid is parallel?



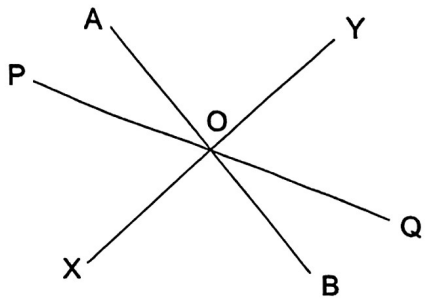
(1) AF and FE

(2) AB and DC

(3) AF and BC

(4) BC and CD

5 AOB, POQ and XOY are straight lines.



Which of the following is true?

(1) $\angle AOY = \angle XOQ$

(2) $\angle XOB = \angle YOQ$

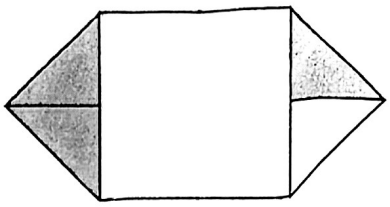
(3) $\angle AOX = \angle YOQ$

(4) $\angle POY = \angle XOQ$

(Go on to the next page)

6 The figure is made up of four identical right-angled triangles and a square.

What percentage of the figure is shaded?



(1) 25%

(2) 37.5%

(3) 60%

(4) 75%

7 The duration of a movie is 1h 40 min. The movie ended at 5.30 p.m. What time did the movie begin?

(1) 03 50

(2) 07 10

(3) 15 50

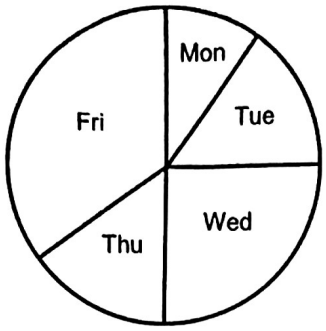
(4) 19 10

8 Arrange these distances from the longest to the shortest.

$1\frac{1}{4}$ km	1 km 40 m	1.3 km

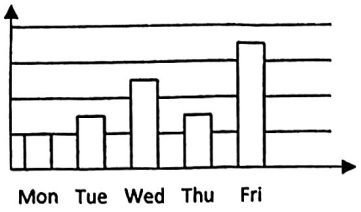
	Longest		Shortest
(1)	1 km 40 m	1.3 km	$1\frac{1}{4}$ km
(2)	1.3 km	$1\frac{1}{4}$ km	1 km 40 m
(3)	$1\frac{1}{4}$ km	1.3 km	1 km 40 m
(4)	$1\frac{1}{4}$ km	1 km 40 m	1.3 km

9 The pie chart shows how Xueli spent her weekly allowance from Monday to Friday in a particular week.

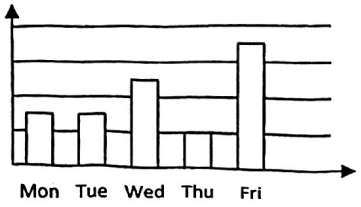


Which of the following bar graphs represent the data shown in the pie chart?

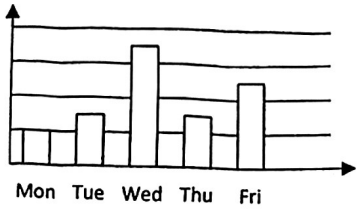
(1)



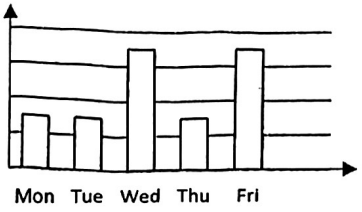
(2)



(3)



(4)



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10 A book costs $\$b$ more than a pen. The total cost of a book and 3 pens is \$20. Find the cost of a pen.

(1) $\$\left(\frac{20-b}{3}\right)$

(2) $\$\left(\frac{20}{4}-b\right)$

(3) $\$(20-3b)$

(4) $\$\left(\frac{20-b}{4}\right)$

11 The postage rates to two different countries are shown below.

Mass	Malaysia	Japan
First 20 g	\$0.85	\$1.50
Every additional 10 g or less	\$0.20	\$0.35

Kim sent a letter weighing 35 g to Malaysia and a letter weighing 10 g to Japan. How much did she pay altogether?

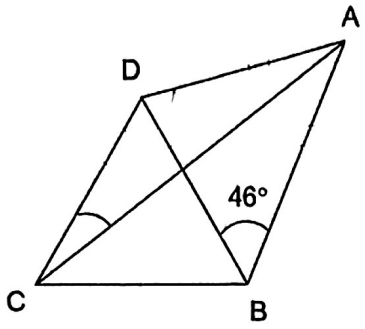
(1) \$1.60

(2) \$1.90

(3) \$2.75

(4) \$3.60

12 In the figure, BCD is an equilateral triangle. ABD is an isosceles triangle with AD = BD and ∠ABD = 46°. Find ∠DCA.



(1) 16°

(2) 37°

(3) 44°

(4) 46°

13 Roy and Jaya finished eating a jar of cookies over 2 days.

On the first day, Roy ate 3 more cookies than Jaya.

On the second day, Roy ate 12 cookies and Jaya ate 8 cookies.

Jaya ate $\frac{2}{5}$ of the total number of cookies. How many cookies did Roy eat?

(1) 15

(2) 21

(3) 23

(4) 35

(Go on to the next page)

14 The ratio of the number of girls in Team A to the number of girls in Team B is 2 : 3.
The ratio of the number of boys in Team A to the number of boys in Team B is 5 : 3.
In Team A, the ratio of the number of girls to the number of boys is 4 : 3.
What is the ratio of the number of girls to the number of boys in Team B?

(1) 1 : 1

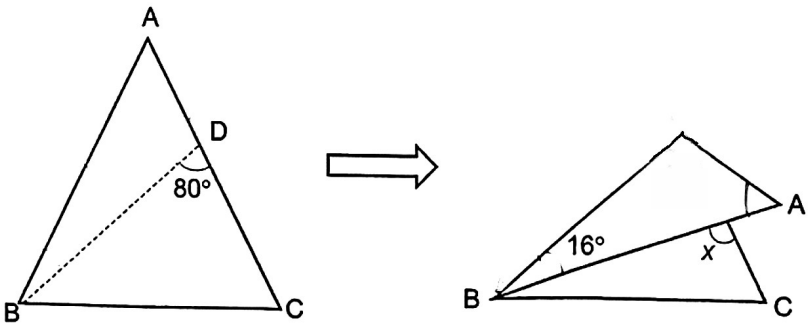
(2) 2 : 1

(3) 2 : 3

(4) 10 : 3

15 A sheet of paper in the shape of an isosceles triangle where AB = AC.

It is folded along the dotted line BD as shown below. Find $\angle x$.



(1) 58°

(2) 64°

(3) 96°

(4) 100°

(Go on to 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)

16 Find the value of 35.4 – 9.72

Ans: _____

17 Round 9652 to the nearest hundred.

Ans: _____

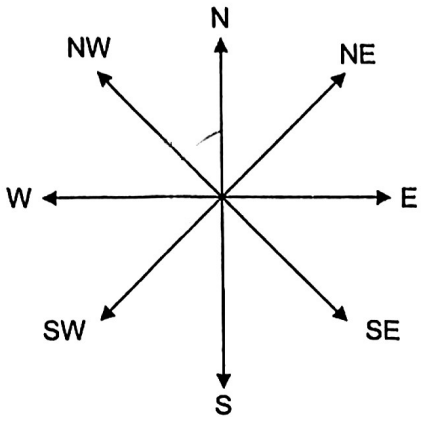
18 Find the value of $\frac{4}{5} \div 20$

Give your answer as a fraction in the simplest form.

Ans: _____

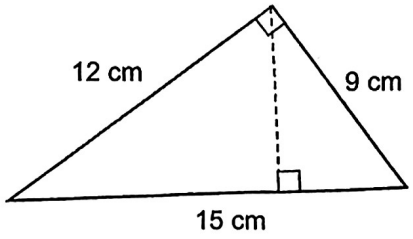
Please do not write in the margin

19 After Jenny made a 135° clockwise turn, she ended up facing North.
Which direction was she facing at first?



Ans: _____

20 The figure shows a right-angled triangle. Find the area of the triangle.



Ans: _____ cm^2

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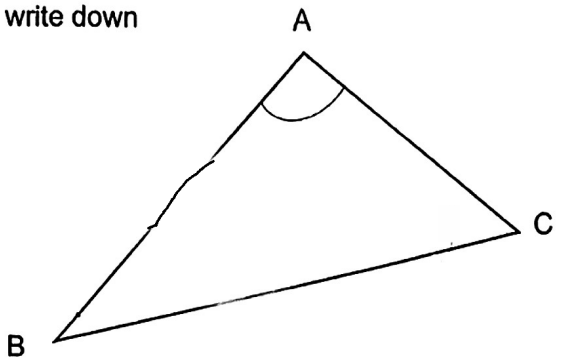
Questions **21** to **30** carry 2 marks each. Show your workings clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(20 marks)

21 Measure and write down



(a) the length of BC.

Ans: (a) _____ cm

(a) the size of ∠BAC.

Ans: (b) _____ °

22 The first 6 numbers of a number pattern are given below.

2	5	8	11	14	17	... ...
1st					6th	

What is the 7th and 20th number in the pattern?

Ans: 7th number: _____ [1]

20th number: _____ [1]

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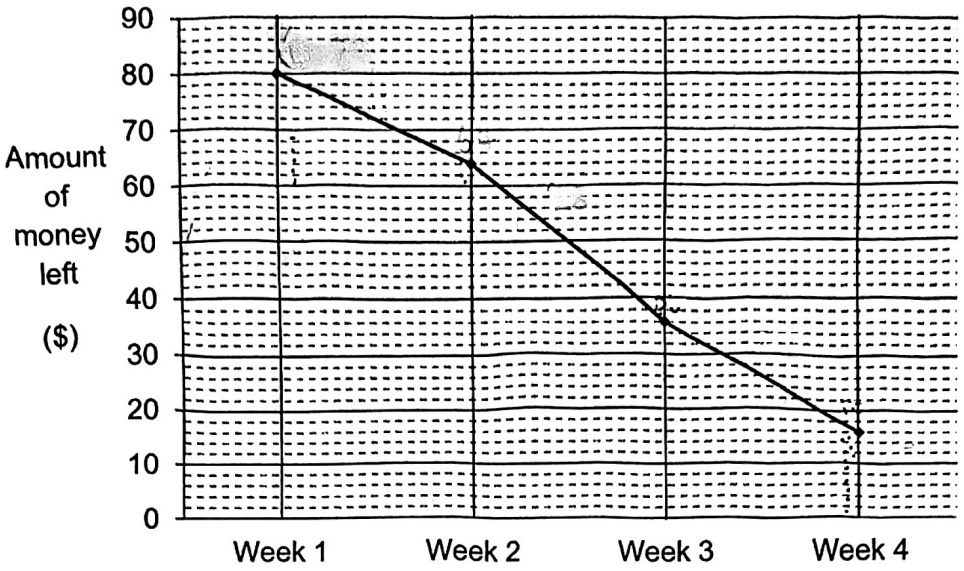
*Use the information below to answer questions **23** and **24**.*

Siti received a monthly allowance of $120 at the beginning of July. The line graph below shows the amount of pocket money she had left at the end of each week of July.



23 How much did Siti spend in July in total?

Ans: $ _____

24 (a) In which week did Siti spend the most?

Ans: (a) Week _____

(b) How much did she spend in that week?

Ans: (b) $ _____

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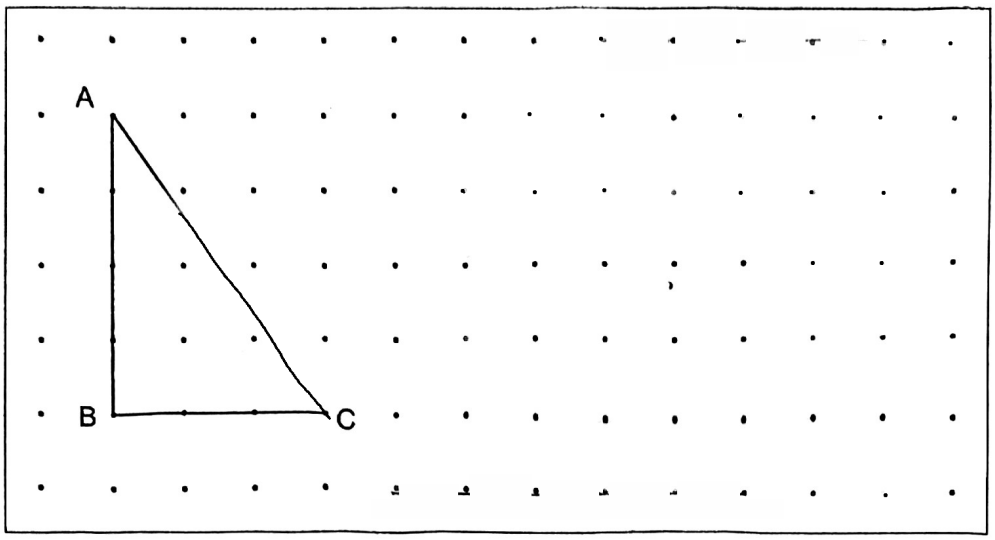
25 A right-angled triangle ABC is drawn on a square grid inside a box.
By joining dots on the grid with straight lines, draw a parallelogram PQRS with perimeter twice that of triangle ABC. Parallelogram PQRS must not overlap with triangle ABC.



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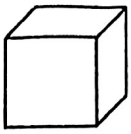
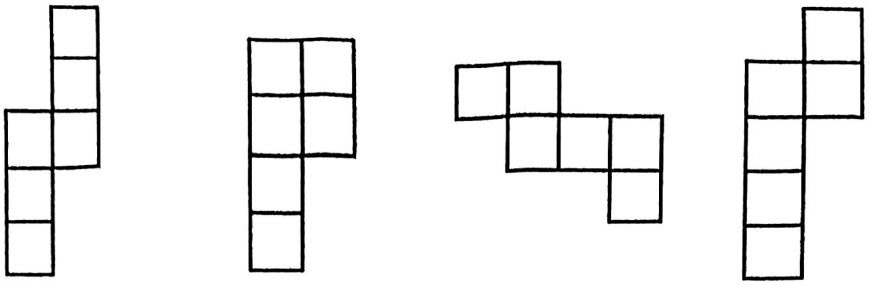
26 36 is a common multiple of A and B. B is 7 more than A.
What is the value of B?

Ans: _____

27 The figure shows a cube. Which two nets are the correct nets of the cube?





A B C D

Ans: _____ and _____

28 Mr Ang and Mr Lee were 120 km apart. They drove towards each other starting from the same time. Mr Lee's average speed was 10 km/h slower than Mr Ang's average speed. 45 minutes later, they passed each other. What was Mr Ang's average speed?

Ans: _____ km/h

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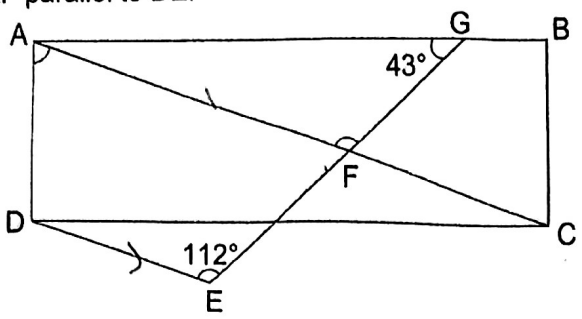
29 ABCD is a rectangle. AFC and GFE are straight lines. ADEF is a trapezium with AF parallel to DE.



Find the following angles.

(a) ∠AFG

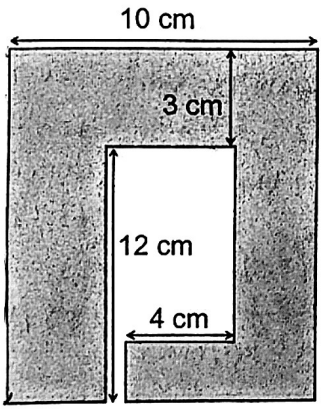
Ans: (a) _____ °

(b) ∠DAC

Ans: (b) _____ °

Please do not write in the margin

30 Find the perimeter of the figure below.



Ans: _____ cm

End of Paper

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

1 The full mark for each test is 100. In the first 4 tests, Ali scored an average of 68 marks. He wants to increase his average test score to 74 marks. How many marks must he score for the 5th test?

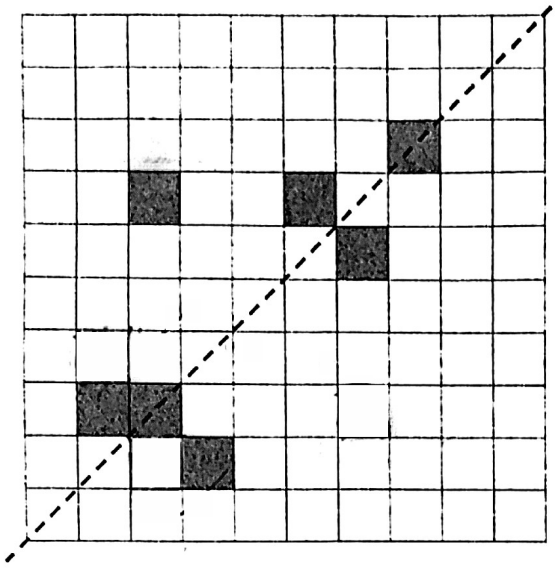
Ans: _____

2 Jane spent $\frac{3}{5}$ of her money on a pair of shoes. She then spent \$5 more than $\frac{1}{4}$ of the remainder on a dress. The dress cost \$35. How much money did she have at first?

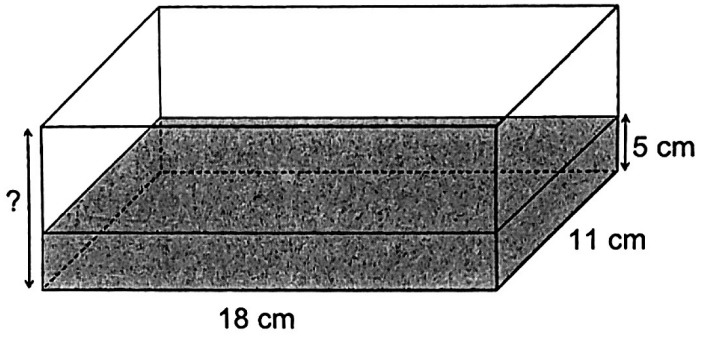
Ans: \$ _____

Please do not write in the margin.

3 The dotted line is the line of symmetry. Complete the figure to make it symmetric by shading the least number of squares.



4 The figure shows a cuboid container which is partially filled to a height of 5 cm. To fill it completely, 1386 cm^3 of water must be added. What is the height of the container?

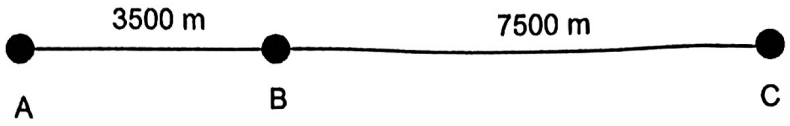


Ans: _____ cm

Please do not write in the margin.

(Go on to the next page)

5 Alice took 60 minutes to walk from Point A to Point B, which was 3500 m apart. In the same amount of time, she could run 7500 m from Point B to Point C. What is her average speed from Point A to Point C, in km/h?



Please do not write in the margin.

Ans: _____ km/h

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 Marbles were packed into three bags. Bag A contained $15n$ marbles. Bag A had three times as many marbles as Bag B. Bag C had 5 more marbles than Bag B. There were 75 marbles in Bag C.

Find the value of n.

Ans: _____ [3]

7 At an event, there was a total of 1446 boys and girls at first. During the break, 20 boys and $\frac{3}{8}$ of the girls went home. The number of girls remaining was $\frac{1}{3}$ the number of boys remaining. What was the difference in the number of boys and girls at first?

Ans: _____ [3]

Please do not write in the margin.

8 The amount of money Bala had was 60% that of Alan's.

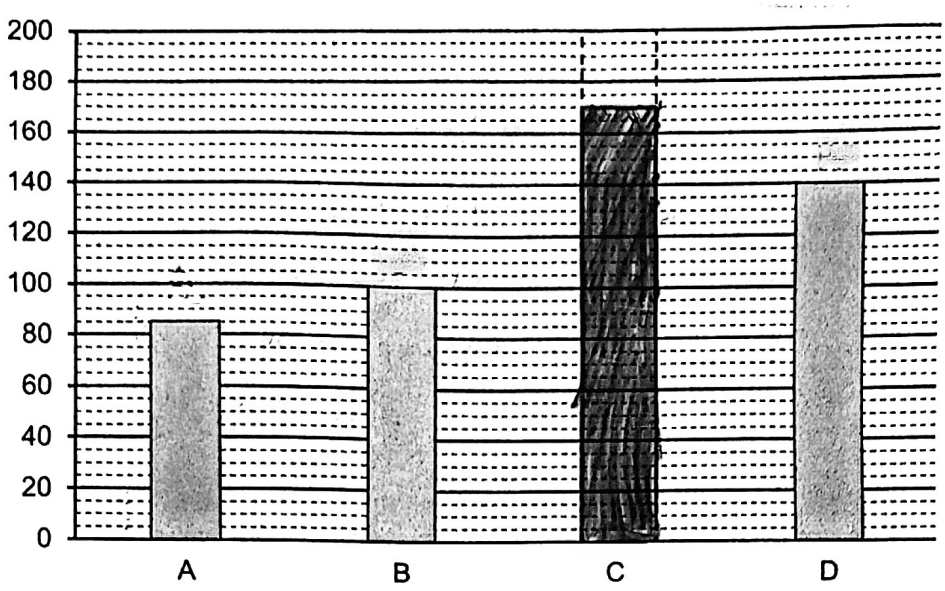
(a) Alan had $52. How much did Bala have?

Ans: (a) _____ [1]

(b) After receiving some money from his mother, Bala's amount of money increased by 20%. By what percentage must Alan's money decrease so that they have the same amount of money?

Ans: (b) _____ [2]

9 The bar graph shows the number of cars sold at 4 different shops, A, B, C and D respectively. The bar for Shop C is not drawn.



(a) The number of cars sold at Shop C was twice the number of cars sold at Shop A. How many cars were sold at Shop C?

Ans: (a) _____ [1]

(b) Shop E sold 175 fewer cars than the total number of cars sold by Shops A, B and D. How many cars did Shop E sell?

Ans: (b) _____ [2]

Please do not write in the margin.

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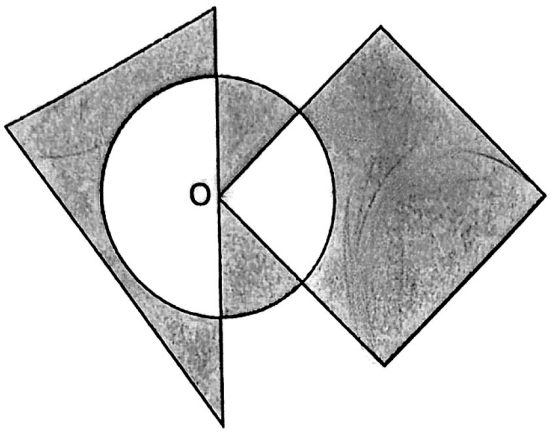
10 Tracy had five more 50-cent coins than 20-cent coins. After she used eight 50-cent coins, the value of the 50-cent coins is $6.30 more than the value of 20-cent coins. How many coins did she have at first?

Ans: _____ [4]

11 In the figure, a square, a right-angled triangle, and a circle with centre O overlap one another. The ratio of the area of the square to the area of the circle to the area of the triangle is 10 : 8 : 7.



(a) Find the ratio of the shaded area of the figure to the unshaded area of the figure. Give your answer in the simplest form.

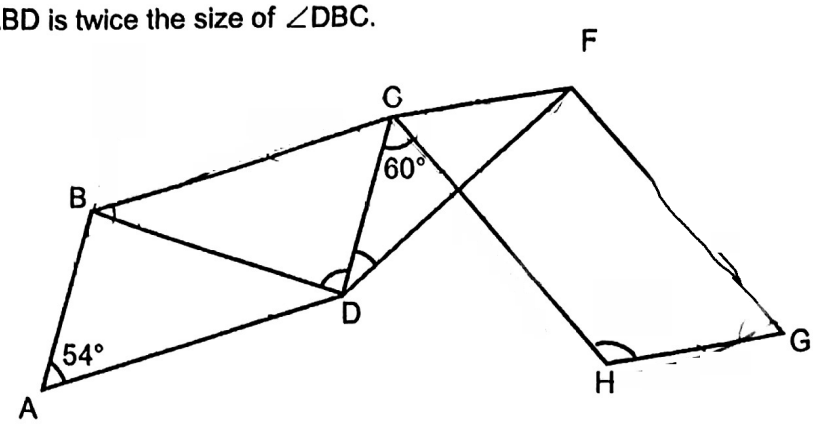
Ans: (a) _____ [3]

(b) Given that the unshaded area of the figure is 86.4 cm^2, find the area of the triangle.

Ans: (b) _____ [1]

Please do not write in the margin.

12 The figure is made up of two identical parallelograms, ABCD and CFGH.
$\angle ABD$ is twice the size of $\angle DBC$.



(a) Find $\angle BDC$.

Ans: (a) _____ [2]

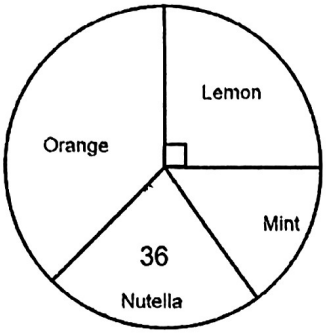
(b) Find $\angle CDF$.

Ans: (b) _____ [2]

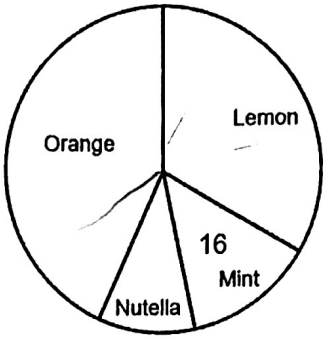
Please do not write in the margin.

13 The following pie charts show the sales of four different flavours of ice-cream in two shops.

Shop A



Shop B



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) Shop B sold more Orange-flavoured ice-cream than Shop A.			
(b) Given that both shops sold the same number of Lemon-flavoured ice-cream, Shop A sold more ice-cream in total compared to Shop B.			
(c) Given that Shop A sold 40 Lemon-flavoured ice-cream, Shop A sold a total of 120 ice-cream.			
(d) Given that Shop A sold 8 more Mint-flavoured ice-cream than Shop B, the ratio of the number of Mint-flavoured ice-cream sold to the number of Nutella-flavoured ice-cream sold is 2 : 9.			

[3]

Please do not write in the margin.

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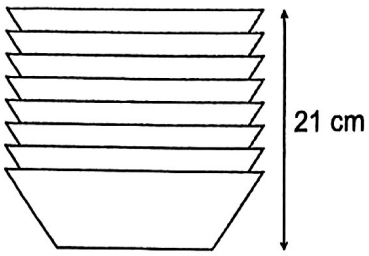
14 Bowls are arranged neatly into 20 stacks of the same height on a shelf in a restaurant. The number of bowls in each stack is the same, and the height of each stack of bowl is 21 cm. An example of how 8 bowls pile up to form one stack is shown.



A stack of 8 bowls

(a) How many bowls were there on the shelf?

Ans: _____ [1]

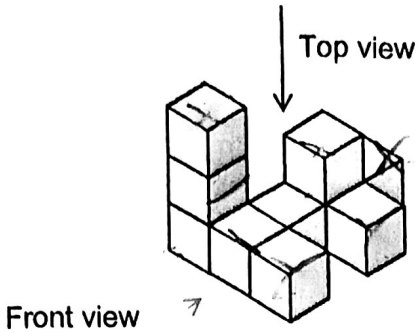
3 bowls from each stack were removed to form another 12 new stacks. The new height of each stack is now 15 cm tall.

(b) What was the height of each bowl?

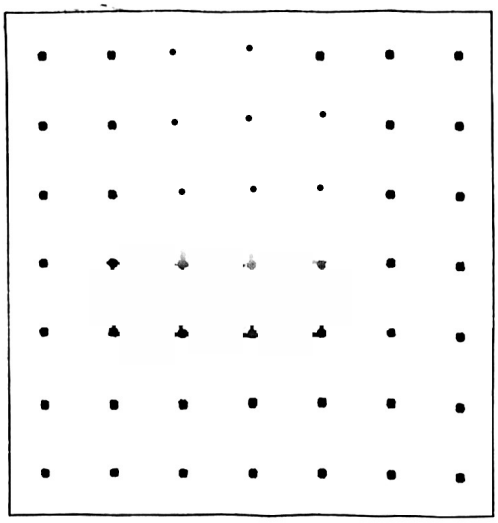
Ans: _____ [3]

Please do not write in the margin.

15 The solid below is made up of ten cubes.



(a) Draw the top view.



[1]

(b) Jane painted the whole solid including the base. How many cubes had exactly 4 faces painted?

Ans: (b) _____ [1]

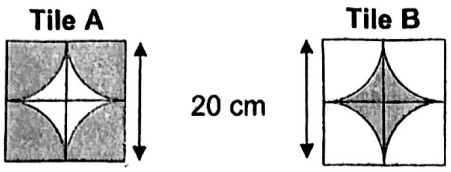
(c) What is the minimum number of unit cubes that must be added such that the structure becomes a cube?

Ans: (c) _____ [2]

Please do not write in the margin.

(Go on to the next page)

16 A shop produces square tiles in two designs as shown below. Each tile is made up of 4 quarter-circles. The length of the side of each tile is 20 cm.

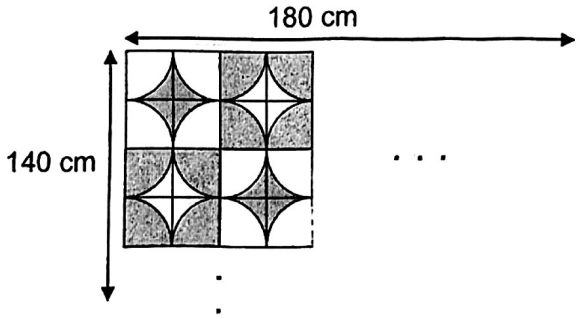


(Take $\pi = 3.14$)

(a) Find the perimeter of the shaded part of Tile B.

Ans: (a) _____ [2]

Some tiles were laid out on a surface measuring 180 cm by 140 cm, in an alternating manner. An example is shown below.

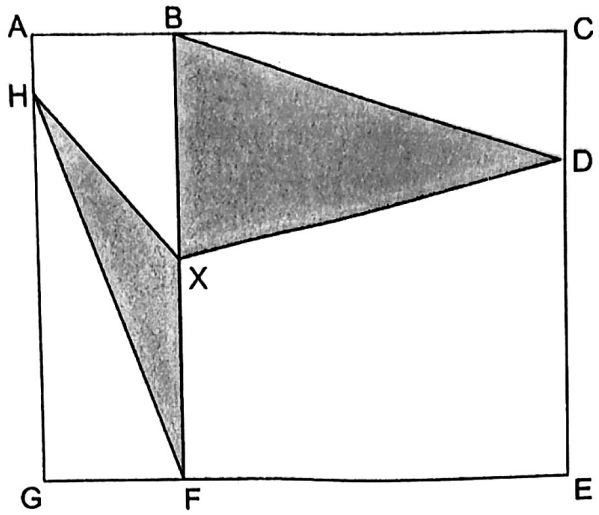


(b) What is the smallest possible shaded area of all the tiles?

Ans: (b) _____ [3]

Please do not write in the margin.

17 The figure is made up of two rectangles, ABFG and BCEF. HXF and BDX are triangles. The perimeter of rectangle ACEG is 90 cm. The ratio of AG : AC = 4 : 5 and X is the midpoint of BF.



(a) Find the length of AG.

Ans: (a) _____ [2]

(b) Find the area of the shaded part.

Ans: (b) _____ [3]

Please do not write in the margin.

End of Paper

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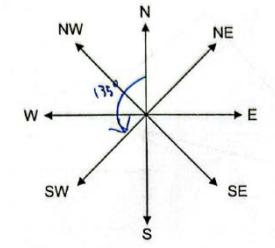
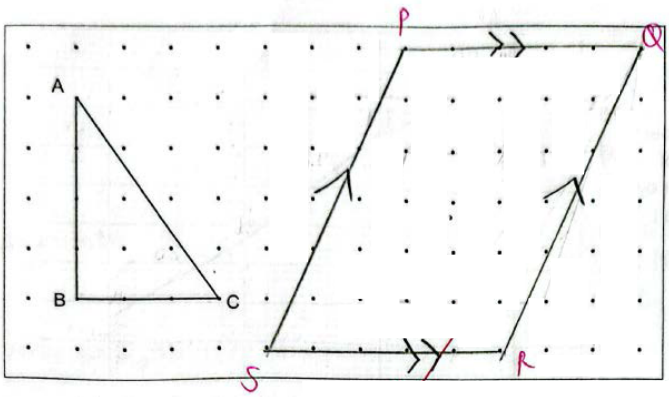
SCHOOL : NAN HUA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHS
TERM : P6 PRELIM

Paper 1 Booklet A

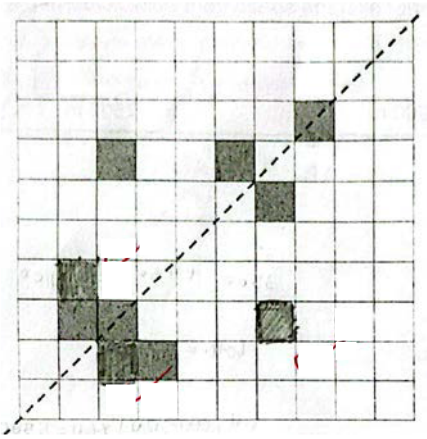
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	4	2	2	4	1	3	2	1	4
Q11	**Q12**	**Q13**	**Q14**	**Q15**					
3	1	2	4	3					

Paper 1 Booklet B

Q16	25.68
Q17	9700
Q18	$\frac{4}{5} \div 20 = \frac{4}{5}\ x \frac{1}{20} = \frac{4}{100} = \frac{2}{5} = \frac{1}{25}$
Q19	 Ans: South-West
Q20	9 x 12 ÷ 2 = 54cm²
Q21	a) 7.4cm b) ∠BAC = 93°
Q22	Ans: 7th number : 17 + 3 = 20 20th number: 2 + 19x3 = 59
Q23	40 + 16 + 28 + 20 = 104
Q24	a) Week 1 b) 120 – 80 = $40

Q25	
Q26	36 = 1x36 , 2x18 , 3x12, 4x9, 6x6 9 – 2 = 7 Ans: 9
Q27	Ans: A and C
Q28	10km/60min 7.5km/45min 120 – 7.5 = 112.5 112.5 ÷ 2 = 56.25 63.75/45mins 21.25/15mins 21.25 x 4 = 85km/h Ans: 85km/h
Q29	a) $\angle AFE = 180° - 112° = 68°$ $\angle AFG = 180° - 68° = 112°$ b) $\angle GAF = 180° - 112° - 43° = 25°$ $\angle DAC = 90° - 25° = 65°$
Q30	10 + 10 + 15 + 15 + 4 + 4 + 12 + 12 = 82 cm

Paper 2

Q1	68 x 4 = 272 74 x 5 = 370 370 – 272 = 98
Q2	Shoe → Spent $\frac{3}{5}$ $\frac{2}{5} = \frac{4}{10}$ $\frac{1}{10} + 5$, $\frac{3}{10} - 5$ $\frac{1}{10} + 5 = \$35$, $\frac{1}{10} = \$30$ $1 \rightarrow \$300$ She had $300 at first
Q3	
Q4	1368 ÷ 18 ÷ 11 = 7 7 + 5 = 12cm
Q5	3500 + 7500 = 11000 60 + 60 = 120 (11000 ÷ 120) x 60 = 5500 5500m = 5.5km Average Speed = 5.5km/h

Q6	A : B : C 15n : 5n : 5n + 5 5n + 5 = 75 5n = 70 n = 14
Q7	15n + 20 + 8n = 1446 23n = 1426 n = 62 15n + 20 – 8n = 7n + 20 7n + 20 = 7 x 62 + 20 = 454
Q8	a) $52 x 0.6 = $31.20 b) Bala , 100% = $31.20 20% = $6.24 120% = $31.20 + $6.24 = $37.44 Alan , 100% = $52 1% = $0.52 37.44 ÷ 0.52 = 72 100 – 72 = 28 Ans: 28%
Q9	a) 85 x 2 = 170 b) 85 + 100 + 140 = 325 325 – 175 = 150
Q10	8 – 5 = 3 3 x 0.50 = 1.50 6.30 + 1.50 = 7.80 0.50 – 0.20 = 0.30 7.80 ÷ 0.30 = 26 26 + 26 + 5 = 57 Ans: She had 57 coins at first
Q11	a) 8 $x\frac{3}{4} = 6\ (unshaded)$ 10 + 8 + 7 = 25 25 – 6 – 6 = 13 Ans: 13 : 6 b) 86.4 ÷ 6 = 14.4 14.4 x 7 = 100.8cm²

Q12

a) $\angle BAD = \angle BCD = 54°$
$\angle ABC = 180° - 54° = 126°$
$\angle CBD = 126° \div 3 = 42°$
$\angle BDC = 180° - 54° - 42° = 84°$

b) $\angle CDF = (180° - 60° - 54°) \div 2 = 33°$

Q13

For each statement, put a tick (✓) to indicate your answer.

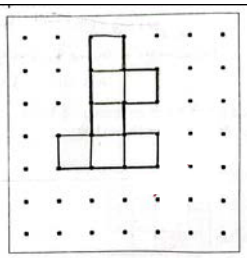
Statement	True	False	Not Possible to Tell
(a) Shop B sold more Orange-flavoured ice-cream than Shop A.			✓
(b) Given that both shops sold the same number of Lemon-flavoured ice-cream, Shop A sold more ice-cream in total compared to Shop B.	✓		
(c) Given that Shop A sold 40 Lemon-flavoured ice-cream, Shop A sold a total of 120 ice-cream.	✓	✓	
(d) Given that Shop A sold 8 more Mint-flavoured ice-cream than Shop B, the ratio of the number of Mint-flavoured ice-cream sold (in Shop A) to the number of Nutella-flavoured ice-cream sold (in Shop A) is 2 : 9.		✓	

Q14

a) 8 x 20 = 160

b) 21 – 15 = 6
6 ÷ 3 = 2
2 x 7 = 14
21 – 14 = 7cm

Q15

a) 

b) 3

c) 4 x 4 x 4 = 64
64 – 10 = 54

Q16	a) 20 ÷ 2 = 10 10 x 2 x 3.14 = 62.8 cm b) 140 ÷ 20 = 7 180 ÷ 20 = 9 Area of shaded = 20 x 20 = 400 No of pair = 31 Shaded area = 31 x 400 ÷ (400 – 3.14 x 10 x 10) = 12400 + 86 = 12486 cm÷²
Q17	a) 4 + 5 = 9 90 ÷ 18 = 5 9 + 9 = 18 5 x 4 = 20cm Ans: Length of AG = 20cm b) 5 x 5 = 25 20 ÷ 2 = 10 10 x 25 ÷ 2 = 125cm²