NANYANG PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2023

PRIMARY 5

MATHEMATICS PAPER 1 (BOOKLET A)

Total Duration for Booklets A and B: 1 hour

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

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

Name: _____ ( )

Class: Primary 5 ( )

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 In 5.687, which digit is in the hundredths place?

(1) 5

(2) 6

(3) 7

(4) 8

2 Which of the following is the same as 23 kg 52 g?

(1) 23.025 kg

(2) 23.052 kg

(3) 23.502 kg

(4) 23.520 kg

3 Ming Xuan bought 42 oranges, 28 mangoes and 14 kiwis from a fruit store. What was the ratio of the number of oranges to the number of mangoes to the number of kiwis that he bought? Express your answer in its simplest form.

(1) 2 : 3 : 1

(2) 2 : 4: 6

(3) 3 : 2 : 1

(4) 6 : 4 : 2

4 A machine seals 120 fishball packets in 60 seconds. At this rate, how many fishball packets can it seal in 30 minutes?

(1) 3600

(2) 360

(3) 60

(4) 40

5 Arul had 240 stamps. He gave 60 stamps to his sister. What percentage of his stamps did Arul give to his sister?

(1) 20%

(2) 25%

(3) 75%

(4) 80%

6 Thomas had $1200. He spent 35% of his money on food. How much money did he spend on food?

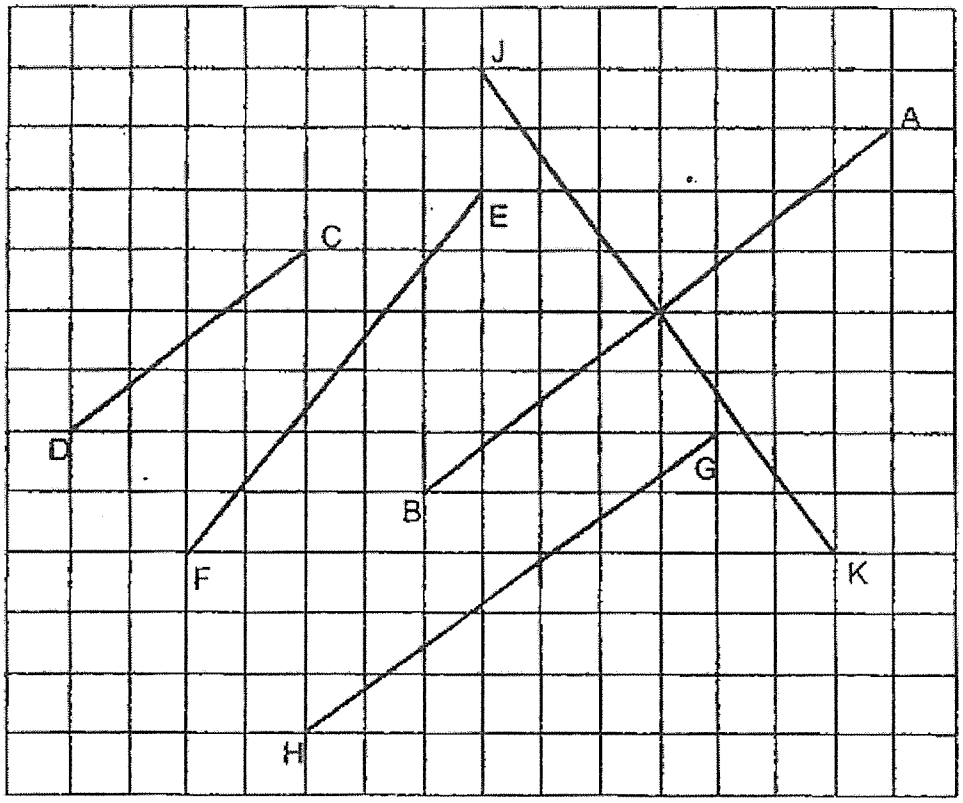
(1) $180

(2) $360

(3) $420

(4) $780

7 Identify the line parallel to line AB.



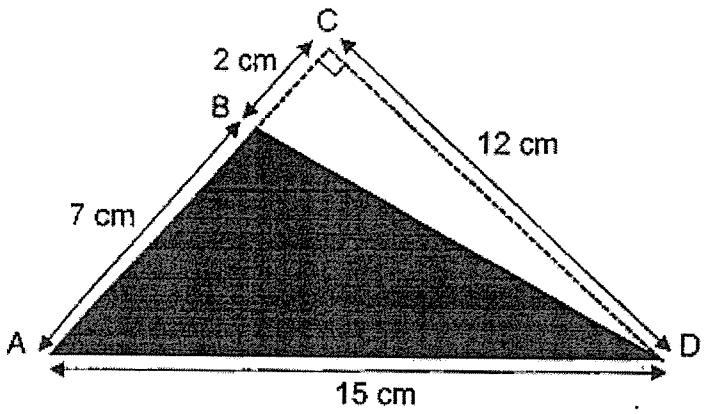
(1) CD

(2) EF

(3) GH

(4) JK

8 Find the area of the shaded triangle ABD.



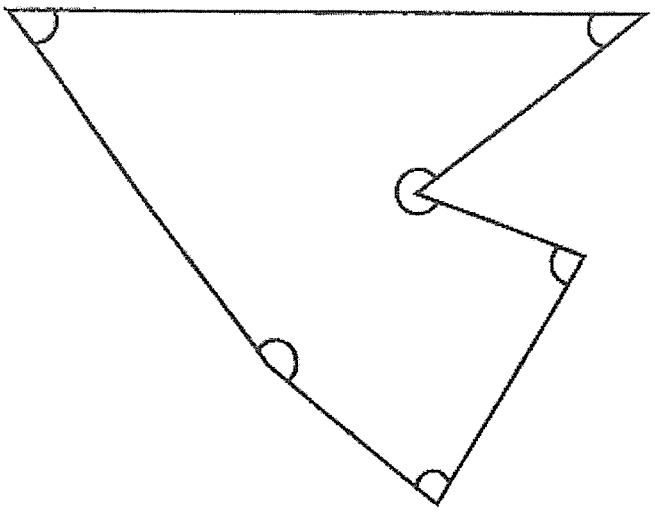
(1) 42 cm^2

(2) 52.5 cm^2

(3) 54 cm^2

(4) 84 cm^2

9 In the figure, how many of the six marked angles are more than 90°?



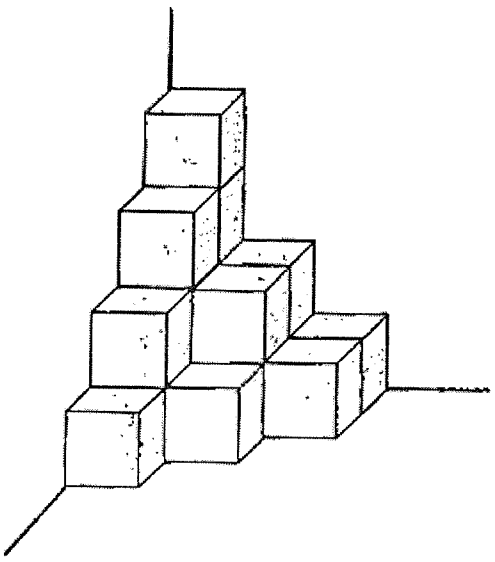
(1) 6

(2) 2

(3) 3

(4) 4

10 The figure shows a solid made up of unit cubes. How many unit cubes are needed to make the solid?



(1) 10

(2) 12

(3) 15

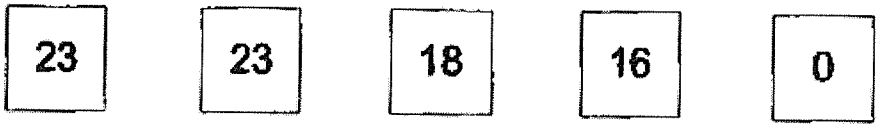
(4) 17

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

$$\frac{8}{9}, \frac{3}{7}, \frac{4}{5}$$

	Smallest				Largest
(1)	$\frac{8}{9}$	,	$\frac{3}{7}$	,	$\frac{4}{5}$
(2)	$\frac{8}{9}$	,	$\frac{4}{5}$	,	$\frac{3}{7}$
(3)	$\frac{3}{7}$	,	$\frac{4}{5}$	,	$\frac{8}{9}$
(4)	$\frac{3}{7}$	,	$\frac{8}{9}$	,	$\frac{4}{5}$

12 Find the average of the following 5 numbers.



(1) 23

(2) 20

(3) 18

(4) 16

13 A factory produces 1505 kg of flour a day. The flour is packed equally into 50 packs. How much does each pack of flour weigh?

(1) 30.1 kg

(2) 31 kg

(3) 300.1 kg

(4) 301 kg

14 At a funfair, there were 270 people. $\frac{2}{3}$ of them were children. $\frac{2}{5}$ of the children were girls and the rest were boys. How many boys were there at the funfair?

(1) 180

(2) 162

(3) 108

(4) 72

15 A chef cooked some soup for 200 guests. Each guest was served 0.78 ℓ of the soup. How much soup did the chef cook?

(1) 14.6 ℓ

(2) 15.6 ℓ

(3) 146 ℓ

(4) 156 ℓ

NANYANG PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2023

PRIMARY 5

MATHEMATICS PAPER 1 (BOOKLET B)

Total Duration for Booklets A and B: 1 hour

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

Name: _____ _____ ( )

Class: Primary 5 ( )

Booklet B	/ 25

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

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

---

16 Find the value of $198 + 35 \div 7 - (35 + 8 \div 4 \times 2)$

Ans: _____

---

17 Find the value of $5 \div 8$. Give your answer as a decimal.

Ans: _____

---

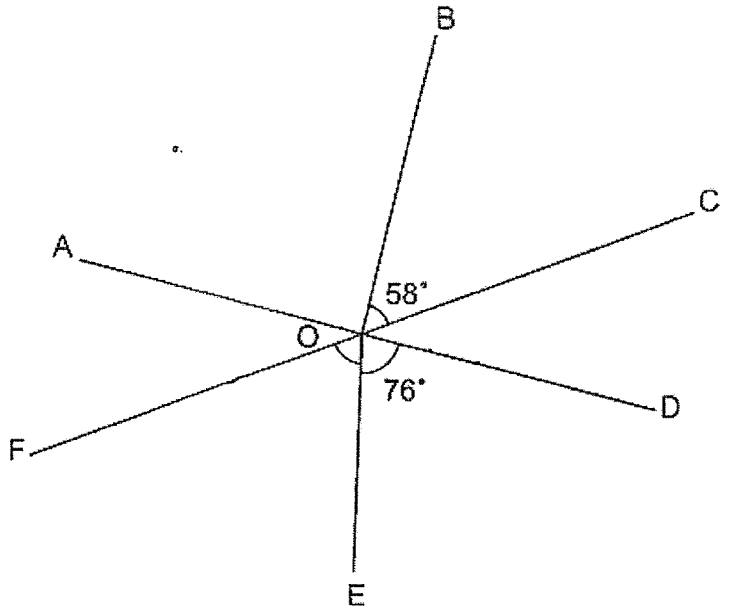
18 What is the missing number in the box?

$\square : 5 = 24 : 40$

Ans: _____

---

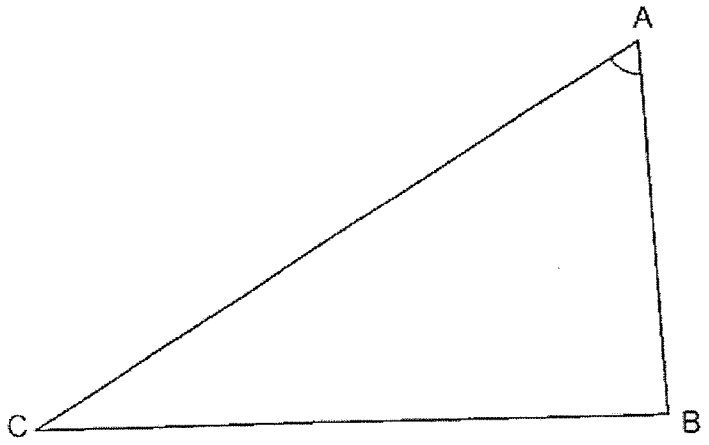
19 In the figure below, AOD and COF are straight lines. $\angle BOC = 58^\circ$, $\angle DOE = 76^\circ$, $\angle AOB = 90^\circ$. Find $\angle FOE$.



Ans: _____ °

---

20 Measure and write down the size of $\angle BAC$.



Ans: _____ °

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

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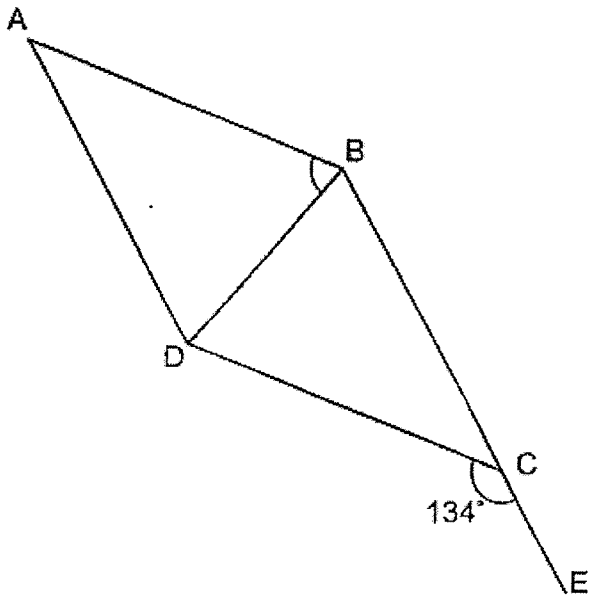
21 In the figure below, ABCD is a rhombus. BCE is a straight line and $\angle DCE = 134^\circ$. Find $\angle ABD$.



Ans: _____ °

---

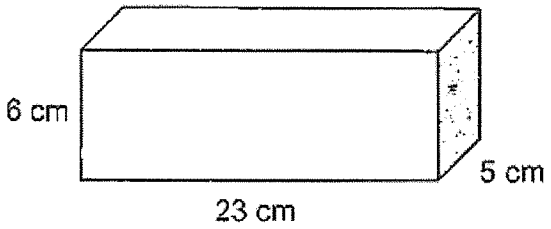
22 Find the value of $\frac{2}{3} \times \frac{5}{8}$

Give your answer as a fraction in the simplest form.

Ans: _____

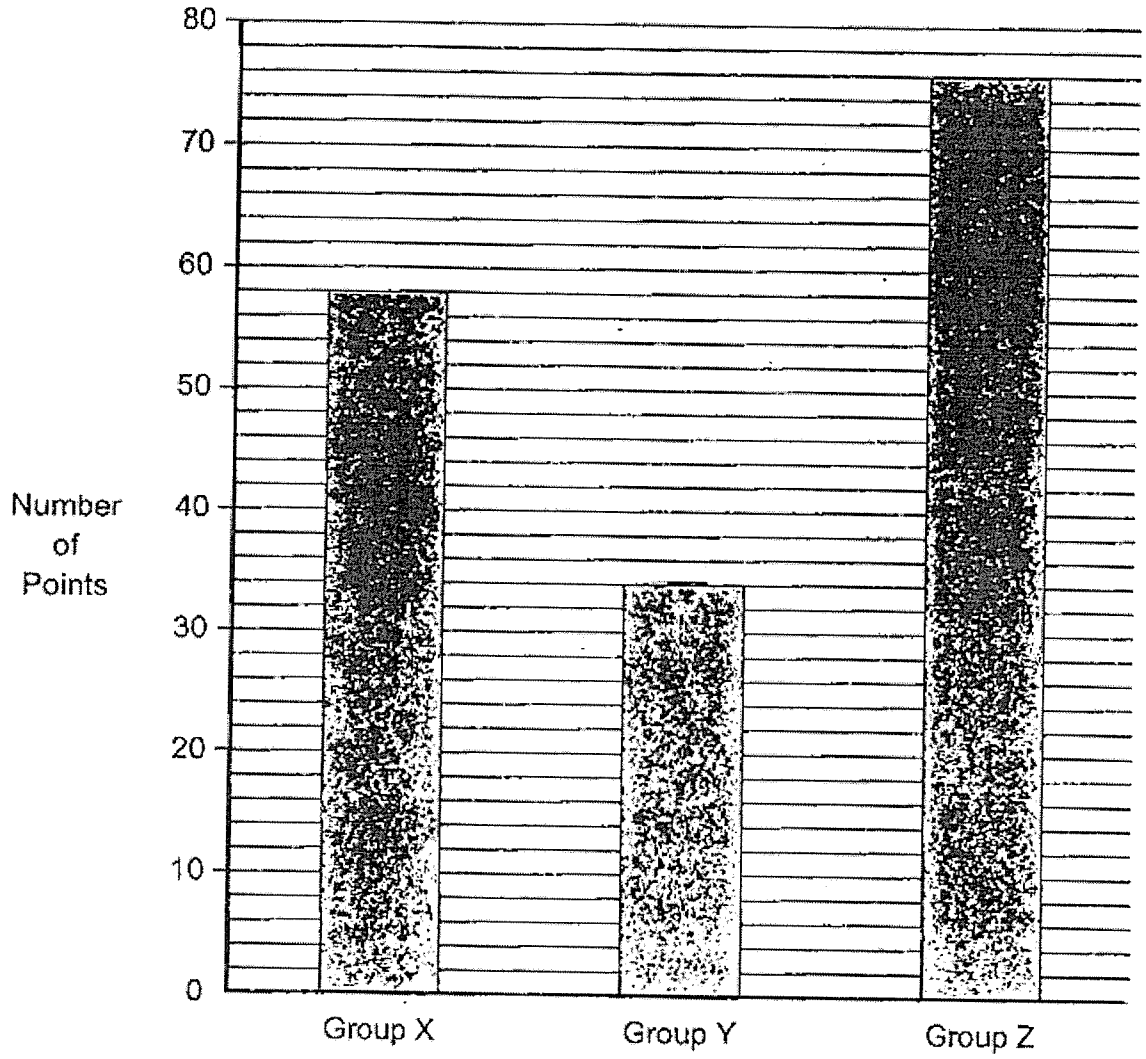
---

23 What is the volume of the cuboid shown below?



Ans: _____ cm^3

24 The bar graph shows the group points scored by 3 groups.
What is the difference in the group points between the highest score and the lowest score?



Ans: _____

25 Sophia paid $87.40 for 3 identical pencils and 7 identical markers. The price of a marker is $1.20 more than the price of a pencil. Tim bought 10 such pencils. What was the amount of money he paid for 10 such pencils?

Ans: $_____

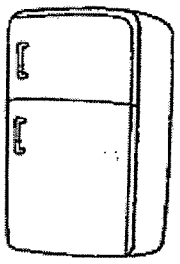
---

26 The product of 2 numbers is 3069. The smaller number is 9. Find the larger number. Round the answer to the nearest hundred.

Ans: _____

---

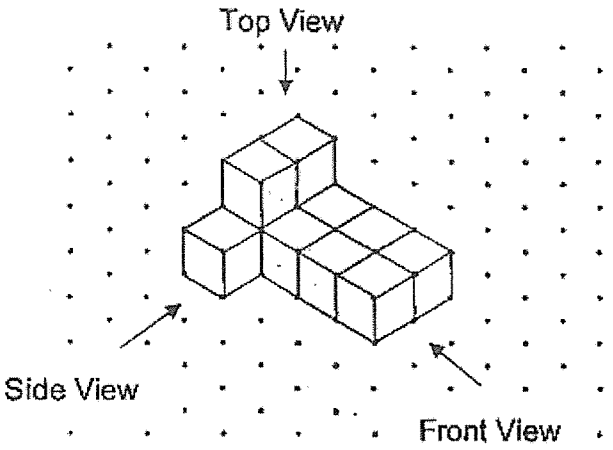
27 What is the price of the refrigerator after adding 8% GST?



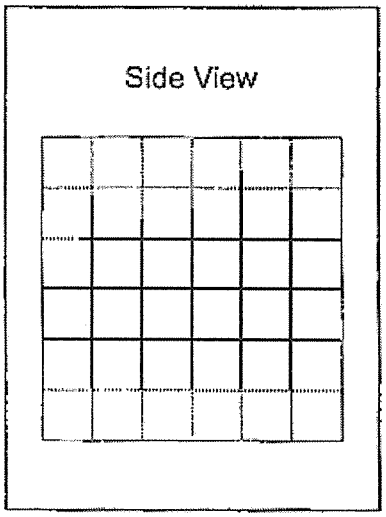
$2800
(price before GST)

Ans: $_____

28 The figure shows a solid made up of 11 unit cubes.



(a) Draw the side view of the solid on the grid below.

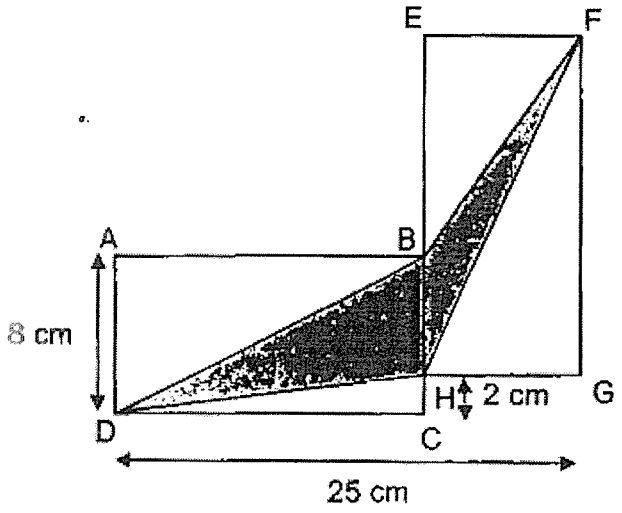


[1]

(b) Jun Wei painted the whole solid, including the base, green. How many of the 11 unit cubes had exactly three of their faces painted green?

Ans: (b) _____ [1]

21. ABCD and EFGH are 2 identical rectangles. Find the total area of the unshaded parts.



Ans: _____ cm^2

30 The table below shows the height of 3 boys, Abel, Bernard and Carl. Their heights are in whole numbers. They have an average height of 154 cm. Carl is taller than Bernard and Abel is the shortest. Part of the table is smeared with ink. What is the lowest possible height of Carl?

Name	Height (cm)
Abel	1[redacted]6
Bernard	[redacted]
Carl	1[redacted]

Ans: _____ cm

End of Paper

NANYANG PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2023

PRIMARY 5

MATHEMATICS PAPER 2

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

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

Name: _____ ( )

Class: Primary 5 ( )

Parent's Signature: _____

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

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

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

---

1 Abdul bought $5\frac{2}{5}$ m of string. He used $1\frac{3}{4}$ m of it to tie a parcel and $\frac{4}{10}$ m of it to decorate a present. How many metres of string had he left? Give your answer as a mixed number.

Ans: _____ m

---

2 A jug contains $1\frac{7}{9}$ litres of apple juice. How many litres of apple juice are there in 6 such jugs altogether?

Ans: _____ ℓ

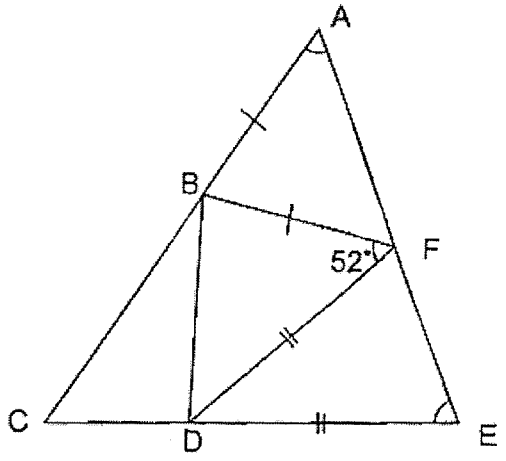
---

3 The average mass of 5 children is 48 kg. When Peter's mass is added, the average mass becomes 45 kg. What is Peter's mass?

Ans: _____ kg

---

4 ACE is a triangle. Triangle ABF and triangle FDE are isosceles triangles. Find the sum of ∠BAF and ∠FED.



Ans: _____ °

---

5 Mei Yan has a piece of yellow ribbon and red ribbon of the same length. She then cuts the piece of yellow ribbon and red ribbon into shorter pieces. If she gives a group of friends a shorter piece of yellow ribbon of length 1.4 m each, she will have 0.6 m of the yellow ribbon left. If she gives the same group of friends a shorter piece of red ribbon of length 1.8 m each, she will need an additional 2.2 m of the red ribbon. How many friends does Mei Yan have in this group?

Ans: _____

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

---

6 The total cost of 2 identical files and 3 identical markers was \$15. The total cost of 5 such files and 6 such markers was \$34.80. What was the cost of 1 such marker?

Ans: _____ [3]

---

7 Team A played against Team B in a badminton match. 560 children watched the badminton match. 70% of the children were boys.

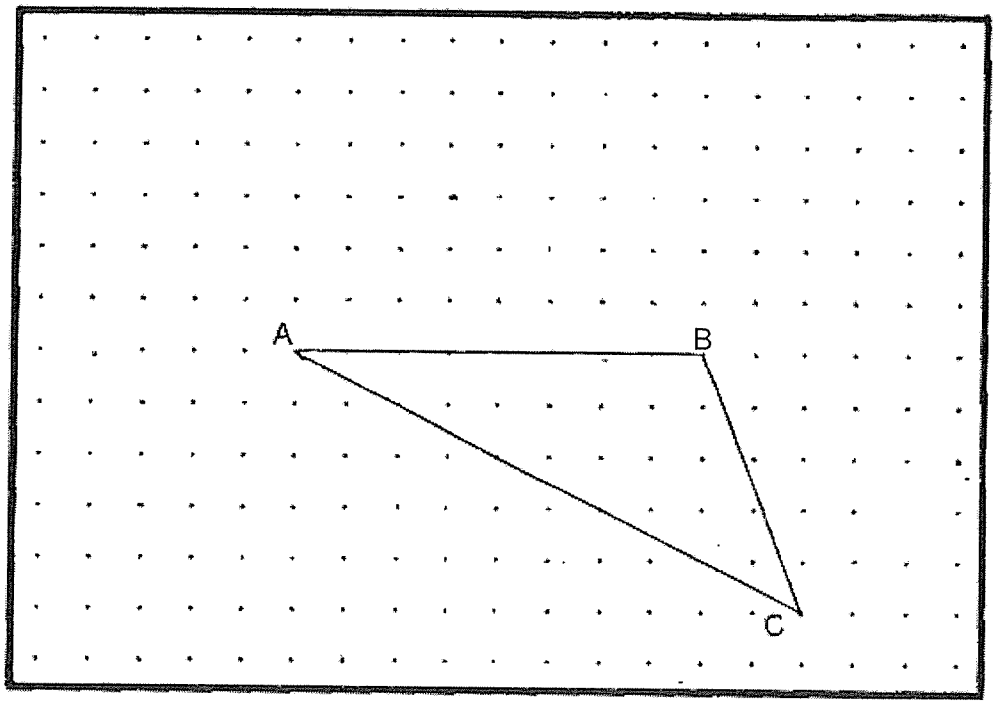
(a) How many girls watched the badminton match?

Ans: (a) _____ [1]

(b) 42 of the girls supported Team B and the rest of the girls supported Team A. What percentage of the girls supported Team A?

Ans: (b) _____ [2]

8 A triangle ABC is drawn on a square grid inside a box.



By joining dots on the grid with straight lines,

(a) draw a rhombus with BC as one of the sides. The rhombus and triangle ABC must not overlap. [1]

(b) draw parallelogram ACFG. The length of AB is twice the length of AG. Triangle ABC must not overlap with parallelogram ACFG. [2]

9 Jason, Peter and Chris shared a sum of money in the ratio 5 : 9 : 2. The difference between Peter's share and Jason's share is $128. How much more money did Peter have than Chris?

Ans: _____ [3]

(9) The average mark for a class of students in a quiz is 74. The top 3 students scored 87, 95 and 100. When the top 3 students were excluded in the calculation for the average, the average mark becomes 62. How many students were there in the class?

Ans: _____ [3]

11 Ravi baked 2535 cookies. $\frac{1}{3}$ of them were chocolate cookies, $\frac{3}{5}$ of the remaining cookies were vanilla cookies and the rest were strawberry cookies.

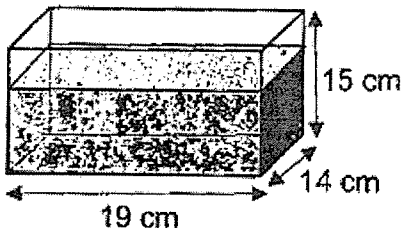
(a) How many vanilla cookies did he bake?

Ans: (a) _____ [2]

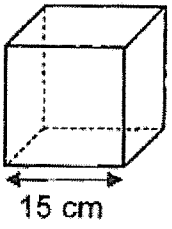
(b) Ravi packed all the vanilla cookies into large and small tins to sell. He filled each large tin with 30 cookies and each small tin with 12 cookies. All the tins were full and there were no cookies left over. What was the least number of tins used by Ravi?

Ans: (b) _____ [2]

12 A rectangular tank measuring 19 cm by 14 cm by 15 cm is $\frac{2}{3}$-filled with water. All the water is then poured into an empty cubical tank with sides measuring 15 cm each.



Rectangular Tank



Cubical Tank

(a) What is the volume of water in the rectangular tank at first?

Ans: (a) _____ [1]

(b) How much more water has to be added so that the cubical tank is $\frac{4}{5}$-filled with water? Give your answer in litres.

Ans: (b) _____ [3]

13 Keryn and Carol had an equal number of stickers at first. After Keryn used 352 stickers and Carol used 84 stickers, Carol had 5 times as many stickers as Keryn.

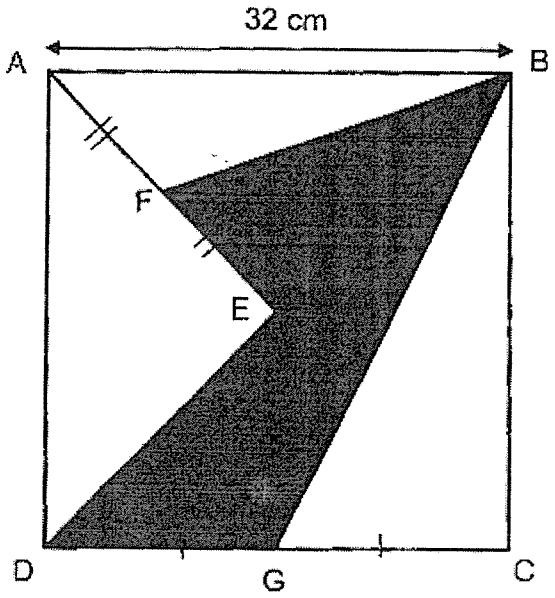
(a) How many stickers did Keryn have left?

Ans: (a) _____ [2]

(b) How many stickers did each girl have at first?

Ans: (b) _____ [2]

14 ABCD is a square. AB = 32 cm, DG = GC and AF = FE and DE = EB.



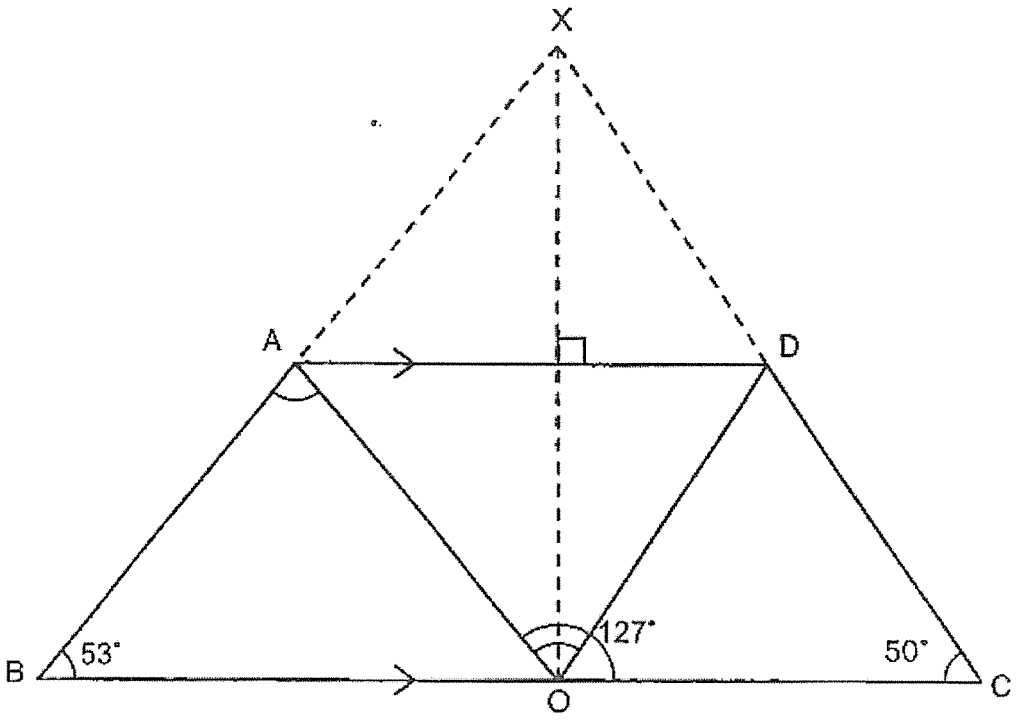
(a) Find the area of the triangle BDG.

Ans: (a) _____ [1]

(b) Find the area of the shaded parts.

Ans: (b) _____ [3]

15 A piece of triangular paper is folded into a trapezium as shown in the diagram below. $\angle ABO = 53°$, $\angle DCO = 50°$ and $\angle AOC = 127°$.



(a) Find $\angle AOD$.

Ans: (a) _____ [2]

(b) Find $\angle BAO$.

Ans: (b) _____ [2]

16 The table shows the parking charges at Value Shopping Mall.

Parking Charges	
9 a.m. to 5 p.m. For the first hour or part thereof	$1.20
For every additional $\frac{1}{2}$ hour or part thereof	$1.00
After 5 p.m. till next morning 9 a.m.	$5.00 per entry

(a) Mrs Wee parked her car from 9.30 a.m. to 11.45 a.m. How much did she pay for her parking charges?

Ans: (a) _____ [2]

(b) Mr Ong parked his car from 4.30 p.m. till the next morning 9 a.m. How much did he pay for his parking charges?

Ans: (b) _____ [1]

(c) Each of the statement 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
Mr Lim paid $5 when he parked his car from 6 p.m. till next morning 8.45 a.m.			
Mr Tan paid $1.20 when he parked his car for 30 minutes.			
Some cars entered at 6 p.m. and exited at 6.50 p.m. on the same day. The parking charges for these cars were $7.20.			

[2]

17 Bryan uses grey and white squares to form figures that follow a pattern as shown below.

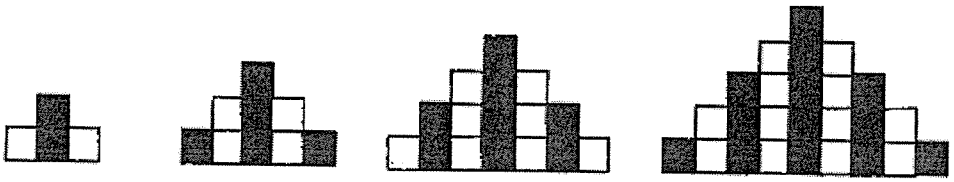


Figure 1 Figure 2 Figure 3 Figure 4

(a) The table shows the number of grey and white squares for the first four figures. Complete the table for Figure 5.

Figure Number	1	2	3	4	5
Number of grey squares	2	5	8	13	
Number of white squares	2	4	8	12	
Total number of squares	4	9	16	25	

[1]

(b) Find the number of white squares in Figure 8.

Ans: (b) _____ [2]

(c) Find the total number of squares in Figure 49.

Ans: (c) _____ [2]

End of Paper

NANYANG PRIMARY SCHOOL

END-OF-YEAR EXAMINATION 2023

PRIMARY 5

MATHEMATICS PAPER 1 (BOOKLET A)

Total Duration for Booklets A and B: 1 hour

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

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

Name: _____ ( )

Class: Primary 5 ( )

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. Choose the correct answer, make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (30 marks)

1 In 5.057, what digit is in the hundredths place?

(1) 5
(2) 0
(3) 7
(4) 5

(1)

2 Which of the following is the same as 23 kg 52 g?

(1) 23.025 kg
(2) 23.052 kg
(3) 23.502 kg
(4) 23.520 kg

(2)

3 Ming Xuan bought 42 oranges, 28 mangoes and 14 kiwis from a fruit store. What was the ratio of the number of oranges to the number of mangoes to the number of kiwis that he bought? Express your answer in its simplest form.

(1) 7:3:1
(2) 2:4:6
(3) 3:2:1
(4) 6:4:2

O : M : K
42 : 28 : 14
3 : 2 : 1

(3)

4 A machine seals 120 forfeit packets in 60 seconds. At this rate, how many forfeit packets can it seal in 30 minutes?

(1) 3600
(2) 350
(3) 60
(4) 40

60 sec → 120
1 min → 120
30 min → 120 × 30 = 3600

(1)

5 Arul had 240 stamps. He gave 60 stamps to his sister. What percentage of his stamps did Arul give to his sister?

(1) 20%
(2) 25%
(3) 75%
(4) 80%

$\frac{60}{240} = \frac{1}{4} = 25\%$
or $\frac{1}{4} \times 100\% = 25\%$

(2)

6 Thomas had $1200. He spent 35% of his money on food. How much money did he spend on food?

(1) $180
(2) $360
(3) $420
(4) $780

100% → $1200
1% → $1200 ÷ 100 = $12
35% → $12 × 35 = $420
or $\frac{35}{100} \times \$1200 = \$420$

(3)

7 Identify the line parallel to line AB.

(1) CD
(2) EF
(3) GH
(4) JK

(1)

8 Find the area of the shaded triangle ABD

(1) 42 cm²
(2) 52.5 cm²
(3) 84 cm²
(4) 94 cm²

$\frac{1}{2} \times 7 \times 12 = 42$

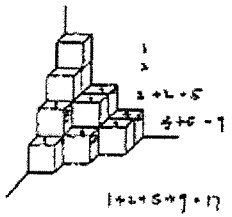
(1)

9 In the figure, how many of the six marked angles are more than 90°?

(1) 5
(2) 4
(3) 3
(4) 2

(2)

10 The figure shows a solid made up of unit cubes. How many unit cubes are needed to make the solid?



(1) 16
(2) 13
(3) 18
(4) 17

(4)

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

$\frac{3}{5}, \frac{3}{7}, \frac{4}{5}$

	Smallest		Largest
(1)	$\frac{3}{5}$	$\frac{3}{7}$	$\frac{4}{5}$
(2)	$\frac{3}{5}$	$\frac{4}{5}$	$\frac{3}{7}$
(3)	$\frac{3}{7}$	$\frac{4}{5}$	$\frac{4}{5}$
(4)	$\frac{3}{7}$	$\frac{4}{5}$	$\frac{3}{5}$

$\frac{3}{7} < \frac{1}{2} < \frac{3}{7}, \frac{4}{5}$

$\frac{4}{5} = \frac{8}{10}$

$\frac{8}{10} < \frac{9}{5}$

$\frac{3}{7} < \frac{1}{2} < \frac{4}{5}$

Therefore $\frac{3}{7}, \frac{4}{5}, \frac{4}{5}$

Smallest Largest

(3)

12 Find the average of the following 5 numbers.

23 23 18 16 8

(1) 23
(2) 20
(3) 18
(4) 16

$\frac{23+23+18+16+8}{5} = 16$

(4)

13 A factory produces 1505 kg of flour a day. The flour is packed equally into 50 packs. How much does each pack of flour weigh?

(1) 30.1 kg
(2) 31 kg
(3) 300.1 kg
(4) 301 kg

$1505 \div 50 = 1505 \div 5 \div 10$
$= 301 \div 10$
$= 30.1$

(1)

14 At a funfair, there were 270 people. $\frac{3}{5}$ of them were children. $\frac{2}{3}$ of the children were girls and the rest were boys. How many boys were there at the funfair?

(1) 180
(2) 162
(3) 108
(4) 72

$\frac{1}{5} \rightarrow 270 \div 5 = 54$
$\frac{1}{3} \rightarrow 2 \times 54 = 108$
$\frac{2}{3} \rightarrow 18 \times 6 = 108$

(3)

15 A chef cooked some soup for 200 guests. Each guest was served 0.75 l of the soup. How much soup did the chef cook?

(1) 14.8 l
(2) 12.8 l
(3) 149 l
(4) 150 l

$200 \times 0.75 = 2 \times 100 \times 0.75$
$= 2 \times 75$
$= 150$

(4)

NANYANG PRIMARY SCHOOL

END-OF-YEAR EXAMINATION
2023

PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO PUPILS

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

Name: _____ ( )

Class: Primary 6 ( )

Booklet B	/ 25

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

Questions 16 to 28 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (6 marks)

16 Find the value of $108 + 35 \div 7 - (25 + 2.5 \times 2)$

$= 108 + 35 \div 7 - (35 + 2 \times 2)$
$= 108 + 35 \div 7 - (35 + 4)$
$= 108 + 35 \div 7 - 39$
$= 108 + 5 - 39$
$= 103 - 39$
$= 164$

Ans: 164

17 Find the value of 5 ÷ 8. Give your answer as a decimal.

$\frac{5}{8} = \frac{625}{1000} = 0.625$
or use long division

Ans: 0.625

18 What is the missing number in the box?

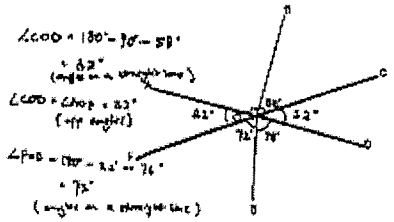
□ : 3 = 24 : 40

$\frac{24}{3} : \frac{40}{5}$

□ = 5

Ans: 5

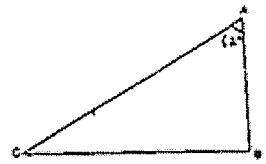
19 In the figure below, AOD and COF are straight lines. $\angle BOC = 58°$, $\angle DOE = 78°$, $\angle AOB = 64°$. Find $\angle FOE$.



$\angle COD = 180° - 58° - 64°$
$= 58°$
(∠s on a straight line)
$\angle COD = \angle BOF = 58°$
(vert. opp. ∠s)
$\angle FOE = 180° - 58° - 78°$
$= 44°$
(∠s on a straight line)

Ans: 44°

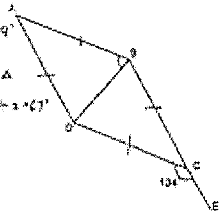
20 Measure and write down the size of ∠BAC.



Ans: 63°

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

21 In the figure below, ABCD is a rhombus. BCE is a straight line and ∠DCE = 134°. Find ∠ABD.



∠BCD = ∠DCE = 180° − 134° = 46°

ΔABD is an isosceles Δ

∠ABD = (180° − 46°) ÷ 2 = 67°

Ans: 67 °

22 Find the value of $\frac{2}{3} \times \frac{5}{8}$

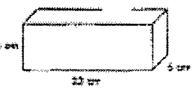
Give your answer as a fraction in the simplest form.

$\frac{2}{3} \times \frac{5}{8} = \frac{5}{12}$

Ans: $\frac{5}{12}$

3

23 What is the volume of the cuboid shown below?

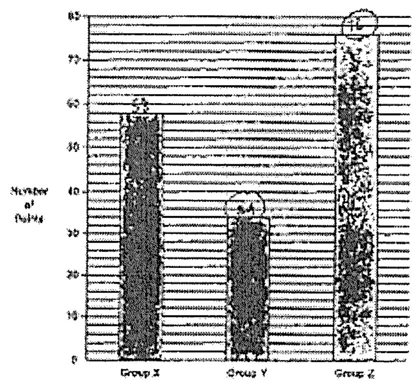


Volume → 6 × 5 × 23 = 690

Ans: 690 cm³

4

24 The bar graph shows the group points scored by 3 groups. What is the difference in the group points between the highest score and the lowest score?

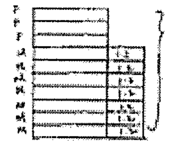


76 − 34 = 42

Ans: 42

5

25 Sophia paid $97.40 for 3 identical pencils and 7 identical markers. The price of a marker is $1.20 more than the price of a pencil. She bought 10 such pencils. What was the amount of money he paid for 10 such pencils?



$1.20 × 7 = $8.40

$97.40 − $8.40 = $89

Ans: $ 79

26 The product of 2 numbers is 2067. The smaller number is 9. Find the larger number. Round the answer to the nearest hundred.

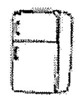
___ × 9 = 2067

2067 ÷ 9 = 229 ≈ 200

Ans: 200

6

27 What is the price of the refrigerator after adding 8% GST?



$2800 (price before GST)

100% → $2800

1% → $2800 ÷ 100 = $28

108% → $28 × 108 = $3024

or

8% → $\frac{8}{100}$ × $2800

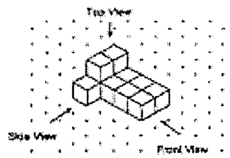
= $224

$2800 + $224 = $3024

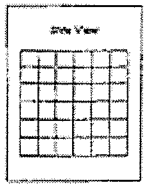
Ans: $ 3024

7

28 The figure shows a solid made up of 11 unit cubes.



(a) Draw the side view of the solid on the grid below.



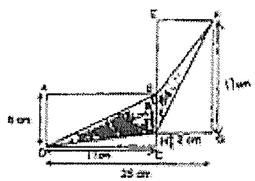
[1]

(b) Jun Wei painted the whole solid, including the base, green. How many of the 11 unit cubes had exactly three of their faces painted green?

Ans: (b) 5 [1]

8

29 ABCD and EFCH are 2 identical rectangles. Find the total area of the unshaded parts.



25 cm − 8 cm = 17 cm

Area of ΔA → ½ × 17 × 6 = 51

Area of ΔB → ½ × 6 × 8 = 24

Area of 2 rectangles → 17 × 8 × 2 = 272

Area of unshaded area → 272 − 51 − 24 = 197

Ans: 197 cm²

9

30 The table below shows the height of 3 boys, Abel, Bernard and Carl. Their heights are in whole numbers. They have an average height of 154 cm. Carl is taller than Bernard and Abel is the shortest. Part of the table is smeared with ink. What is the lowest possible height of Carl?

Name	Height (cm)
Abel	1[illegible]
Bernard	[illegible]
Carl	1[illegible]

Sum of height → 154 × 3 = 462

Bernard taller than Carl → 1××

(1st digit of Bernard's height is 1)

Sum of digits in the tens and ones place → 462 − 300 = 162

Avg of the tens and one digits → 162 ÷ 3 = 54

Abel is the shortest → height below avg with 6 as one digit.

Abel → 146 cm

Avg of ten and one digit for Bernard and Carl → (162 − 46) ÷ 2 = 58

Attempt

Bernard : 158 cm

Carl : 158 cm

Carl's height > Bernard's height

159 cm > 157 cm

Ans: 159 cm

End of Paper

10

HUAYANG PRIMARY SCHOOL

END-OF-YEAR EXAMINATION
2023

PRIMARY 6

MATHEMATICS
PAPER 2

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

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

Name: _____ ( )

Class: Primary 6 ( )

Parent's Signature: _____

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

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

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

1 Abdul bought $5\frac{2}{5}$ m of string. He used $1\frac{3}{4}$ m of it to tie a parcel and $\frac{4}{10}$ m of it to decorate a present. How many metres of string had he left? Give your answer as a mixed number.

$5\frac{2}{5} - 1\frac{3}{4} - \frac{4}{10} = 3\frac{1}{4}$

Ans: $3\frac{1}{4}$ m

2 A jug contains $1\frac{7}{9}$ litres of apple juice. How many litres of apple juice are there in 6 such jugs altogether?

$1\frac{7}{9} \times 6 = 10\frac{2}{3}$

Ans: $10\frac{2}{3}$ ℓ

3 The average mass of 5 children is 45 kg. When Peter's mass is added, the average mass becomes 46 kg. What is Peter's mass?

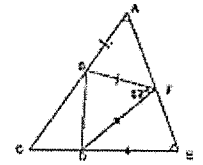
Sum of original wg → $45 \times 5 = 225$

Sum of new wg → $46 \times 6 = 276$

Peter's mass → $276 - 225 = 51$

Ans: 51 kg

4 ACE is a triangle. Triangle ABF and triangle FDE are isosceles triangles. Find the sum of ∠BAF and ∠FED.



$\angle BAF = \angle BFA$

$\angle FED = \angle DFE$

$\angle BAF + \angle FED = \angle BFA + \angle DFE = 180° - 51° = 129$

Ans: 129

5 Mei Yan has a piece of yellow ribbon and red ribbon of the same length. She then cuts the piece of yellow ribbon and red ribbon into smaller pieces. If she gives a group of friends a smaller piece of yellow ribbon of length 1.4 m each, she will have 0.8 m of the yellow ribbon left. If she gives the same group of friends a smaller piece of red ribbon of length 1.8 m each, she will need an additional 2.2 m of the red ribbon. How many friends does Mei Yan have in this group?

$1.8 - 1.4 = 0.4$

$2.2 + 0.8 = 3$

$3 \div 0.4 = 7$

Ans: 7

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 The total cost of 2 identical tiles and 3 identical markers was $15. The total cost of 5 such tiles and 8 such markers was $34.50. What was the cost of 1 such marker?

3 sets:
- $2T + 3M \rightarrow \$15$
- $5T + 8M \rightarrow \$34.50$
- $9T + 6M \rightarrow \$15 \times 2 = \$30$

$1T \rightarrow \$34.50 - \$30 = \$4.50$

$2T \rightarrow \$4.50 \times 2 = \$9.00$

$3M \rightarrow \$15 - \$9.00 = \$5.00$

$1M \rightarrow \$5.00 \div 2 = \$1.50$

Ans: $1.50 [3]

7 Team A played against Team B in a badminton match. 560 children watched the badminton match. 70% of the children were boys.

(a) How many girls watched the badminton match?

$100\% - 70\% = 30\%$

$100\% \rightarrow 560$

$1\% \rightarrow \frac{560}{100}$

$30\% \rightarrow \frac{560}{100} \times 30$

$= 168$

or $\frac{30}{100} \times 560$

$= 168$

Ans: (a) 168 [1]

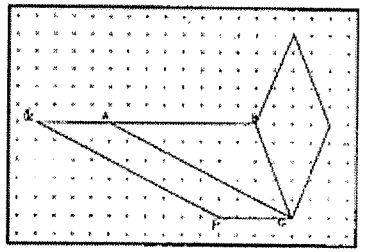
(b) 42 of the girls supported Team B and the rest of the girls supported Team A. What percentage of the girls supported Team A?

$168 - 42 = 126$

$\frac{126}{168} \times 100\% = 75\%$

Ans: (b) 75% [2]

8 A triangle ABC is drawn on a square grid inside a box.



By joining dots on the grid with straight lines,

(a) draw a rhombus with BC as one of the sides. The rhombus and triangle ABC must not overlap. [1]

(b) draw parallelogram ACFG. The length of AG is twice the length of AC. Triangle ABC must not overlap with parallelogram ACFG. [2]

9 Jason, Peter and Chris shared a sum of money in the ratio 3 : 5 : 2. The difference between Peter's share and Jason's share is $126. How much more money did Peter have than Chris?

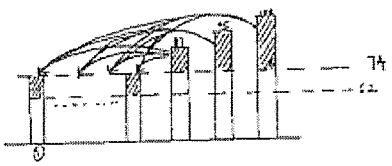
3 : P : C
6 : 9 : 2

4u → $126
1u → $126 ÷ 4 = $32
9u − 7u = 2u
7u → 7 × $32 = $224

Ans: $224 [3]

7

10 The average mark for a class of students in a quiz is 74. The top 3 students scored 87, 86 and 87. When the top 3 students were excluded in the calculation for the average mark, the average mark became 72. How many students were there in the class?



Sum of top 3 marks above avg → (100 − 74) + (90 − 74) + (87 − 74)
(shaded parts) = 60

Difference in avg → 74 − 72 = 2

No. of students (excluding top 3) → 60 ÷ 2 = 30

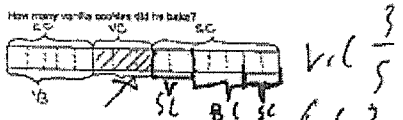
Total students → 30 + 3 = 33

Ans: 33 [3]

8

11 Ravi baked 2535 cookies. $\frac{1}{3}$ of them were chocolate cookies, $\frac{3}{5}$ of the remaining cookies were vanilla cookies and the rest were strawberry cookies.

(a) How many vanilla cookies did he bake?



15u → 2535
1u → 2535 ÷ 15 = 169
3u → 169 × 3 = 1014

V : C = 3 : 5
S : C = 2 : 5

Ans: (a) 1014 [2]

(b) Ravi packed all the vanilla cookies into large and small tins to sell. He filled each large tin with 30 cookies and each small tin with 12 cookies. All the tins were full and there were no cookies left over. What was the least number of tins used by Ravi?

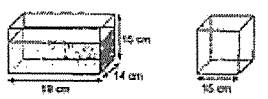
least number of tins → largest no. of large tins used

1014 ÷ 30 = 33 R 24
24 ÷ 12 = 2
Total number of tins → 33 + 2 = 35

Ans: (b) 35 [2]

9

12 A rectangular tank measuring 19 cm by 14 cm by 15 cm is $\frac{2}{3}$ filled with water. All the water is then poured into an empty cubical tank with sides measuring 15 cm each.



Rectangular Tank Cubical Tank

(a) What is the volume of water in the rectangular tank at first?

$\frac{2}{3} \times 19 \times 14 \times 15 = 2660$

Ans: (a) 2660 cm³ [1]

(b) How much more water has to be added so that the cubical tank is $\frac{4}{5}$ filled with water? Give your answer in litres.

$\frac{4}{5} \times 15 \times 15 \times 15 = 2700$
2700 − 2660 = 40
40 cm³ = 0.04 ℓ

Ans: (b) 0.04 ℓ [3]

10

13 Kenyn and Carol had an equal number of stickers at first. After Kenyn used 357 stickers and Carol used 84 stickers, Carol had 5 times as many stickers as Kenyn.

(a) How many stickers did Kenyn have left?

4u → 357 − 84 = 273
1u → 273 ÷ 4 = 67

Ans: (a) 67 [2]

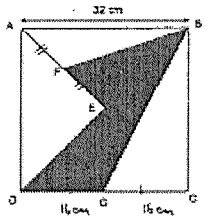
(b) How many stickers did each girl have at first?

67 + 357 = 419

Ans: (b) 419 [2]

11

14 ABCD is a square. AB = 32 cm, DG = GC and AF = FE and DE = EB.



(a) Find the area of the triangle BDG.

DG = GC = 32 ÷ 2 = 16

$\frac{1}{2} \times 16 \times 32 = 256$

Ans: (a) 256 cm² [1]

(b) Find the area of the shaded parts.

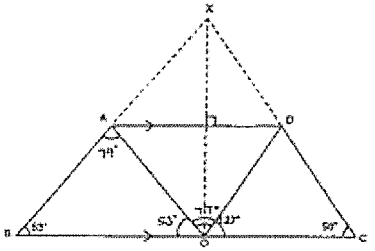
Area of △AFB = Area of ABFE (same base and same perpendicular height)

△AEB → 32 × 32 × $\frac{1}{2}$ = 256
△BFE → 256 ÷ 2 = 128
Total shaded area → 128 + 256 = 384

Ans: (b) 384 cm² [3]

12

15 A piece of triangular paper is folded into 4 triangles as shown in the diagram below. ∠ABO = 53°, ∠DCO = 50° and ∠AOC = 127°.



(a) Find ∠AOD.

∠AOD = 180° − 53° − 50° = 77°

Ans: (a) 77° [2]

(b) Find ∠BAO.

∠BOE = (180° − 127°) = 53°
∠BAO = 180° − 53° − 53° = 74°

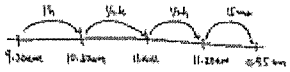
Ans: (b) 74° [2]

13

16 The table shows the parking charges at Velle Shopping Mall.

Parking Charges	
9 a.m. to 5 p.m. For the first hour or part thereof	$1.20
For every additional $\frac{1}{2}$ hour or part thereof	$1.00
After 5 p.m. till next morning 9 a.m.	$5.00 per entry

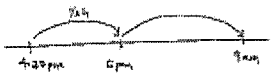
(a) Mrs Wee parked her car from 9.30 a.m. to 11.45 a.m. How much did she pay for her parking charges?



$1.20 + $1 + $1 + $1 = $4.20

Ans: (a) $4.20 [2]

(b) Mr Ong parked his car from 4.30 p.m. till the next morning 9 a.m. How much did he pay for his parking charges?



$1.20 + $5 = $6.20

Ans: (b) $6.20 [1]

14

(c) Each of the statement 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
Mr Lim paid $5 when he parked his car from 8 a.m. till next morning 8.45 a.m.	✓		
Mr Tan paid $1.20 when he parked his car for 30 minutes.			✓
Some cars entered at 6 p.m. and exited at 6.30 p.m. on the same day. The parking charges for these cars were $7.20.		✓	

[2]

17 Bryan uses grey and white squares to form figures that follow a pattern as shown below.

Figure 1 Figure 2 Figure 3 Figure 4

(a) The table shows the number of grey and white squares for the first four figures. Complete the table for Figure 6.

Figure Number	1	2	3	4	5
Number of grey squares	2	5	9	14	20
Number of white squares	3	4	5	12	15
Total number of squares	4	9	14	26	35

[1]

(b) Find the number of white squares in Figure 9.

$9+7=16$

$16+7=23$

$23+7=41$

$7\times7=49$

$49-41=46$

Ans: (b) 46 [1]

(c) Find the total number of squares in Figure 48.

$47+1=50$

$50\times50=2500$

Ans: (c) 2500 [1]

End of Paper