



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?

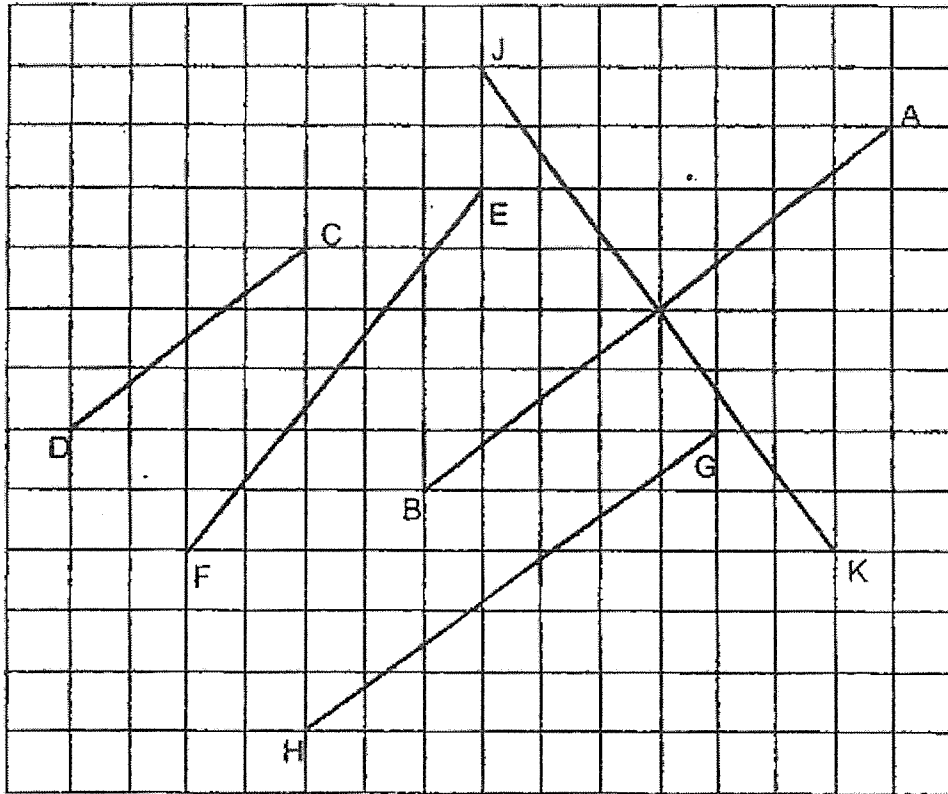
(1) \$180

(2) \$360

(3) \$420

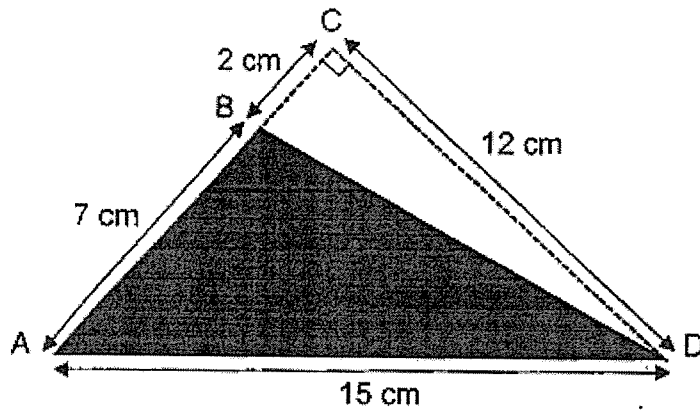
(4) \$780

7 Identify the line parallel to line AB.



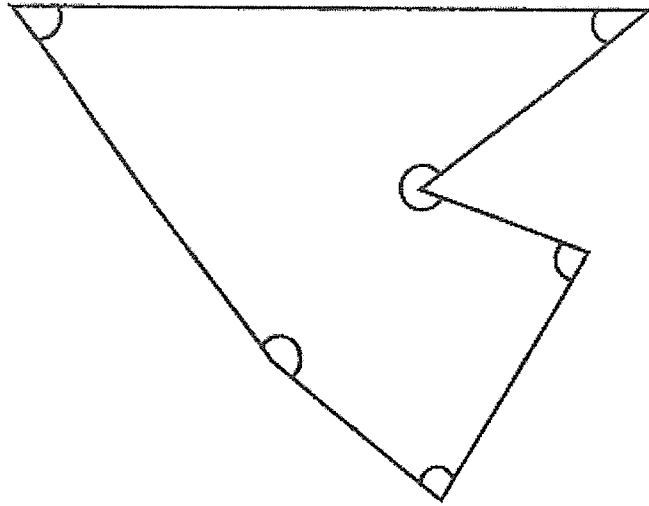
- (1) CD
- (2) EF
- (3) GH
- (4) JK

- 8 Find the area of the shaded triangle ABD.



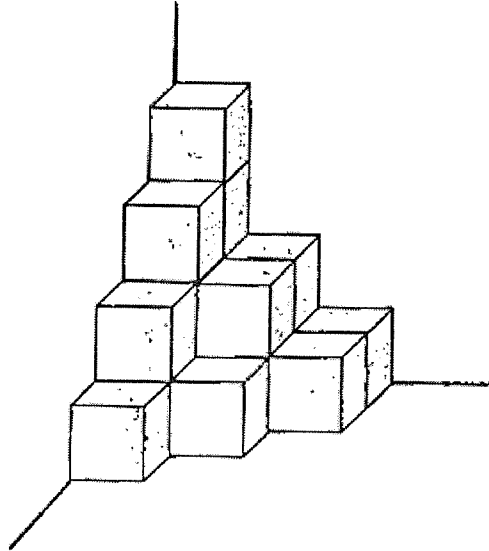
- (1) 42 cm^2
- (2) 52.5 cm^2
- (3) 54 cm^2
- (4) 84 cm^2

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.

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

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

23

23

18

16

0

- (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

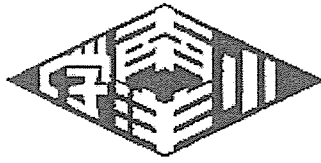
15 A chef cooked some soup for 200 guests. Each guest was served 0.78 ℓ of the soup. How much soup did the chef cook?

(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

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 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.

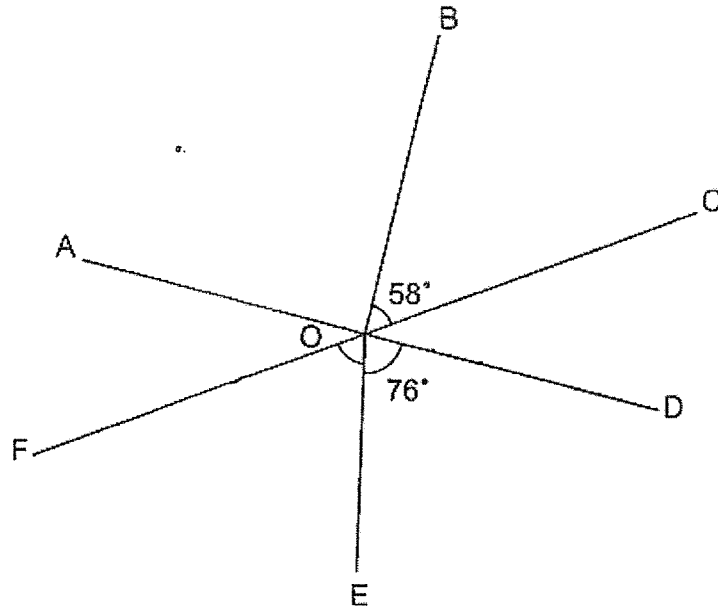
Ans: _____

18 What is the missing number in the box?

$$\square : 5 = 24 : 40$$

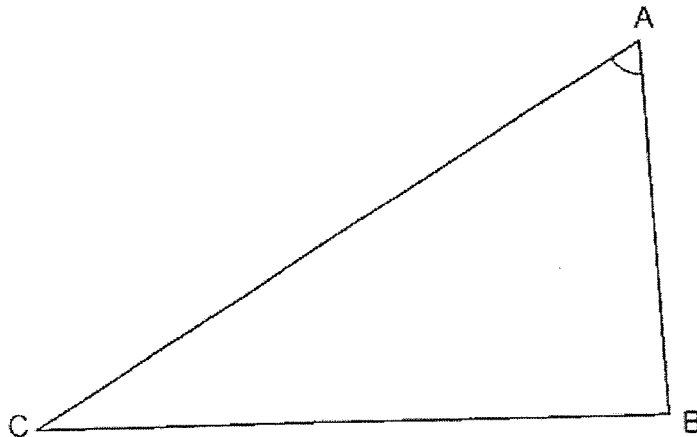
Ans: _____

- 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: _____°

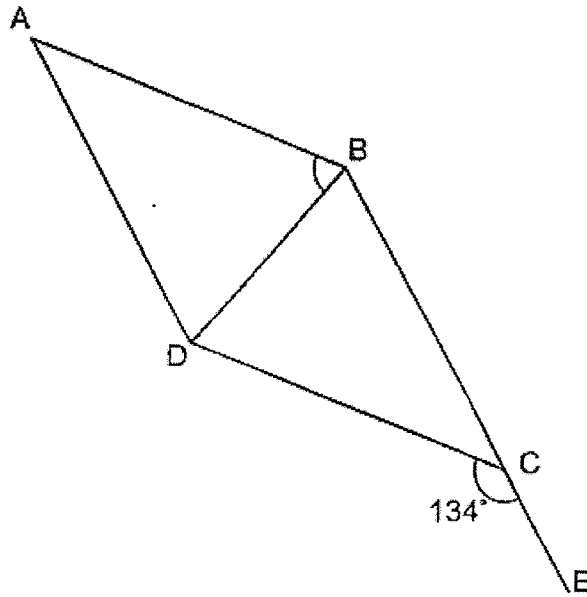
- 20 Measure and write down the size of $\angle BAC$.



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)

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



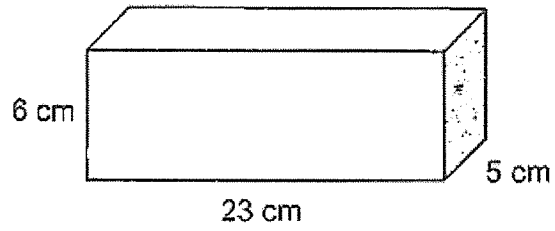
Ans: _____°

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

Give your answer as a fraction in the simplest form.

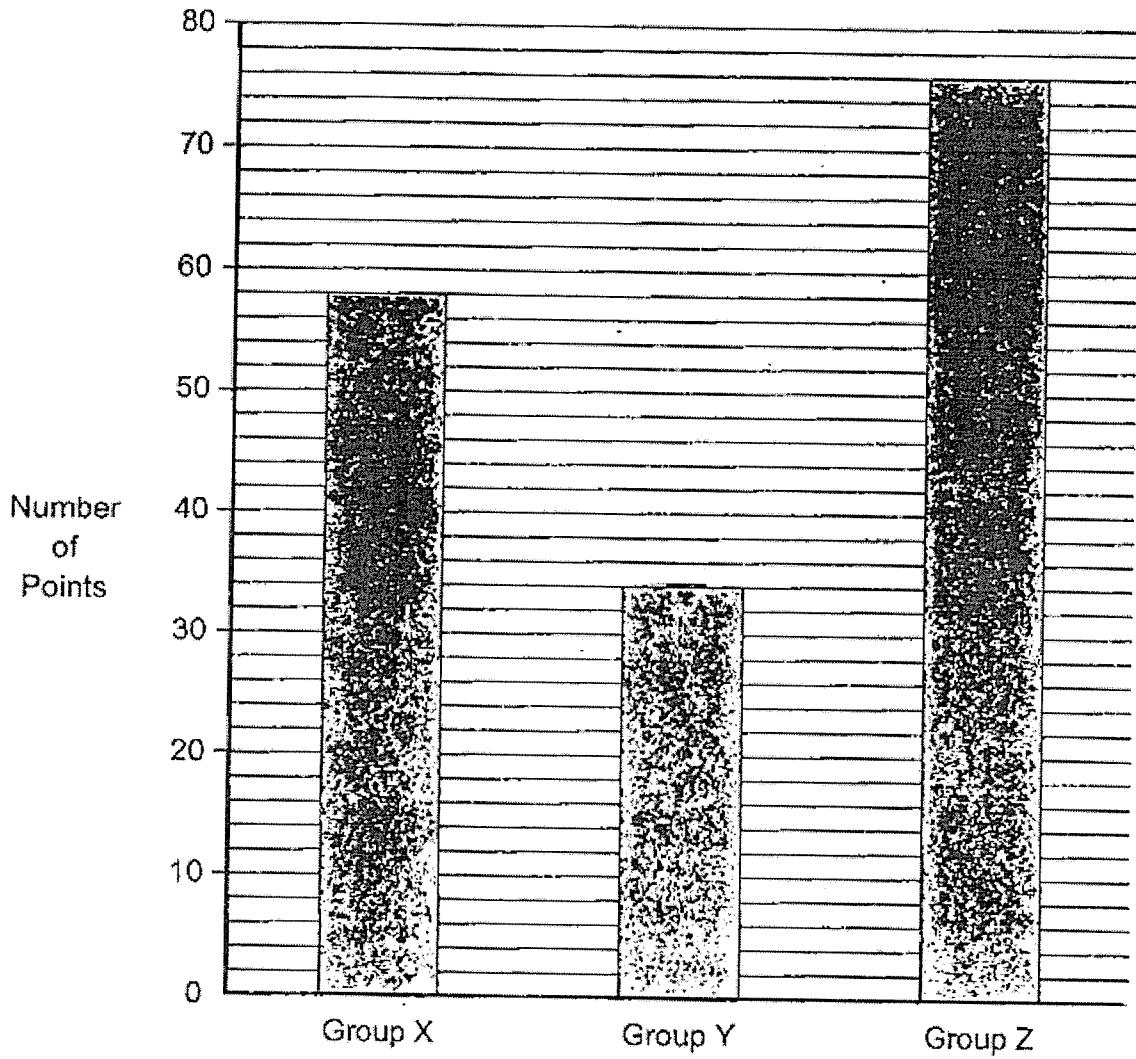
Ans: _____

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: _____

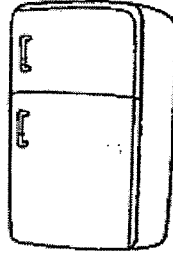
- 25 Sophia paid \$87.40 for 3 identical pencils and 7 identical markers. The price of a marker is \$1.20 more than the price of a pencil. Tim bought 10 such pencils. What was the amount of money he paid for 10 such pencils?

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: _____

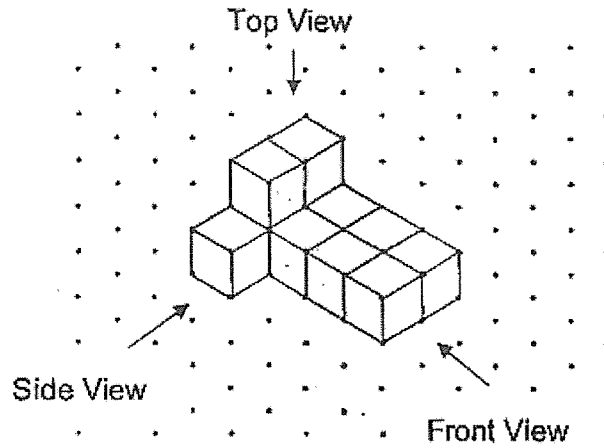
27 What is the price of the refrigerator after adding 8% GST?



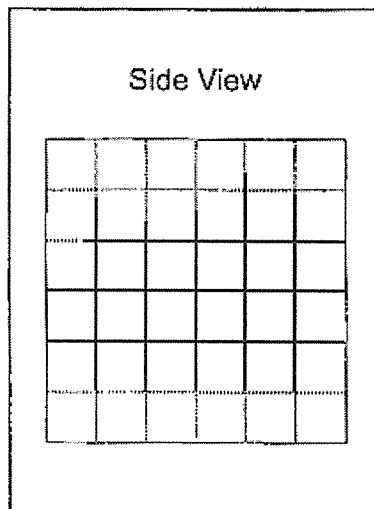
\$2800
(price before GST)

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.

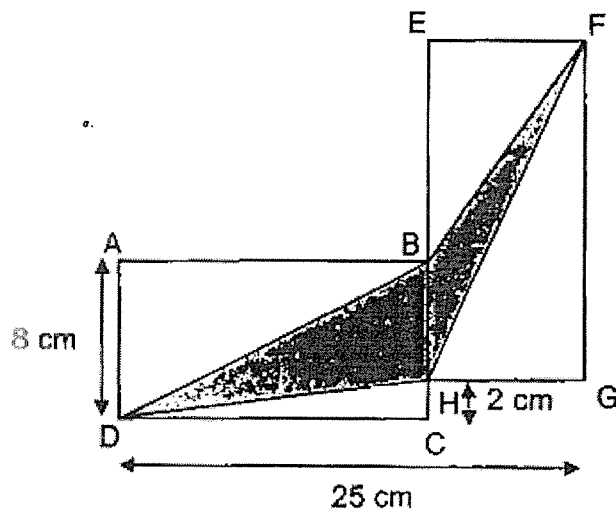


[1]

(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	146
Bernard	
Carl	1 

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 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 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

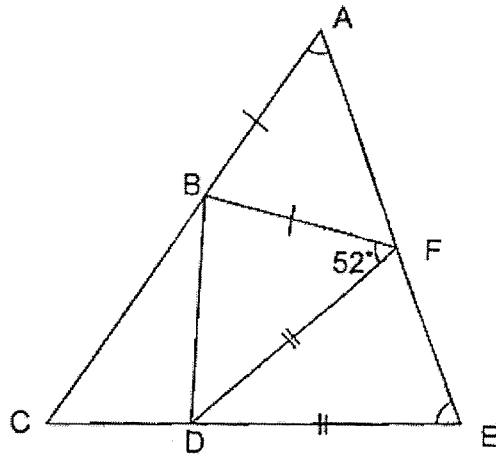
- 2 A jug contains $1\frac{7}{9}$ litres of apple juice. How many litres of apple juice are there in 6 such jugs altogether?

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 $\angle BAF$ and $\angle FED$.



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.

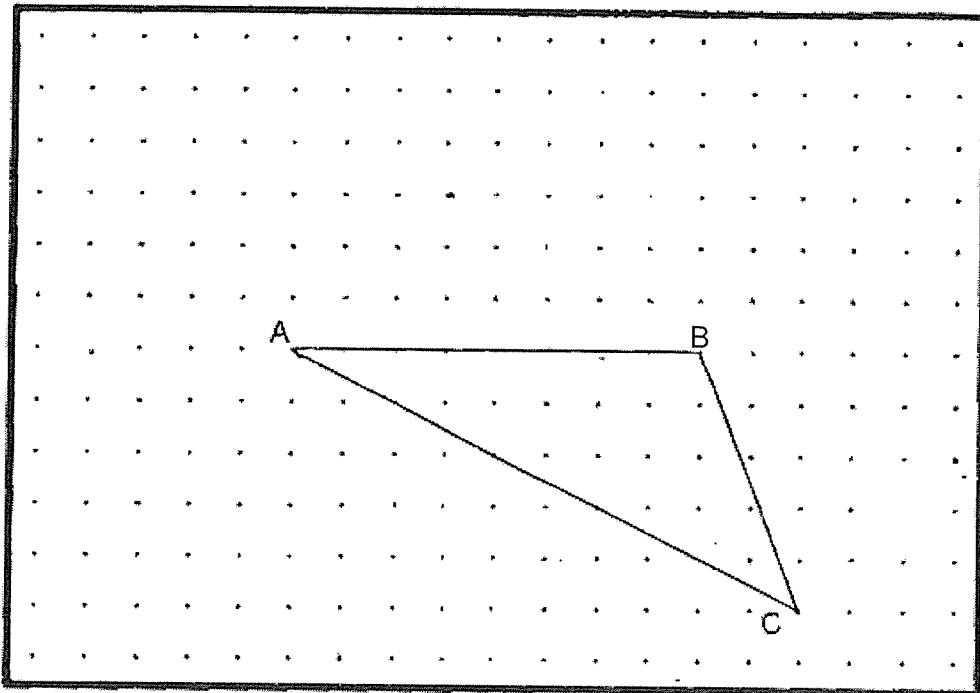
(a) How many girls watched the badminton match?

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]

- 10) 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.

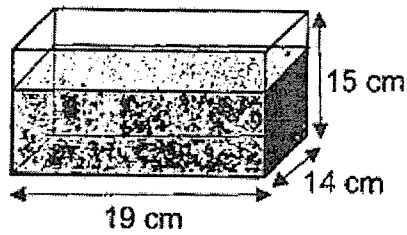
(a) How many vanilla cookies did he bake?

Ans: (a) _____ [2]

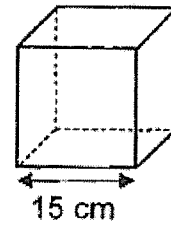
- (b) Ravi packed all the vanilla cookies into large and small tins to sell. He filled each large tin with 30 cookies and each small tin with 12 cookies. All the tins were full and there were no cookies left over. What was the least number of tins used by Ravi?

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.

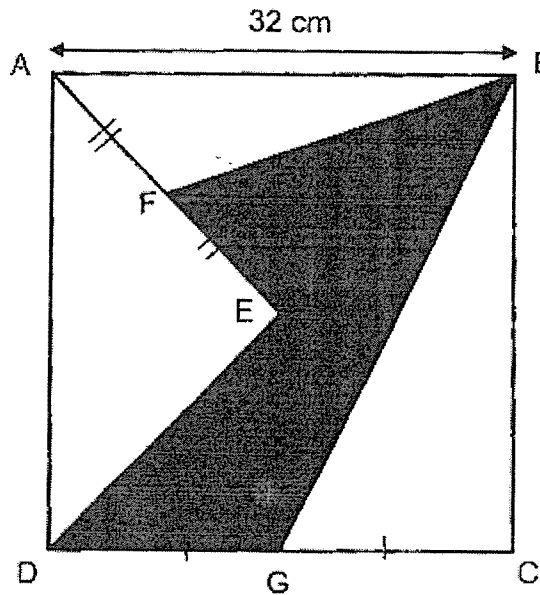
(a) How many stickers did Keryn have left?

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 $DE = EB$.



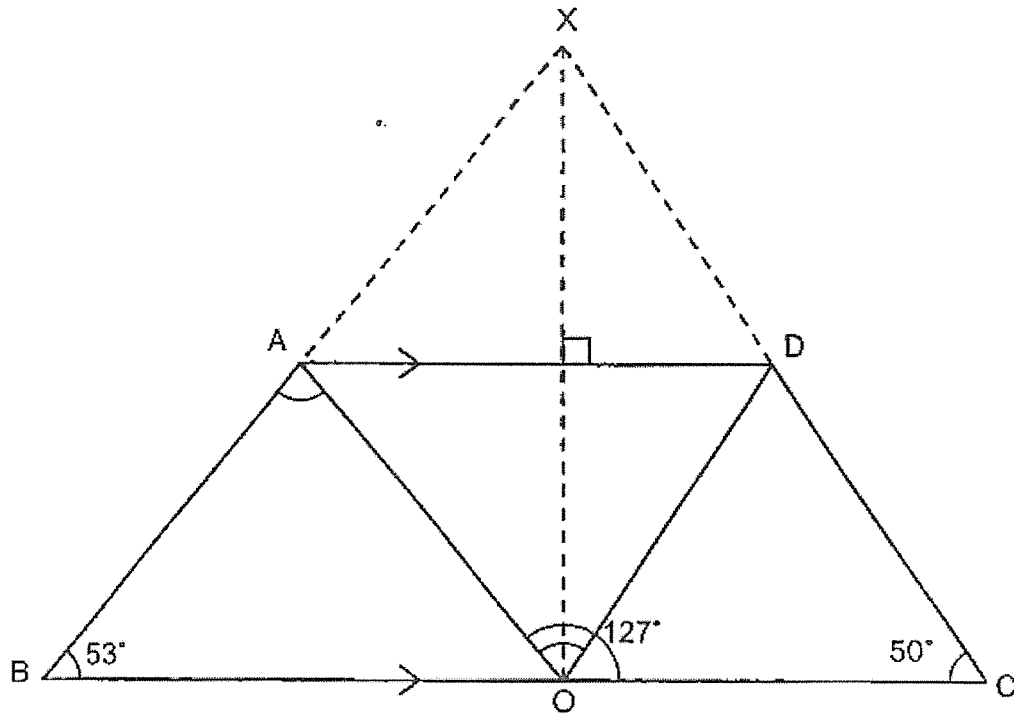
- (a) Find the area of the triangle BDG.

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. $\angle ABO = 53^\circ$, $\angle DCO = 50^\circ$ and $\angle AOC = 127^\circ$.



(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?

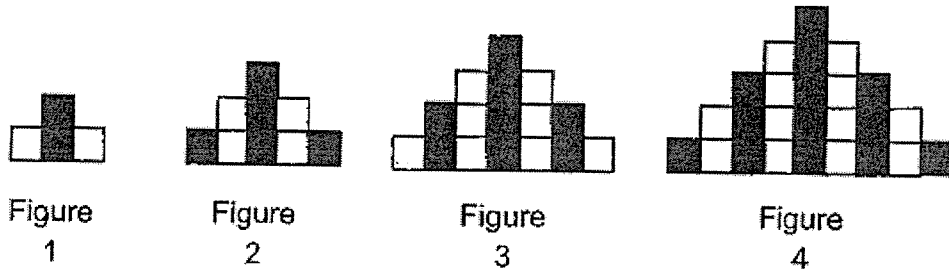
Ans: (b) _____ [1]

- (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.



- (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
 Addition of calculator: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

- Do not turn over this page until you are told to do so.
- Follow all instructions carefully.
- Answer all questions.
- Write your answers in the Optical Answer Sheet (OAS) provided.
- Calculators are NOT allowed.

Name: _____ ()
 Class: Primary 5 ()

5. Ann had 200 shares. She gave 25 shares to the school. What percentage of the shares did Ann give to the school?

(1) 25%
 (2) 27%
 (3) 75%
 (4) 100%

$$\frac{200}{200} \times \frac{25}{100} = 12.5\%$$

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

(2)

6. Thomas had \$1200. He spent 25% of his money on food. How much money did he spend on food?

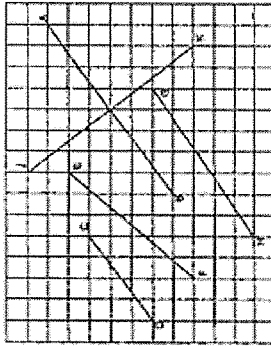
(1) \$180
 (2) \$300
 (3) \$300
 (4) \$780

$$1200 \times \frac{25}{100} = 300$$

$$\text{or } 1200 \times \frac{1}{4} = 300$$

(3)

7. Verify the two parallel lines AB and CD.



- (1) CO
 (2) CP
 (3) DP
 (4) JK

(1)

8. Complete 15 to 100% in 5 equal steps. Complete 15 to 100% in 5 equal steps each for each question. Your answers are given. Complete the correct answer. Mark your answer (1, 2, 3, 4) and Study it with the correct answer. (20 marks)

1. In 2021, when digit 4 in the hundreds place?

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

(1)

2. What is the value of the unknown in the sum as shown below?

- (1) 23,072 kg
 (2) 23,042 kg
 (3) 23,012 kg
 (4) 23,320 kg

(2)

9. Ming spent \$200 on 40 oranges, 20 mangoes and 10 lemons. How much more money did he need to buy 100 oranges, 50 mangoes and 20 lemons? Express your answer in its simplest form.

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

$$40 : 20 : 10 = 4 : 2 : 1$$

$$100 : 50 : 20 = 5 : 2 : 1$$

(3)

10. A number is 40% of the number 30. What is the number?

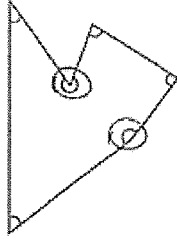
(1) 800
 (2) 300
 (3) 80
 (4) 40

$$40\% \text{ of } 30 = 12$$

$$12 \times 30 = 360$$

(1)

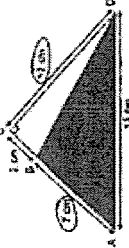
11. In the figure, how many of the marked angles are more than 90°?



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

(2)

12. Find the area of the shaded triangle ABC.

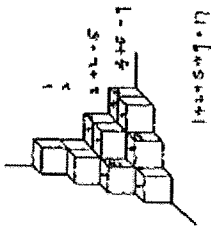


- (1) 42 cm²
 (2) 52.5 cm²
 (3) 34 cm²
 (4) 34 cm²

$$\frac{1}{2} \times 7 \times 15 = 52.5$$

(1)

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



$$1+4+5+7+17$$

- (1) 10
(2) 12
(3) 18
(4) 17

(4)

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

$$\frac{1}{2}, \frac{2}{3}, \frac{1}{4}$$

Number	Expanded
(1) $\frac{1}{2}$	$\frac{1}{2} = \frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$
(2) $\frac{2}{3}$	$\frac{2}{3} = \frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$
(3) $\frac{1}{4}$	$\frac{1}{4} = \frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$
(4) $\frac{2}{5}$	$\frac{2}{5} = \frac{2}{5} \times \frac{2}{2} = \frac{4}{10}$
(5) $\frac{1}{5}$	$\frac{1}{5} = \frac{1}{5} \times \frac{2}{2} = \frac{2}{10}$

$$\frac{3}{6} < \frac{4}{6} < \frac{3}{12} < \frac{4}{10} < \frac{2}{10}$$

$$\frac{4}{6} > \frac{6}{10}$$

$$\frac{9}{10} < \frac{4}{5}$$

(3)

$$\frac{3}{6} < \frac{4}{6} < \frac{3}{12} < \frac{4}{10} < \frac{2}{10}$$

Therefore $\frac{3}{6}, \frac{4}{6}, \frac{3}{12}, \frac{4}{10}, \frac{2}{10}$ largest

12 Find the average of the following 2 numbers.

- 23, 23, 18, 16, 0

$$\frac{23+23+18+16+0}{5} = 16$$

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

(4)

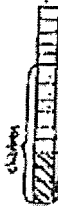
13 A factory produces 1000 kg of flour a day. The flour is packed equally into 50 bags. How much flour does each bag of flour weigh?

$$1000 \div 50 = 1500 \div 5 = 300 \text{ kg}$$

- (1) 201 kg
(2) 31 kg
(3) 3001 kg
(4) 301 kg

(1)

14 A car travels from town A to town B at an average speed of 60 km/h. It takes 1 hour to reach town B. How far is town B from town A?



- (1) 100
(2) 180
(3) 108
(4) 72

(3)

15 A chef cooked some soup for 200 people. Each plate was served 8.75 l of the soup. How much soup did she use?

$$200 \times 8.75 = 2 \times 100 \times 8.75 = 2 \times 875 = 1750$$

- (1) 144 l
(2) 184 l
(3) 144 l
(4) 168 l

(4)

2023, Round 1
Booklet B

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

16 Find the value of $100 + 30 - 7 - 25 + 123 + 21$

$$= 192 + 25 - 7 - (25 + 222)$$

$$= 192 + 25 - 7 - (25 + 222)$$

$$= 192 + 25 - 7 - 227$$

$$= 192 + 25 - 334$$

$$= 202 - 334$$

$$= -132$$

17 Find the value of $8 - 8$. Give your answer as a fraction.

$$\frac{8}{8} - \frac{8}{8} = \frac{0}{8} = 0$$

or use long division


NAME: D. S. S. S.

18 What is the missing number in the box?

$$12 \div 3 = 4$$

$$24 \div 3 = 8$$

NAME: S. S. S.


NANYANG PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2023
PRIMARY 6
MATHEMATICS
PAPER 1
(BOOKLET B)

INSTRUCTIONS TO CANDIDATES

- Do not turn over this page until you are told to do so.
- Follow all instructions carefully.
- Answer all questions.
- Write your answers in the boxes.
- The use of calculators is **NOT** allowed.

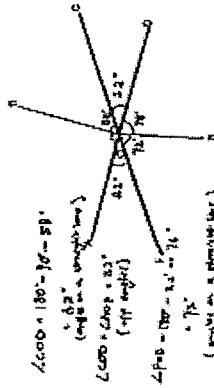
NAME: _____

Class: Primary 6 ()

Booklet B

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

19 In the figure below, $\angle AOB$ and $\angle COB$ are straight lines. $\angle AOC = 150^\circ$. $\angle BOC = 70^\circ$. $\angle AOB = 80^\circ$. Find $\angle AOC$.



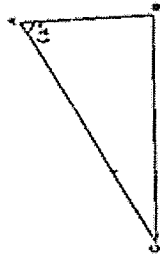
$$\angle AOC = 180^\circ - \angle AOB - \angle BOC$$

$$= 180^\circ - 80^\circ - 70^\circ$$

$$= 30^\circ$$

NAME: T. L.

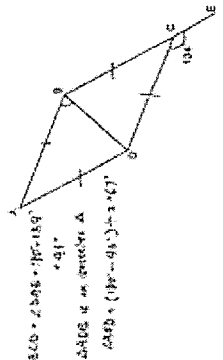
20 Measure each angle in the figure below.



NAME: S. S.

20. Consider 21 to 26 HW 2 every week. Show your working clearly and write your answers in the spaces provided. For questions which require calculation, give your answers in full (in detail).

21. In the figure below, ABCD is a rhombus. ACE is a straight line and $\angle CDE = 150^\circ$. Find $\angle ADE$.



Ans: 67°

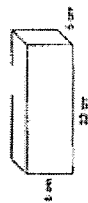
22. Find the value of $\frac{1}{3} \times \frac{5}{4}$.

One you answer as a fraction in its simplest form.

$$\frac{1}{3} \times \frac{5}{4} = \frac{5}{12}$$

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

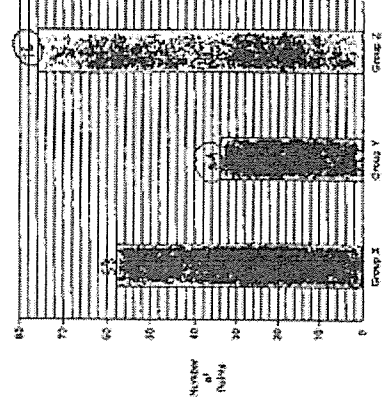
23. What is the volume of the object shown below?



$$\text{Volume} = 6 \times 22 \times 5 = 660$$

Ans: 660 cm³

24. The bar graph shows the price paid for 3 groups. What is the difference in the group price when the highest store and the lowest store?



$$76 - 24 = 52$$

Ans: 52

25. Sports paid \$38.00 for 3 barrels of pencils and 7 barrels of markers. The price of a marker is \$1.25 more than the price of a pencil. The coach bought 10 more pencils. What was the amount of money he paid for 10 more pencils?

Barrels of Pencils	3
Barrels of Markers	7
Total	10

$$3x + 7(x + 1.25) = 38.00$$

$$3x + 7x + 8.75 = 38.00$$

$$10x = 29.25$$

$$x = 2.925$$

Ans: \$12.63

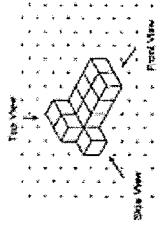
26. The product of 2 numbers is 2008. The smaller number is 8. Find the larger number. Round the answer to the nearest hundredth.

$$x \times 8 = 2008$$

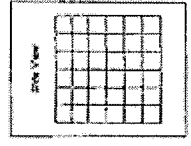
$$x = \frac{2008}{8} = 251$$

Ans: 251

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



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



(b) Jan will paint the entire solid, including the base, green. How many of the 11 unit cubes will mostly have their faces painted green?

Ans: (b) 5

28. What is the price of the rectangular shoe box if 10% GST is added?



100% GST

$$100\% \rightarrow \$2800$$

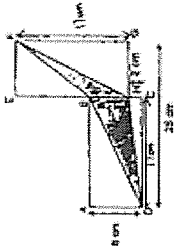
$$10\% \rightarrow \$2800 \times 0.10 = \$280$$

$$108\% \rightarrow \$2800 + \$280 = \$3080$$

$$\$2800 + \$280 = \$3080$$

Ans: \$3080

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



$$20 \times 10 = 200 = 2 \times 100$$

$$\text{Area of } \triangle ABE = \frac{1}{2} \times 20 \times 10 = 100$$

$$\text{Area of } \triangle GHD = \frac{1}{2} \times 20 \times 10 = 100$$

$$\text{Area of unshaded parts} = 200 - 100 - 100 = 0$$


Ans: 0

30. The table below shows the height of 3 boys. Find the average height of the 3 boys. What is the range of the heights? What is the mode of the heights? What is the median of the heights?

Name	Height (cm)
John	150
Paul	160
Sam	170

Sum of height = $150 + 160 + 170 = 480$
 Average height = $\frac{480}{3} = 160$
 Range = $170 - 150 = 20$
 Mode = 160

Ans: 160



HUIYANS PRIMARY SCHOOL
END-OF-YEAR EXAMINATION
2023
PRIMARY 6
MATHEMATICS
PAPER 2
 Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

- Do not turn over this page until you are told to do so.
- Follow all instructions carefully.
- Answer all questions.
- Do not use a calculator.
- The use of an approved calculator is allowed.

Name: _____

Class: Primary 6 ()

Parent's Signature: _____

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

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

5. Mei Yee has a piece of ribbon 60 cm long and she cut it into 3 equal pieces. She then cuts one piece of ribbon into 4 equal pieces. If she gives a piece of ribbon a square shape of side length 1.5 m each, she will have 0.8 m of the ribbon ribbon left. If she gives the same group of friends a square shape of side length of length 1.8 m each, she will need an additional 2.5 m of the ribbon. How many friends does Mei Yee have in the group?

$1.8^2 - 1.5^2 = 0.45$
 $2.5 \div 0.45 = 5.5$
 $5.5 \div 0.45 = 7$

6. The total cost of 2 identical blue and 3 identical orange pens is \$15. The total cost of 5 such blue and 8 such orange pens is \$24. What was the cost of 1 such orange pen?

$2B + 3O \rightarrow 15$
 $5B + 8O \rightarrow 24$
 $10B + 6O \rightarrow 30$
 $10B + 8O \rightarrow 24$
 $2O \rightarrow 6$
 $O \rightarrow 3$

Ans: 7
 Avg: _____

Question 1 is 5 empty 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 asked. (10 marks)

1. Apple bought $\frac{2}{3}$ m of ribbon. He used $\frac{1}{4}$ m of it to make a parcel and $\frac{1}{8}$ m of it to decorate a banner. How many metres of ribbon has he left? Give your answer as a mixed number.

$\frac{2}{3} - \frac{1}{4} - \frac{1}{8} = \frac{16}{24} - \frac{6}{24} - \frac{3}{24} = \frac{7}{24}$

2. A box contains $\frac{1}{3}$ litre of water. How many litres of water will we have if 6 such boxes altogether?

Ans: $\frac{2}{3}$

3. The average mass of 5 children is 40 kg. When Peter's mass is added, the average mass becomes 45 kg. What is Peter's mass?

$5 \times 40 = 200$
 $6 \times 45 = 270$
 $270 - 200 = 70$

4. ACE is a triangle. Triangle ADE and triangle FDE are isosceles triangles. Find the sum of $\angle DAC$ and $\angle DEC$.

$\angle DAC = \angle DAE + \angle EAC$
 $\angle DEC = \angle DEF + \angle FEC$
 $\angle DAC + \angle DEC = 180^\circ - \angle ACB = 110^\circ$

5. A length ADG is drawn on a square grid inside a box.



(a) Draw a rhombus with AC as one of the sides. The vertices and centres of AC are marked on the grid.

(b) Draw parallelogram ABCD. The length of AB is twice the length of AD. Triangle ABC must not overlap with parallelogram ABCD.

Question 1 is 5 empty 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 asked. (10 marks)

1. Apple bought $\frac{2}{3}$ m of ribbon. He used $\frac{1}{4}$ m of it to make a parcel and $\frac{1}{8}$ m of it to decorate a banner. How many metres of ribbon has he left? Give your answer as a mixed number.

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 $\angle DAC + \angle DEC = 180^\circ - \angle ACB = 110^\circ$

7. Team A played against Team B in a basketball match. 520 children watched the basketball match. 70% of the children were boys.

(a) How many girls watched the basketball match?
 $520 \times 30\% = 156$

(b) 45 of the girls supported Team B and the rest of the girls supported Team A. What percentage of the girls supported Team A?

$156 - 45 = 111$
 $\frac{111}{156} \times 100\% = 71\%$

8. The total cost of 2 identical blue and 3 identical orange pens is \$15. The total cost of 5 such blue and 8 such orange pens is \$24. What was the cost of 1 such orange pen?

$2B + 3O \rightarrow 15$
 $5B + 8O \rightarrow 24$
 $10B + 6O \rightarrow 30$
 $10B + 8O \rightarrow 24$
 $2O \rightarrow 6$
 $O \rightarrow 3$

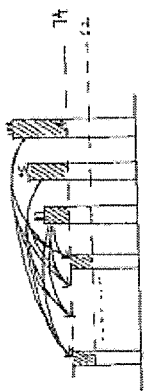
Ans: 3
 Avg: _____

10. 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 \$120. How much more money did Peter have than Chris?

$3:5:2$
 $6:9:2$
 $4x \Rightarrow 4x + 3x$
 $1x \Rightarrow 5x + 2x = 7x$
 $9x \Rightarrow 7x$
 $7x \Rightarrow 7x + 2x = 9x$

Ans: (B) \$120

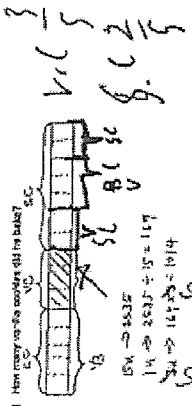
10. The average mark for 40 girls at school is 74. The top 3 students scored 87, 85 and 83. What was the average mark for the remaining 37 girls?



Sum of top 3 marks above avg $\Rightarrow (87-74) + (85-74) + (83-74) = 60$
 Difference in avg $\Rightarrow 74 - 74 = 0$
 No. of students (excluding top 3) $\Rightarrow 60 \div 0 = 0$
 Total students $\Rightarrow 5 \times 3 = 15$

Ans: (B) 74

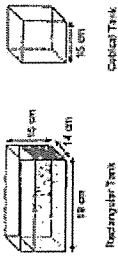
11. How many 200-cent coins are there if the remaining money was used to buy 10 more 50-cent coins? The total amount of money was \$10.00.



How many 200-cent coins are there? $\Rightarrow 10 \div 2 = 5$
 How many 50-cent coins are there? $\Rightarrow 10 \div 0.5 = 20$
 Total number of coins $\Rightarrow 5 + 20 = 25$
 Total amount of money $\Rightarrow 25 \times 0.4 = 10$

Ans: (A) 10

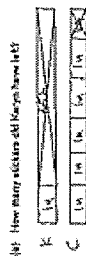
12. A rectangular tank measuring 70 cm by 14 cm by 15 cm is filled with water. All the water is transferred into a smaller cubical tank with side measuring 15 cm deep.



What is the volume of water in the smaller tank? $\Rightarrow 15 \times 15 \times 15 = 3375 \text{ cm}^3$
 How much more water has to be added so that the cubical tank is full with water? $\Rightarrow 3375 - 1584 = 1791 \text{ cm}^3$
 The ratio of the volume of water in the smaller tank to the larger tank is $\Rightarrow 3375 : 1584 = 125 : 176$

Ans: (B) 1791

13. Kevin and Cheryl had an equal number of stickers at first. After Kevin used 200 stickers and Cheryl had 80 stickers left, Cheryl had 3 times as many stickers as Kevin.



$14 \Rightarrow 14 \times 3 = 42$
 $42 \Rightarrow 42 - 200 = 158$

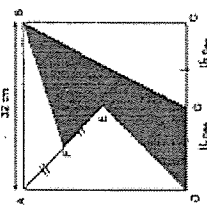
Ans: (A) 42

14. How many stickers did each girl have at first?

$42 + 200 = 242$

Ans: (B) 42

14. ABCD is a square. AB = 12 cm. DS = DC and AS = BE and DE = EA.



Find the area of the shaded triangle. $\Rightarrow 32 \div 2 = 16$

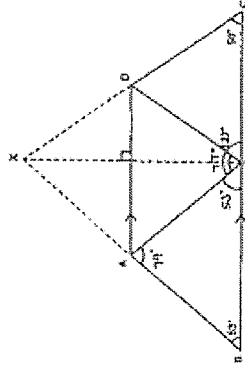
Ans: (A) 16

15. Find the area of the shaded parts.

Area of $\triangle ABE = 7 \times 7 = 49$ (same base and height)
 $\triangle ABE \Rightarrow 32 \times 12 \div 2 = 192$
 $\triangle ABE \Rightarrow 192 - 49 = 143$
 Total shaded area $\Rightarrow 143 + 256 = 399$

Ans: (B) 399

15. A piece of triangular paper is folded into a shape as shown in the diagram below. $\angle ADB = 51^\circ$, $\angle BDC = 60^\circ$ and $\angle AOC = 127^\circ$.



Find $\angle AOC$.

$\angle AOC = 180^\circ - 51^\circ - 60^\circ = 69^\circ$

Ans: (B) 69

16. Find $\angle AOC$.

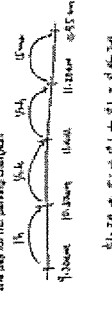
$\angle AOC = 180^\circ - 51^\circ - 60^\circ = 69^\circ$

Ans: (B) 69

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

Parking Charges	
1st hour or less	\$1.20
For every additional 1/2 hour or part thereof	\$1.00
After 5 pm, all rates increased 50%	\$5.00 per day

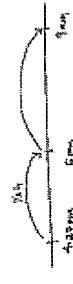
17. How many parking charges are there in 10.45 hours? How much did he pay for his parking charges?



$10.45 \div 0.5 = 20.9$
 $20.9 \div 2 = 10.45$

Ans: (A) \$11.20

18. How many stickers did each girl have at first?



$42 \div 2 = 21$

Ans: (B) 21

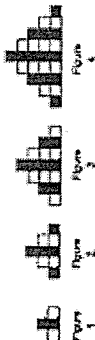
13) Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
Mr. Lim paid \$5 when he parked his car from 8 p.m. till 10 p.m. on Monday evening. \$40 is not.	✓		
Mr. Lim paid \$20 when he parked his car for 30 minutes.			✓
Some cars entered at 8 p.m. and exited at 8.30 p.m. on the same day. The parking charges for these cars were \$20.		✓	

if any car paid after 8 p.m.

if any car paid after 8 p.m.

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



18) The table shows the number of grey and white squares for the four figures. Complete the table for figures 5.

Figure number	1	2	3	4	5
Number of grey squares	1	1	1	1	1
Number of white squares	0	1	2	3	4
Total number of squares	1	2	3	4	5

19) Find the number of white squares in figure 5.

$$\begin{aligned}
 4 + 1 &= 5 \\
 5 + 1 &= 6 \\
 6 + 1 &= 7 \\
 7 + 1 &= 8 \\
 8 + 1 &= 9
 \end{aligned}$$

20) Find the total number of squares in figure 46.

$$\begin{aligned}
 47 + 1 &= 48 \\
 48 + 1 &= 49
 \end{aligned}$$

Answer: 49

End of Paper

Answer: 40

18

17