

NANYANG PRIMARY SCHOOL

**END-OF-YEAR EXAMINATION
2024**

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)

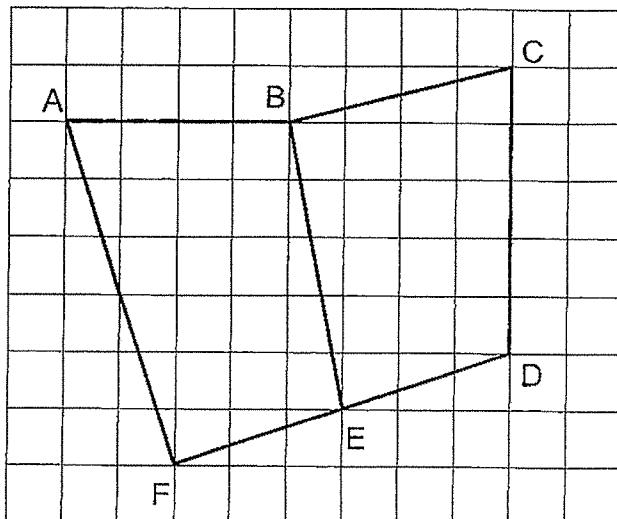
1 In the number 87.65, the digit _____ is in the tenths place.

- (1) 8
- (2) 7
- (3) 6
- (4) 5

2 Express 7045 grams in kilograms.

- (1) 7.045 kg
- (2) 7.45 kg
- (3) 70.45 kg
- (4) 704.5 kg

3 In the square grid below, which line is perpendicular to FD?



- (1) AF
- (2) BC
- (3) BE
- (4) ED

4 A printer can print 12 pages in 60 seconds. How long will this printer take to print 30 pages?

(1) 24 seconds
(2) 120 seconds
(3) 126 seconds
(4) 150 seconds

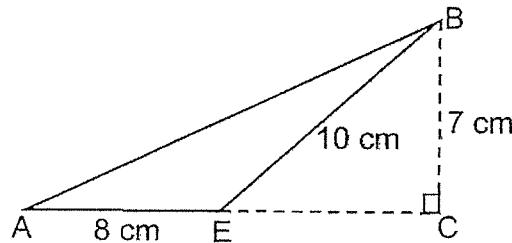
5 Susan baked 80 cupcakes. 56 of them were strawberry cupcakes and the rest were chocolate cupcakes. What percentage of the cupcakes baked were strawberry cupcakes?

(1) 24%
(2) 30%
(3) 56%
(4) 70%

6 Muthu had \$220. He spent 20% of his money. How much money did he spend?

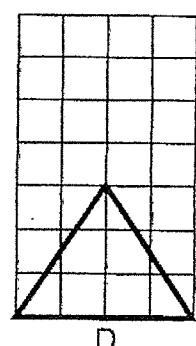
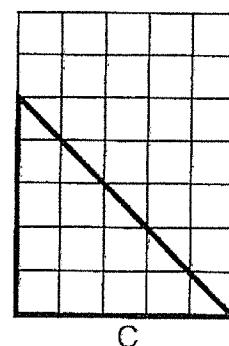
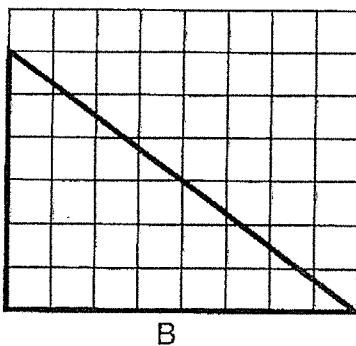
(1) \$11
(2) \$44
(3) \$176
(4) \$200

7 In the figure below, AEC is a straight line and BC is perpendicular to AC. $AE = 8 \text{ cm}$, $BE = 10 \text{ cm}$ and $BC = 7 \text{ cm}$. What is the area of triangle ABE?



- (1) 28 cm^2
- (2) 40 cm^2
- (3) 56 cm^2
- (4) 80 cm^2

8 In the square grids below, which of the following is true for the following triangles?

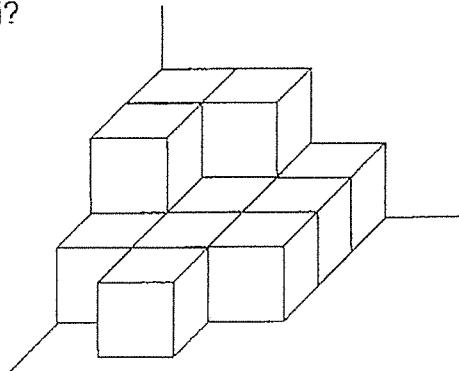


- (1) B is an obtuse-angled triangle.
- (2) C is an equilateral triangle.
- (3) A and D are isosceles triangles.
- (4) B and D are right-angled triangles.

9 In a class of 45 children, 27 are girls and the rest are boys. What is the ratio of the number of boys to the number of girls?

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

10 The figure below shows a solid formed using 1-cm cubes. What is the volume of the solid?



- (1) 9 cm^3
- (2) 10 cm^3
- (3) 12 cm^3
- (4) 13 cm^3

11 $\frac{1}{3}$ of a number is 15. What is the number?

- (1) 5
- (2) 12
- (3) 18
- (4) 45

12 Arrange the following fractions from the smallest to the greatest.

$$\frac{1}{10}, \frac{2}{7}, \frac{1}{3}, \frac{2}{21}$$

	<u>Smallest</u>	<u>Greatest</u>
(1)	$\frac{1}{3}, \frac{1}{10}, \frac{2}{7}, \frac{2}{21}$	
(2)	$\frac{2}{21}, \frac{2}{7}, \frac{1}{10}, \frac{1}{3}$	
(3)	$\frac{2}{21}, \frac{1}{10}, \frac{2}{7}, \frac{1}{3}$	
(4)	$\frac{1}{10}, \frac{1}{3}, \frac{2}{21}, \frac{2}{7}$	

13 Find the average of the following 5 numbers.

0

24

36

36

44

(1) 28

(2) 35

(3) 36

(4) 140

14 Peter made a total of 12 800 keychains in 40 weeks.

The number of keychains he made each day from Monday to Wednesday was twice as many as the number of keychains he made each day from Thursday to Friday.

He did not make any keychains on Saturdays and Sundays.

How many keychains did he make every Friday?

(1) 32

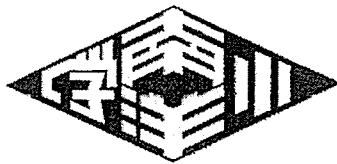
(2) 40

(3) 46

(4) 64

15 A tank contained 5.4 l of water. All the water was poured into three empty bottles. The first bottle contained twice as much water as the second bottle. The second bottle contained 3 times as much water as the third bottle. How much water was there in the second bottle?

(1) 2.70 l
(2) 1.62 l
(3) 0.90 l
(4) 0.54 l



NANYANG PRIMARY SCHOOL

**END-OF-YEAR EXAMINATION
2024**

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)

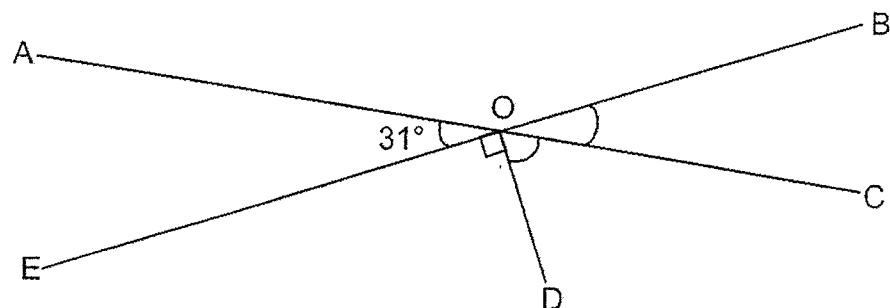
16 Find the value of $(87 - 3 \times 7) \div 6 - (2 + 2)$

Ans: _____

17 Find the value of $3 \div 8$. Express your answer as a decimal.

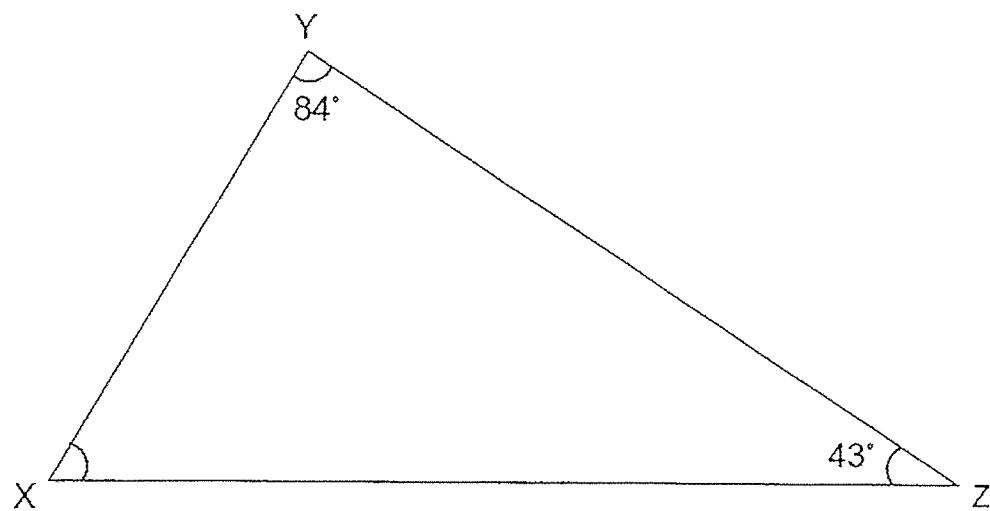
Ans: _____

18 In the figure below, AOC and BOE are straight lines. $\angle AOE = 31^\circ$ and $\angle DOE = 90^\circ$. Find $\angle COD$.



Ans: _____ °

19 XYZ is a triangle. $\angle XYZ = 84^\circ$ and $\angle YZX = 43^\circ$. Find $\angle ZXY$.



Ans: _____ °

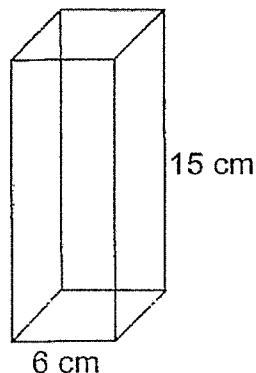
20 What is the missing number in the box?

$$\boxed{\quad} : 9 = 54 : 81$$

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 A cuboid of height 15 cm has a square base of 6 cm. What is the volume of the cuboid?



Ans: _____ cm³

22 What is the product of $\frac{2}{7}$ and $\frac{5}{12}$?

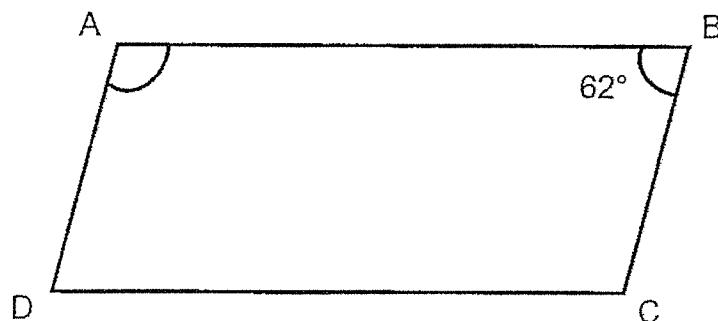
Express your answer as a fraction in the simplest form.

Ans: _____

23 Ahmad bought 4 bottles of oil. Each bottle contained $\frac{3}{4}$ litres of oil.
He then used $\frac{3}{10}$ litres of oil. How many litres of oil had Ahmad left?

Ans: _____ l

24 In the figure below, ABCD is a parallelogram. $\angle ABC = 62^\circ$.
Find $\angle DAB$.



Ans: _____ °

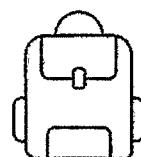
25 A tin of paint costs \$24.50. Steve needs to buy 7 tins of paint, but he is short of \$5. How much money does Steve have?

Ans: \$ _____

26 A factory produced some toys. All the toys were placed into boxes of 65 with no left over. There were 396 such boxes. Round the number of toys produced by the factory to the nearest thousand.

Ans: _____

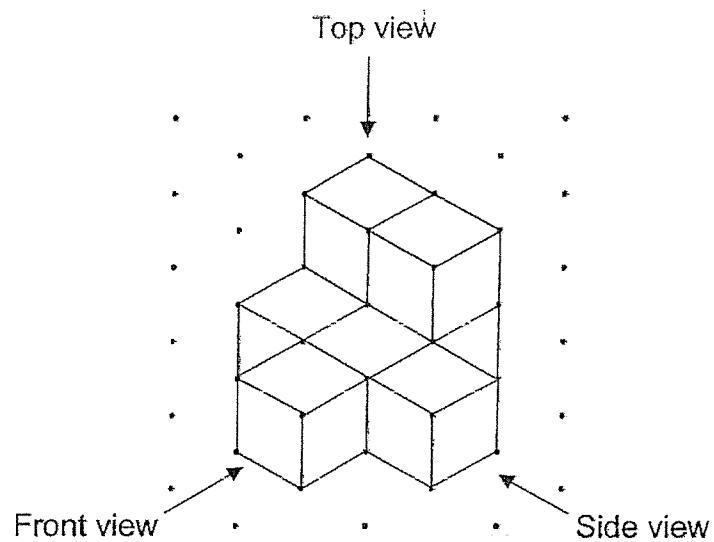
27 What is the price of the backpack after a discount of 8%?



Usual price: \$50

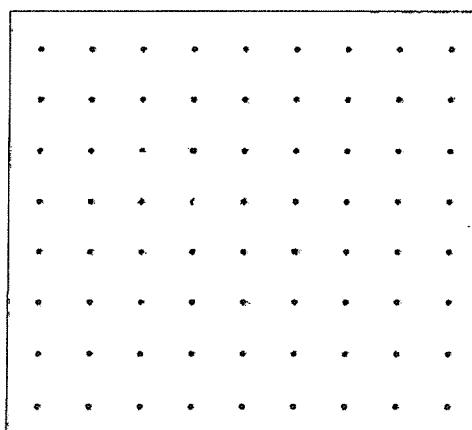
Ans: \$ _____

28 Louis built a solid using 8 unit cubes.

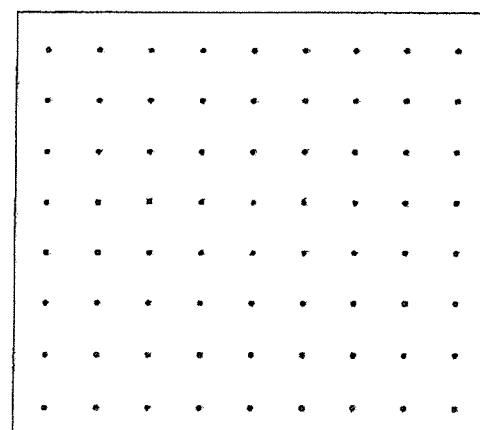


Draw the front view and the side view of the solid on the grids below.

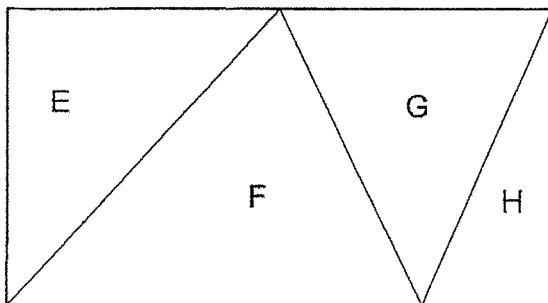
Front view



Side view



29 A rectangle is made up of 4 triangles E, F, G and H. The area of triangle F is 3 times the area of triangle H. The area of triangle H is 12 cm^2 . What is the area of the rectangle?

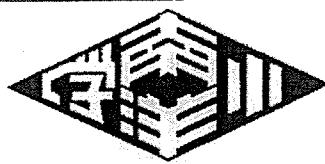


Ans: _____ cm^2

30 At first, the average number of coins owned by a group of boys was 7. A new boy who owned 63 coins joined the group and the new average number of coins owned by the boys became 11. How many boys were there at first?

Ans: _____

End of Paper



NANYANG PRIMARY SCHOOL

**END-OF-YEAR EXAMINATION
2024**

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 Mr Tan used $2\frac{1}{8}$ l of water on Monday. He used $3\frac{2}{5}$ l of water on Tuesday. How much water did Mr Tan use on both days? Give your answer as a mixed number in the simplest form.

Ans: _____ l

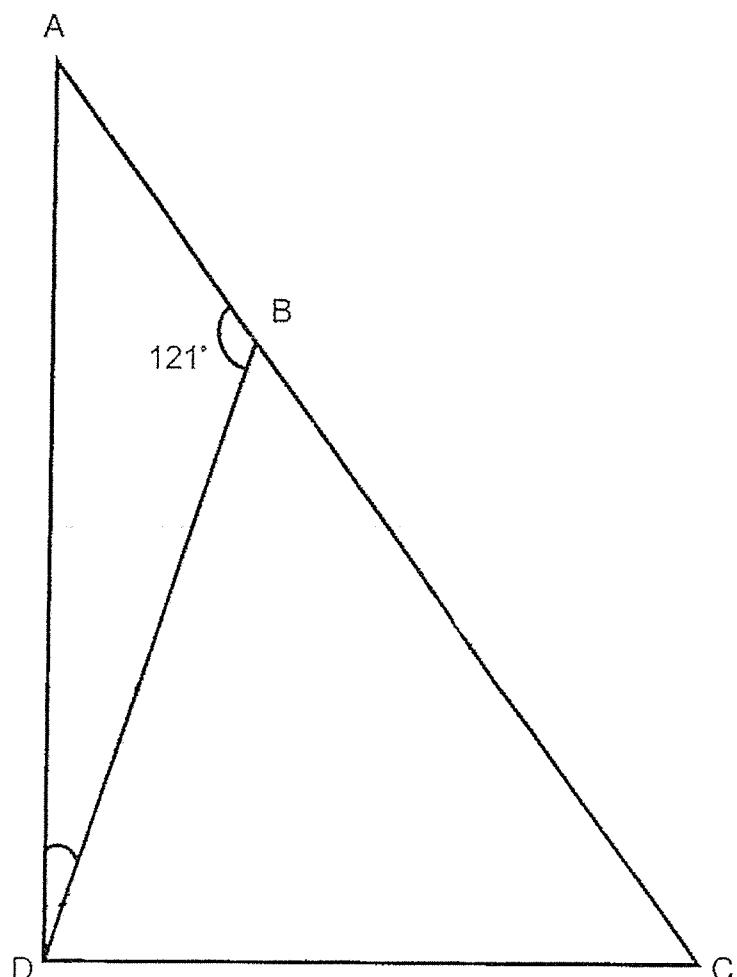
2 Sandy jogged $4\frac{4}{5}$ km each day last week. What was the total distance she jogged from Wednesday to Saturday last week? Give your answer as a mixed number in the simplest form.

Ans: _____ km

3 The average mass of 6 girls and 1 boy is 47 kg. The average mass of the girls is 45 kg. What is the mass of the boy?

Ans: _____ kg

4 ACD is a right-angled triangle. $\angle ADC = 90^\circ$. $BD = CD$.
Find $\angle ADB$.



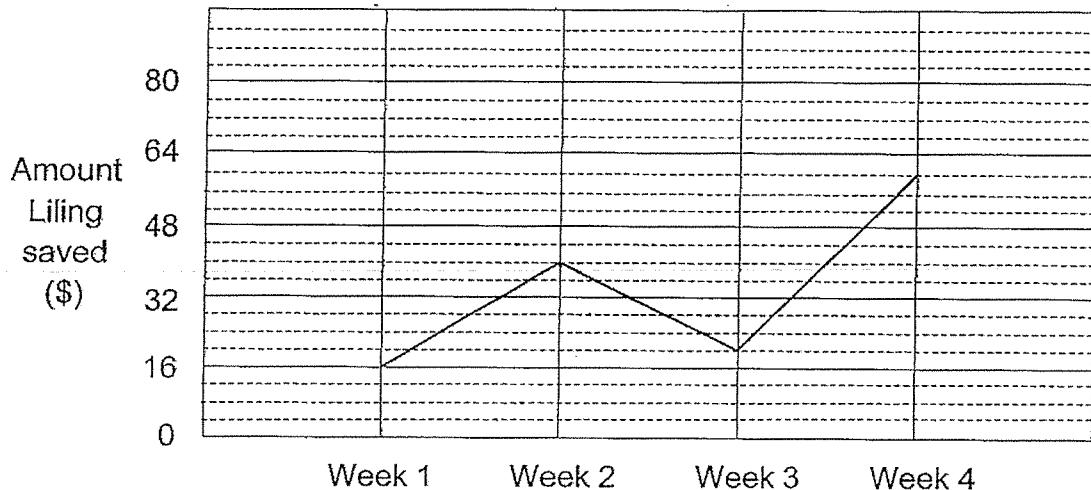
Ans: _____

5 Meili has a roll of ribbon to give to a group of friends. If she gives 0.7 m of ribbon to each of her friends, she will have 0.4 m of ribbon left. If she gives 0.8 m of ribbon to each of her friends, she will be short of 0.3 m of ribbon. What is the length of the roll of ribbon Meili has?

Ans: _____ m

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 line graph below shows the amount of money Liling saved each week over a period of 4 weeks.



(a) In which week did Liling save twice the amount of money she saved in Week 3?

Ans: (a) Week _____ [1]

(b) How much did Liling save in Week 4?

Ans: (b) _____ [1]

(c) How much less money did Liling save in Week 1 than in Week 2?

Ans: (c) _____ [1]

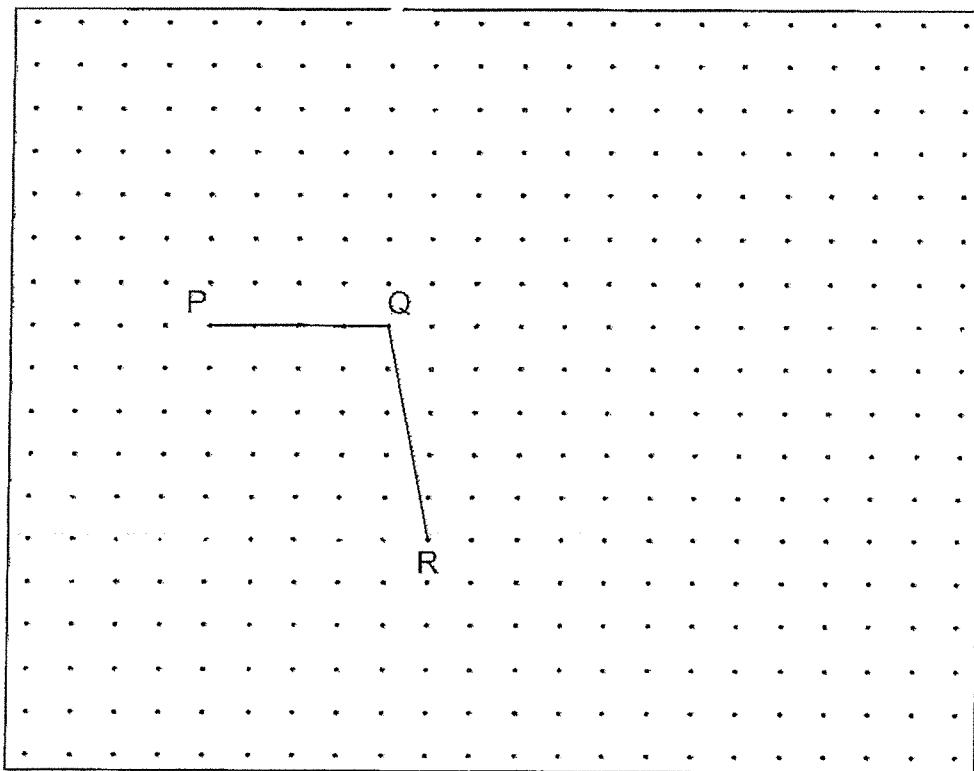
7 Two apples cost \$0.30 more than a pear. The pear costs \$0.45 more than each apple. How much will 2 such pears and 1 such apple cost altogether?

Ans: _____ [3]

8 At first, Mary had 60 erasers and 85 pencils. After she gave away some erasers and 20% of the pencils, she had a total of 118 erasers and pencils left. How many erasers did Mary give away?

Ans: _____ [3]

9 Lines PQ and QR are drawn on a square grid inside a box.



By joining dots on the grid with straight lines,

(a) draw a trapezium PQRS such that PQ is parallel to SR and SR is twice the length of PQ.

[1]

(b) draw a rhombus QRYZ such that it does not overlap with trapezium PQRS.

[2]

10 A bag contained some green balls and some yellow balls in the ratio 4 : 11. The number of green balls in the bag is 180.

(a) How many yellow balls are there in the bag?

Ans: (a) _____ [1]

(b) Mrs Singh added some red balls into the bag.

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
The total number of balls in the bag is 645.			
The ratio of the number of red balls to the number of green balls is 3 : 8.			
After Mrs Singh packed the yellow balls equally into 3 boxes, the number of yellow balls in each box is less than the number of green balls in the bag.			

[2]

11 Sam read 35 pages more than $\frac{2}{7}$ of his storybook. There were 175 pages left to be read.

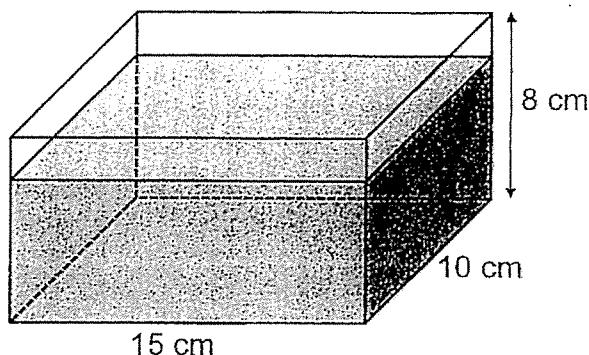
(a) What was the total number of pages in his storybook?

Ans: (a) _____ [3]

(b) How many pages did Sam read?

Ans: (b) _____ [1]

12 Kevin had a pail containing 6500 ml of water. He poured water from the pail into an empty rectangular container measuring 15 cm by 10 cm by 8 cm until the rectangular container was $\frac{5}{6}$ -filled with water.



(a) Find the volume of water Kevin poured into the rectangular container.

Ans: (a) _____ [1]

(b) The remaining amount of water left in the pail was then poured into empty identical bottles. Each bottle was filled to the brim. The capacity of each bottle was 575 ml. How many such bottles were completely filled with water?

Ans: (b) _____ [3]

13 A factory worker packed 880 marbles into four boxes, A, B, C and D. Box A had the greatest number of marbles and Box D had the least number of marbles. The difference in the number of marbles between Box A and the number of marbles in the other three boxes were 14, 114 and 312.

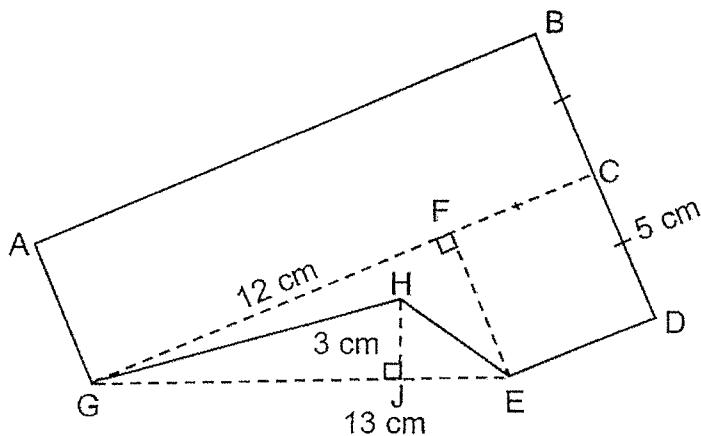
(a) Find the difference in the number of marbles between Box B and Box C.

Ans: (a) _____ [1]

(b) How many marbles were there in Box D?

Ans: (b) _____ [3]

14 The outline of figure ABDEHG below is formed by a square, a rectangle and 2 triangles. BCD, GJE and GFC are straight lines. $EG = 13 \text{ cm}$, $FG = 12 \text{ cm}$, $HJ = 3 \text{ cm}$ and $BC = CD = 5 \text{ cm}$.



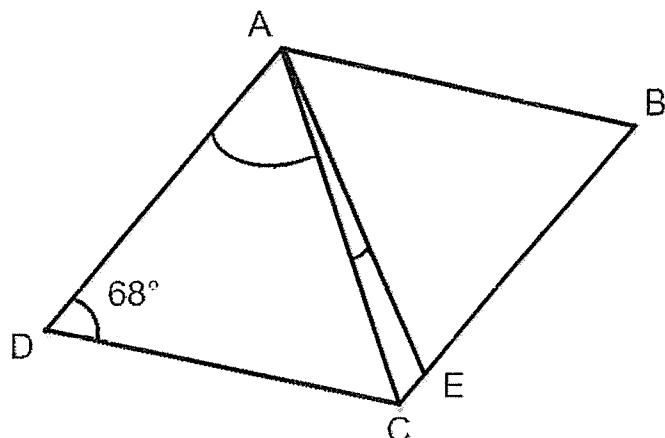
(a) Find the area of triangle GHE.

Ans: (a) _____ [1]

(b) Find the area of figure ABDEHG.

Ans: (b) _____ [3]

15 In the figure below, ABCD is a rhombus. $AE = CD$ and $\angle ADC = 68^\circ$.



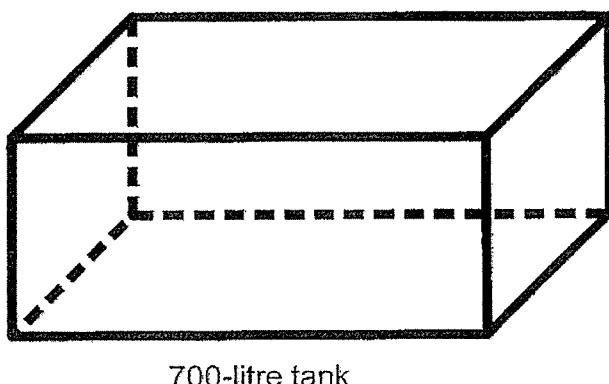
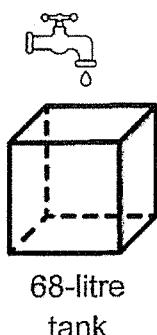
(a) Find $\angle DAC$.

Ans: (a) _____ [1]

(b) Find $\angle CAE$.

Ans: (b) _____ [3]

16 A tap was turned on to fill an empty 68-litre tank. It took 8 minutes to fill the tank completely.



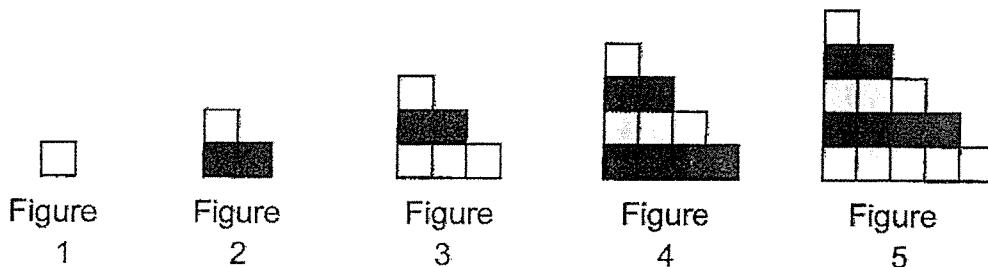
(a) What was the rate of flow of water from the tap in litres per minute?

Ans: (a) _____ [2]

(b) The same tap was used to fill an empty 700-litre tank and was turned off after 75 minutes. How much more water was needed to completely fill the 700-litre tank?

Ans: (b) _____ [3]

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



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

Figure Number	1	2	3	4	5	6
Number of grey squares	0	2	2	6	6	
Number of white squares	1	1	4	4	9	
Total number of squares	1	3	6	10	15	

[1]

(b) Find the number of white squares in Figure 10.

Ans: (b) _____ [2]

(c) Find the total number of squares in Figure 77.

Ans: (c) _____ [2]

End of Paper

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 the number 87.65, the digit _____ is in the tenths place.

(1) 8
(2) 7
(3) 6
(4) 5

(3)

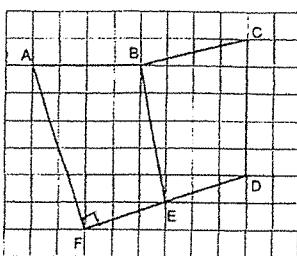
2 Express 7045 grams in kilograms.

(1) 7.045 kg
(2) 7.45 kg
(3) 70.45 kg
(4) 704.5 kg

$$7045 \text{ g} = 7.045 \text{ kg}$$

(1)

3 In the square grid below, which line is perpendicular to FD?



(1) AF
(2) BC
(3) BE
(4) ED

(1)

4 A printer can print 12 pages in 60 seconds. How long will this printer take to print 30 pages?

(1) 24 seconds
(2) 120 seconds
(3) 126 seconds
(4) 150 seconds

$$\begin{aligned} 12 \text{ pages} &\rightarrow 60 \text{ s} \\ 1 \text{ page} &\rightarrow \frac{60}{12} \text{ s} \\ &= 5 \text{ s} \quad (4) \\ 30 \text{ pages} &\rightarrow 30 \times 5 \text{ s} \\ &= 150 \text{ s} \end{aligned}$$

5 Susan baked 80 cupcakes. 56 of them were strawberry cupcakes and the rest were chocolate cupcakes. What percentage of the cupcakes baked were strawberry cupcakes?

(1) 24%
(2) 30%
(3) 56%
(4) 70%

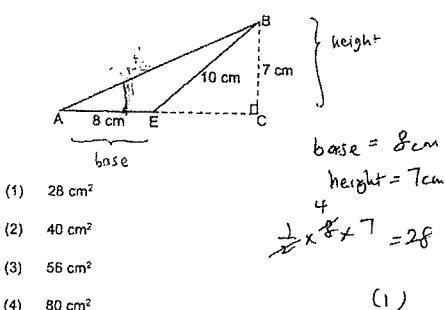
$$\begin{aligned} &\frac{56}{80} \times 100\% \\ &= 70\% \quad (4) \end{aligned}$$

6 Muthu had \$220. He spent 20% of his money. How much money did he spend?

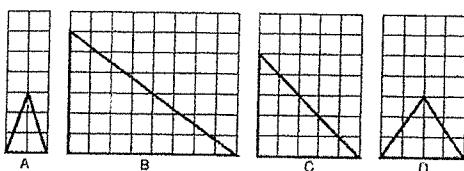
(1) \$11
(2) \$44
(3) \$176
(4) \$200

$$\begin{aligned} &\frac{20}{100} \times 220 \\ &= 44 \quad (2) \end{aligned}$$

7. In the figure below, AEC is a straight line and BC is perpendicular to AC. AE = 8 cm, BE = 10 cm and BC = 7 cm. What is the area of triangle ABE?



8. In the square grids below, which of the following is true for the following triangles?



(1) B is an obtuse-angled triangle. (B is a right-angled triangle)
(2) C is an equilateral triangle. (the longer side is not the same length as the other 2)
(3) A and D are isosceles triangles. True (3)
(4) D and D are right-angled triangles. (D is not a right-angled triangle)

9. In a class of 45 children, 27 are girls and the rest are boys. What is the ratio of the number of boys to the number of girls?

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

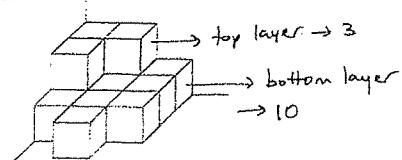
$$45 - 27 = 18 \text{ boys}$$

$$B : G$$

$$\frac{18}{9} : \frac{27}{9}$$

$$= 2 : 3 \quad (1)$$

10. The figure below shows a solid formed using 1-cm cubes. What is the volume of the solid?



(1) 9 cm³
(2) 10 cm³
(3) 12 cm³
(4) 13 cm³

(4)

11. $\frac{1}{3}$ of a number is 15. What is the number?

(1) 5
(2) 12
(3) 18
(4) 45

$$\frac{1}{3} \text{ of } X \rightarrow 15$$

$$\frac{3}{3} \text{ of } X \rightarrow 15 \times 3$$

$$= 45$$

(4)

12. Arrange the following fractions from the smallest to the greatest.

$$\frac{1}{10}, \frac{2}{7}, \frac{1}{3}, \frac{2}{21}$$

Smallest Greatest

(1) $\frac{1}{3}, \frac{1}{10}, \frac{2}{7}, \frac{2}{21}$ Comparing
(2) $\frac{2}{21}, \frac{2}{7}, \frac{1}{10}, \frac{1}{3}$ Same numerators, bigger denominators are smaller fractions
(3) $\frac{2}{21}, \frac{1}{10}, \frac{2}{7}, \frac{1}{3}$ Hence, smallest \rightarrow greatest
(4) $\frac{1}{10}, \frac{1}{3}, \frac{2}{21}, \frac{2}{7}$

(3) $\frac{2}{21}, \frac{2}{20}, \frac{2}{7}, \frac{2}{6}$
 $\downarrow \downarrow$
 $\frac{1}{10}, \frac{2}{3}$
 $= \frac{2}{21}, \frac{1}{10}, \frac{2}{7}, \frac{1}{3}$

13. Find the average of the following 5 numbers.

0	24	36	36	44
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$$\frac{60 + 24 + 36 + 36 + 44}{5}$$

$$= \frac{180}{5} = 36$$

(1)

14. Peter made a total of 12 800 keychains in 40 weeks. The number of keychains he made each day from Monday to Wednesday was twice as many as the number of keychains he made each day from Thursday to Friday. He did not make any keychains on Saturdays and Sundays. How many keychains did he make every Friday?

Drawing model.

(1) 32
(2) 40
(3) 46
(4) 64

Mon Tue Wed Thu Fri

$\frac{12800}{40} = 320$ (1 week)

$$8u = 320$$

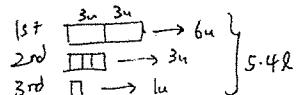
$$1u = 320 \div 8$$

$$= 40$$

(2)

15. A tank contained 5.4 l of water. All the water was poured into three empty bottles. The first bottle contained twice as much water as the second bottle. The second bottle contained 3 times as much water as the third bottle. How much water was there in the second bottle?

(1) 2.70 l
(2) 1.62 l
(3) 0.90 l
(4) 0.54 l



$$10u = 5.4 \text{ l}$$

$$1u = \frac{5.4 \text{ l}}{10}$$

$$= 0.54 \text{ l}$$

(4)

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 $(87 - 3 \times 7) \div 6 - (2 + 2)$

$$\begin{aligned}
 & (87 - 3 \times 7) \div 6 - (2 + 2) \\
 & = (87 - 21) \div 6 - 4 \\
 & = 66 \div 6 - 4 \\
 & = 11 - 4 \\
 & = 7
 \end{aligned}$$

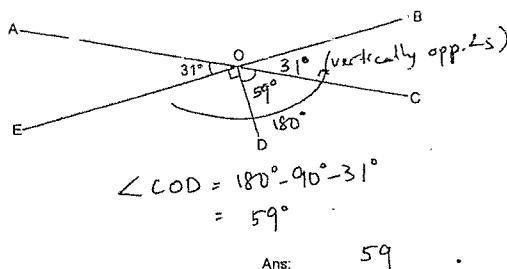
Ans: 7

17 Find the value of $3 \div 8$. Express your answer as a decimal.

$$\begin{array}{r}
 3 \times 125 = 375 \\
 8 \times 125 \quad 1000 \\
 \hline
 0.375
 \end{array}$$

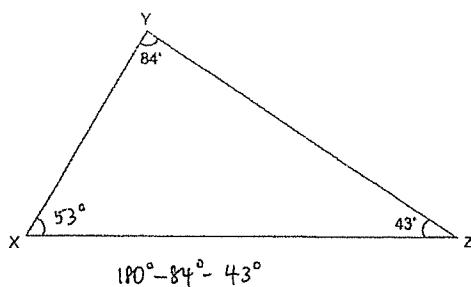
Ans: 0.375

18 In the figure below, AOC and BOE are straight lines. $\angle AOE = 31^\circ$ and $\angle DOE = 90^\circ$. Find $\angle COD$.



Ans: 59

19 XYZ is a triangle. $\angle XYZ = 84^\circ$ and $\angle YZX = 43^\circ$. Find $\angle ZXY$.



Ans: 53

20 What is the missing number in the box?

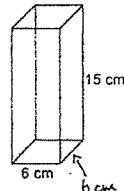
$$\begin{array}{r}
 \boxed{ } : 9 = 54 : 81 \\
 \times 1 \quad \times 9
 \end{array}$$

$$54 \div 9 = 6$$

Ans: 6

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 A cuboid of height 15 cm has a square base of 6 cm. What is the volume of the cuboid?



$$\begin{aligned}
 V_{\text{cuboid}} &= 15 \times 6 \times 6 \\
 &= 90 \times 6 \\
 &= 540
 \end{aligned}$$

Ans: 540 cm³

22 What is the product of $\frac{2}{7}$ and $\frac{5}{12}$?

Express your answer as a fraction in the simplest form.

$$\frac{2}{7} \times \frac{5}{12} = \frac{5}{42}$$

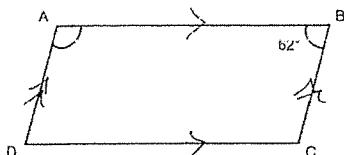
Ans: $\frac{5}{42}$

23 Ahmad bought 4 bottles of oil. Each bottle contained $\frac{3}{4}$ litres of oil. He then used $\frac{3}{10}$ litres of oil. How many litres of oil had Ahmad left?

$$\begin{array}{r} \frac{3}{4} \times 4 = 3 \\ 3 - \frac{3}{10} = 2\frac{10}{10} - \frac{3}{10} \\ = 2\frac{7}{10} \end{array}$$

Ans: $2\frac{7}{10}$

24 In the figure below, ABCD is a parallelogram. $\angle ABC = 62^\circ$. Find $\angle DAB$.



$$\begin{aligned} \angle DAB &= 180^\circ - 62^\circ \text{ (interior } \angle \text{s)} \\ &= 118^\circ \end{aligned}$$

Ans: 118

25 A tin of paint costs \$24.50. Steve needs to buy 7 tins of paint, but he is short of \$5. How much money does Steve have?

$$\begin{aligned} 24.50 \times 7 &= 171.50 \\ 171.50 - 5 &= 166.50 \end{aligned}$$

Ans: \$166.50

26 A factory produced some toys. All the toys were placed into boxes of 65 with no left over. There were 396 such boxes. Round the number of toys produced by the factory to the nearest thousand.

$$\begin{array}{r} 396 \times 65 = 25740 \\ \approx 26000 \\ \hline 25740 \end{array}$$

Ans: 26 000

27 What is the price of the backpack after a discount of 8%?



Usual price: \$50

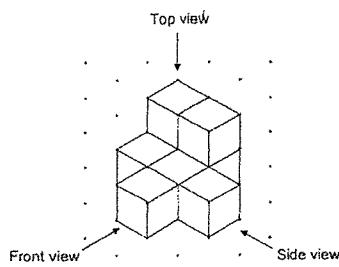
$$\begin{array}{r} \frac{8}{100} \times 50 = 4 \\ 50 - 4 = 46 \end{array}$$

Ans: \$46

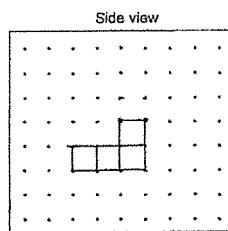
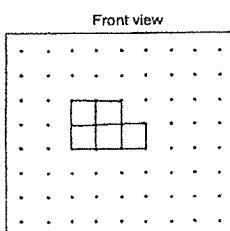
4

5

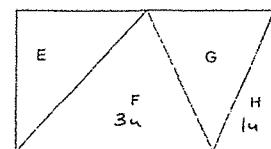
28 Louis built a solid using 8 unit cubes.



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



29 A rectangle is made up of 4 triangles E, F, G and H. The area of triangle F is 3 times the area of triangle H. The area of triangle H is 12 cm². What is the area of the rectangle?



$$\begin{aligned} (3u) (1u) &\rightarrow \frac{1}{2} \text{ of rectangle } \quad 4u \times 2 \\ F + H &\rightarrow \frac{1}{2} \text{ of rectangle } \quad = 8u \end{aligned}$$

$$\begin{aligned} 1u &= 12 \\ 8u &= 12 \times 8 \\ &= 96 \end{aligned}$$

Ans: 96 cm²

30 At first, the average number of coins owned by a group of boys was 7. A new boy who owned 63 coins joined the group and the new average number of coins owned by the boys became 11. How many boys were there at first?

$$\begin{aligned} \text{Difference between old and new averages} \\ &= 11 - 7 \end{aligned}$$

$$\begin{aligned} \text{Difference between additional 63 and new average} \\ &= 63 - 11 \\ &= 52 \end{aligned}$$

$$52 \div 4 = 13$$

Ans: 13

End of Paper

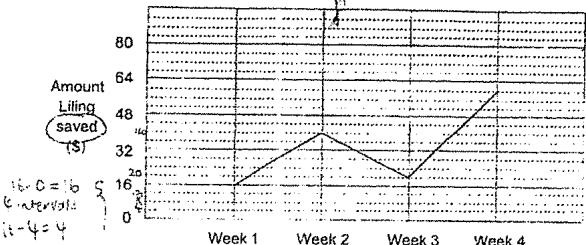
6

5

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 line graph below shows the amount of money Liling saved each week over a period of 4 weeks.



(a) In which week did Liling save twice the amount of money she saved in Week 3?
 $20 \times 2 = 40 \rightarrow \text{Week 2}$
 $\rightarrow \$20$

Ans: (a) Week 2 [1]

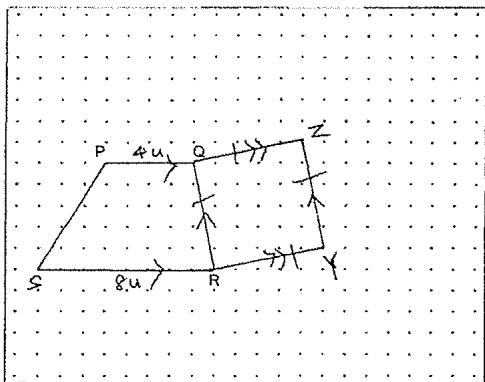
(b) How much did Liling save in Week 4?
 $64 - 4 = 60$

Ans: (b) \$60 [1]

(c) How much less money did Liling save in Week 1 than in Week 2?
 Week 1: \$16 $40 - 16 = 24$
 Week 2: \$40

Ans: (c) \$24 [1]

9 Lines PQ and QR are drawn on a square grid inside a box.



By joining dots on the grid with straight lines,

(a) draw a trapezium PQRS such that PQ is parallel to SR and SR is twice the length of PQ. [1]

(b) draw a rhombus QRYZ such that it does not overlap with trapezium PQRS. (more than 1 possible answer) [2]

7 Two apples cost \$0.30 more than a pear. The pear costs \$0.45 more than each apple. How much will 2 such pears and 1 such apple cost altogether?

Apple	
Pear	

$$\begin{aligned} \text{Cost of 1 apple} &= 0.45 + 0.30 \\ &= 0.75 \\ 1 \text{ pear} &= 0.75 + 0.45 \\ &= 1.2 \end{aligned}$$

$$\begin{aligned} 2 \text{ pear} + 1 \text{ apple} &= 1.2 \times 2 + 0.75 \\ &= 3.15 \end{aligned}$$

Ans: \$3.15 [3]

8 At first, Mary had 60 erasers and 85 pencils. After she gave away some erasers and 20% of the pencils, she had a total of 118 erasers and pencils left. How many erasers did Mary give away?

$$20\% \text{ of } 85 \text{ pencils} \rightarrow 17 \text{ pencils}$$

$$85 - 17 = 68 \text{ (no of pencils left)}$$

$$118 - 68 = 50 \text{ (no of erasers left)}$$

$$60 - 50 = 10$$

Ans: 10 [3]

4

5

10 A bag contained some green balls and some yellow balls in the ratio 4 : 11. The number of green balls in the bag is 180.

(a) How many yellow balls are there in the bag?

$$\begin{aligned} \text{Green} & \quad \text{Yellow} & 4u &= 180 \\ 4 : 11 & \quad 11u & 1u &= 180 \div 4 \\ 45 & \quad 45 & 45 &= 45 \\ 180 : 45 & \quad 11u & 11u &= 11 \times 45 \\ & \quad & &= 495 \end{aligned}$$

Ans: (a) 495 [1]

(b) Mrs Singh added some red balls into the bag.

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
(1)	The total number of balls in the bag is 645.	✓		
(2)	The ratio of the number of red balls to the number of green balls is 3 : 8.	✓		
(3)	After Mrs Singh packed the yellow balls equally into 3 boxes, the number of yellow balls in each box is less than the number of green balls in the bag.	✓		

Statement 1
 (green ball) $\rightarrow 180$
 Yellow ball $\rightarrow 495$
 Total $\rightarrow 180 + 495$
 $= 675$
 $675 > 645$.
 Statement 1 is always false.

Statement 2
 Red Green
 3 8
 67.5 180 2
 $180 \div 8 = 22.5$
 $22.5 \times 3 = 67.5$
 Not possible for ball to not be a whole no.

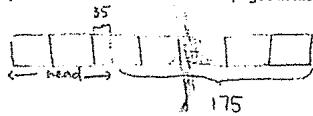
Statement 3 :
 Yellow ball $\rightarrow 495$
 Each box $495 \div 3$
 $= 165$
 Green ball $\rightarrow 180$
 165 is less than 180.
 Statement 3 is true.

6

6

11 Sam read 35 pages more than $\frac{2}{7}$ of his storybook. There were 175 pages left to be read.

(a) What was the total number of pages in his storybook?



$$175 + 35 = 210 \text{ (5 units)}$$

$$1u = 210 \div 5 \\ = 42$$

$$7u = 42 \times 7 \\ = 294$$

Ans: (a) 294 [3]

(b) How many pages did Sam read?

$$2u = 42 \times 2 \\ = 84$$

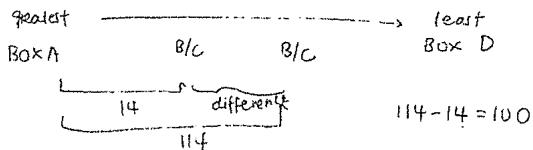
$$84 + 35 = 119$$

Ans: (b) 119 [1]

8

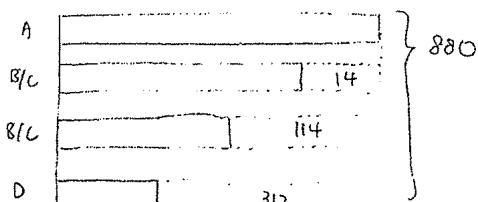
13 A factory worker packed 880 marbles into four boxes, A, B, C and D. Box A had the greatest number of marbles and Box D had the least number of marbles. The difference in the number of marbles between Box A and the number of marbles in the other three boxes were 14, 114 and 312.

(a) Find the difference in the number of marbles between Box B and Box C.



Ans: (a) 100 [1]

(b) How many marbles were there in Box D?



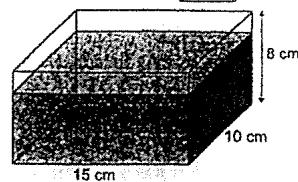
$$880 + 14 + 114 + 312 = 1320$$

$$4 \text{ units of } A = 1320 \\ 1 \text{ unit} = 1320 \div 4 \\ = 330$$

$$330 - 312 = 18$$

Ans: (b) 18 [3]

12 Kevin had a pail containing 6500 ml of water. He poured water from the pail into an empty rectangular container measuring 15 cm by 10 cm by 8 cm until the rectangular container was $\frac{5}{6}$ filled with water.



(a) Find the volume of water Kevin poured into the rectangular container.

$$15 \times 10 \times 8 \times \frac{5}{6} = 1000$$

Ans: (a) 1000 cm³ [1]

(b) The remaining amount of water left in the pail was then poured into empty identical bottles. Each bottle was filled to the brim. The capacity of each bottle was 575 ml. How many such bottles were completely filled with water?

$$6500 - 1000 = 5500 \text{ (remaining)}$$

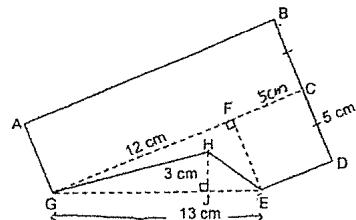
$$5500 \div 575 = 9.56\dots$$

↑
9 filled
1 left over
Some extra

Ans: (b) 9 [3]

9

14 The outline of figure ABDEHG below is formed by a square, a rectangle and 2 triangles. BCD, GJE and GFC are straight lines. EG = 13 cm, FG = 12 cm, TJ = 3 cm and BC = CD = 6 cm.



(a) Find the area of triangle GHE.

$$\frac{1}{2} \times 13 \times 3 = 19.5$$

Ans: (a) 19.5 cm² [1]

(b) Find the area of figure ABDEHG.

$$\begin{aligned} \text{Area of } \triangle GFE &= \frac{1}{2} \times 12 \times 5 \\ &= 30 \end{aligned} \quad \begin{aligned} \text{Area of } \triangle GFE - \text{GHE} &= 30 - 19.5 \\ \text{Area of sq. FCDE} &= 5 \times 5 \\ &= 25 \end{aligned}$$

$$\begin{aligned} \text{Area of } \square ABCG &= (12+5) \times 5 \\ &= 85 \end{aligned}$$

$$\text{Total area} = 19.5 + 25 + 85$$

$$= 120.5$$

Ans: (b) 120.5 cm² [3]

10

11

