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Anglo-Chinese School (Junior)



PRELIMINARY EXAMINATION (2023)

**PRIMARY 6
MATHEMATICS
PAPER 1
(Booklet A)**

18 August 2023

Total Time for Booklets A and Booklet B : 1 hour

Name: _____ () Class: 6.()

INSTRUCTIONS TO CANDIDATES

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

This booklet consists of 8 printed pages.

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

1 Express 56 hundredths as a decimal.

(1) 0.056

(2) 0.56

(3) 5.6

(4) 56.0

2 Round 84 596 to the nearest thousand.

(1) 80 000

(2) 84 000

(3) 84 600

(4) 85 000

3 Which one of the following fractions is closest to $\frac{1}{2}$?

(1) $\frac{7}{8} + \frac{1}{9}$

(2) $\frac{8}{7}$

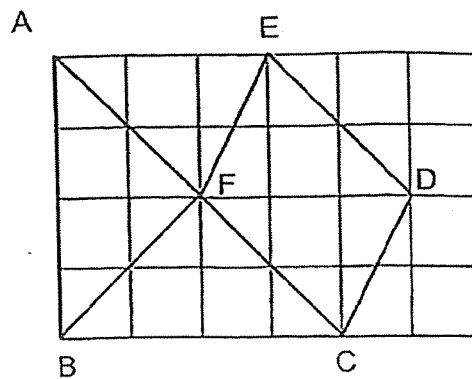
(3) $\frac{8}{9}$

(4) $\frac{9}{8}$

4 How many sixths are there in $2\frac{2}{3}$?

- (1) 16
- (2) 14
- (3) 12
- (4) 8

5 Which of the following lines is perpendicular to AC?



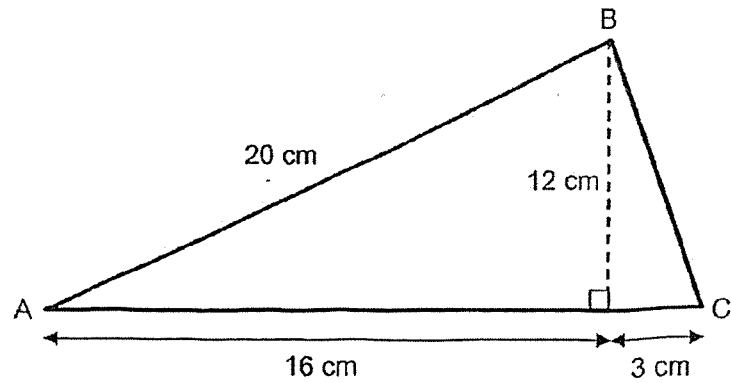
- (1) AB
- (2) CD
- (3) ED
- (4) FB

6 The average mass of a group of 3 boys is 38 kg. Hashim, whose mass is 42 kg, joined the group. What is the average mass of the new group?

- (1) 24 kg
- (2) 39 kg
- (3) 40 kg
- (4) 52 kg

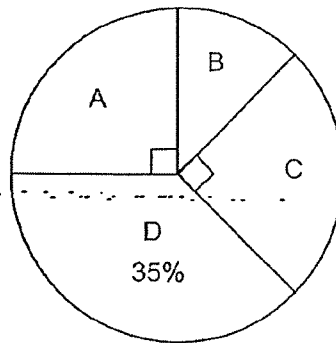
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- 7 Find the area of triangle ABC shown below.



- (1) 96 cm^2
- (2) 114 cm^2
- (3) 190 cm^2
- (4) 228 cm^2

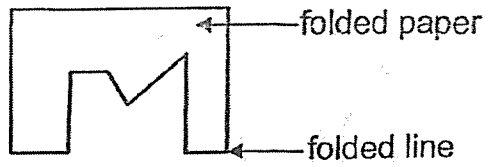
- 8 The pie chart shows how Rory spent his pocket money last month.



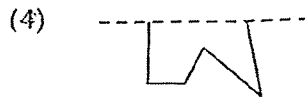
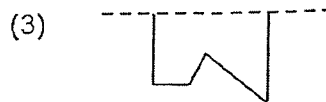
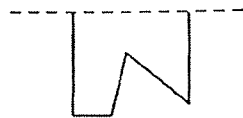
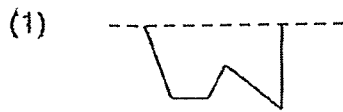
He spent \$30 more on item D than item C. How much did he spend on item B?

- (1) \$70
- (2) \$60
- (3) \$45
- (4) \$25

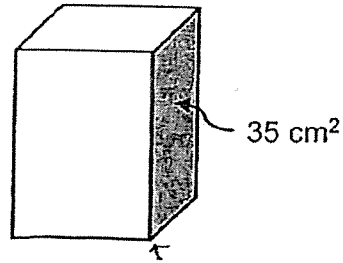
- 9 A piece of paper is folded and a symmetrical figure is cut out from it.



Which one of following shows half of the symmetrical figure that is cut out with the dotted line as the line of symmetry?



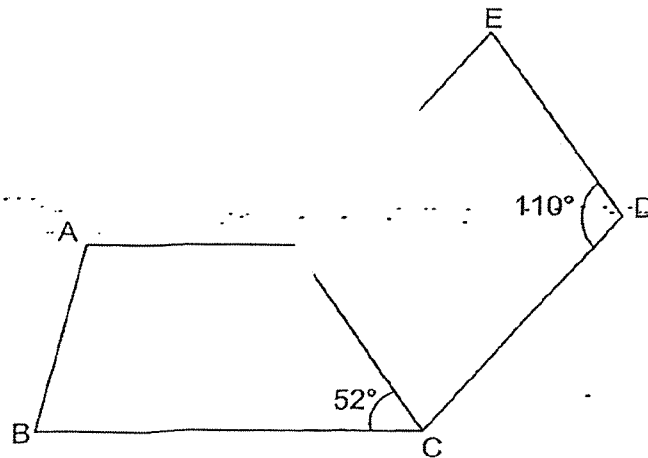
- 10 A cuboid has a square base area of 25 cm^2 . The area of the shaded face is 35 cm^2 .



What is the volume of the cuboid?

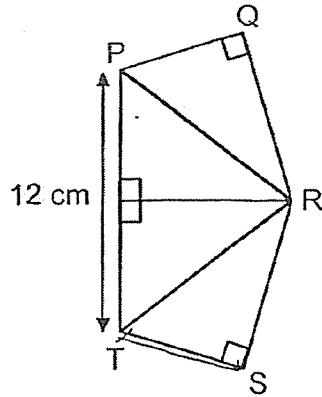
- (1) 125 cm^3
- (2) 175 cm^3
- (3) 245 cm^3
- (4) 875 cm^3

- 11 In the figure below, $ABCF$ is a trapezium and $CDEF$ is a parallelogram. $AF \parallel BC$, $\angle EDC = 110^\circ$ and $\angle BCF = 52^\circ$. Find $\angle AFE$.



- (1) 122°
- (2) 128°
- (3) 140°
- (4) 162°

- 12 Jonathan used 4 identical right-angled triangles to form a figure PQRST shown below. $PT = 12$ cm. The perimeter of the figure is 40 cm. Find the area of PQRST.



- (1) 48 cm^2
 (2) 96 cm^2
 (3) 144 cm^2
 (4) 192 cm^2
- 13 The table shows the parking charges for a motorist in a shopping centre.

	7 am to 6 pm	After 6 pm
1 st hour	\$2.20	\$2.50 per entry
Subsequent 30 minutes or part thereof	\$1.50	

Mr Lim parked his car from 4 p.m. to 7 p.m. How much parking charges did he pay?

- (1) \$6.20
 (2) \$6.90
 (3) \$7.70
 (4) \$8.50

- 14 There were a total of 800 adults and children at a stadium. 70% of them were adults. Some adults left the stadium and the ratio of the number of adults to the number of children became 5 : 3. How many adults left the stadium?
- (1) 60
- (2) 70
- (3) 160
- (4) 210
- 15 Su Lin and Tina made some necklaces over 2 days. On Monday, Su Lin made 17 more necklaces than Tina. On Tuesday, Su Lin made 30 necklaces and Tina made 11 necklaces. At the end of the 2 days, Tina made $\frac{1}{4}$ of the total number of necklaces. How many necklaces did Su Lin make?
- 1) 54
- 2) 57
- 3) 64
- 4) 72

End of Booklet A

(Go on to Booklet B)

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

- 16 Find the value of $85 + 4 \times (15 - 6 \div 3)$.

Ans : _____

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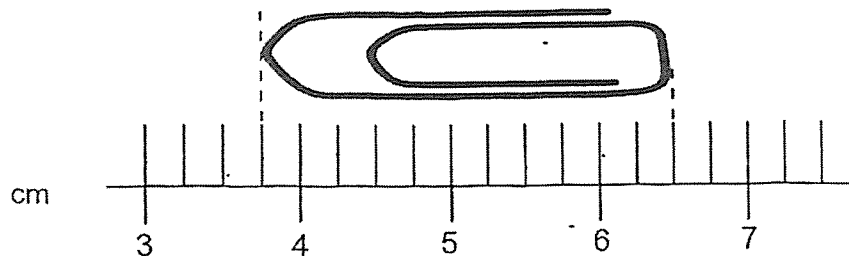
- 17 Find the value of $9000 + 9 + \frac{9}{100} + \frac{9}{1000}$.

Give your answer as a decimal.

Ans : _____

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- 18 ... What is the length of the clip as shown in the diagram?

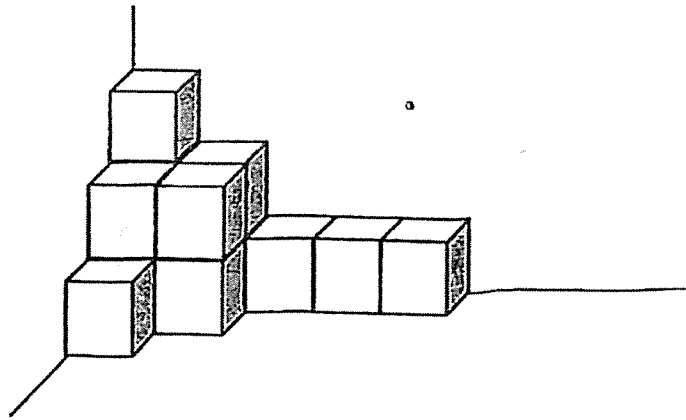


Ans : _____ cm

Sub-Total :

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- 19 The figure below is made up of 1-cm cubes. What is the volume of the figure?

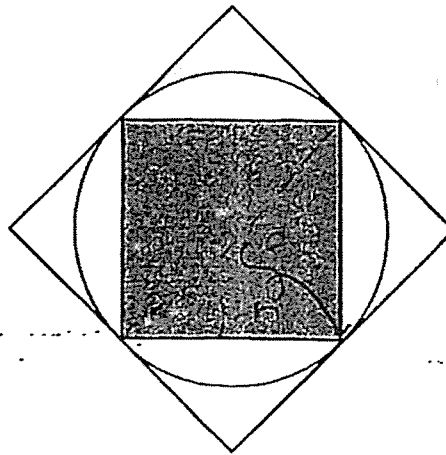


Ans : _____ cm^3

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20

- The figure below shows a circle drawn inside a square. A shaded square is then drawn inside the circle.



What fraction of the figure is shaded?

Ans : _____

Please do not write in the margin.

Sub-Total :

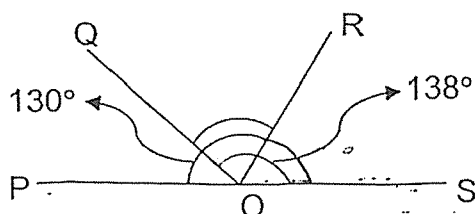
Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which requires units, give your answers in the units stated.
(20 marks)

- 21 Arrange the following from the smallest to the greatest.

$$\frac{21}{5}, 2.15, 2\frac{1}{5}$$

Ans: _____, _____, _____

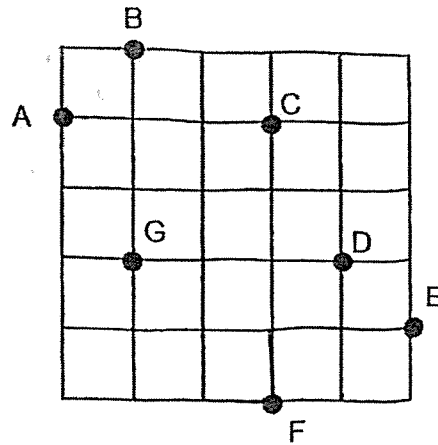
- 22 In the figure, POS is a straight line. $\angle QOS = 138^\circ$ and $\angle POR = 130^\circ$. Find $\angle QOR$.



Ans : _____°

Sub-Total :

- 23 The square grid below shows the positions of points A, B, C, D, E, F and G.



- (a) In what direction is point E from point B?

Ans : _____

- (b) Kayel stood at one of the points facing C. After he turned 45° anti-clockwise, he faced G. Which point was Kayel at?

Ans : Point _____

Sub-Total :

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24

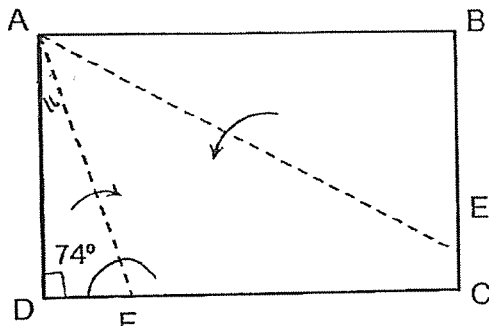
A box with 24 erasers has a mass of 0.67 kg. The same box with 44 similar erasers has a mass of 1.21 kg. Find the mass of 1 eraser. Express your answer in kg.

Ans : _____ kg

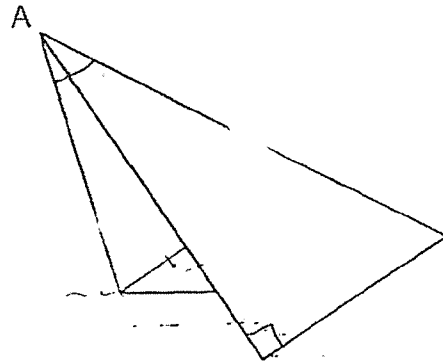
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25

Shane had a rectangular piece of paper ABCD. $\angle AFD = 74^\circ$. He folded it along line AE and AF as shown below. Find $\angle y$.



Before folding



After folding

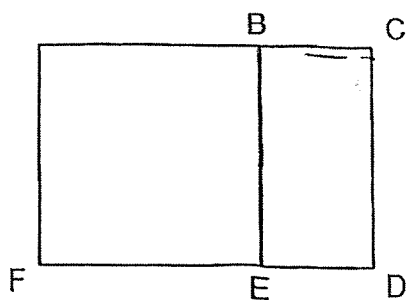
Ans : _____ °

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Sub-Total

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- 26 — Rectangle ACDF shown below is made up of a square and a rectangle. The perimeter of rectangle ACDF is $(2y + 15)$ cm. The perimeter of the square ABEF is 16 cm.



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- (a) Find the perimeter of rectangle BCDE in terms of y . Give your answer in its simplest form.

Please do not write in the margin.

Ans : (a) _____ cm.

- (b) Find the perimeter of the rectangle BCDE when $y = 3$.

Ans : (b) _____ cm

Sub-Total :

- 27 The table below shows the price of economical rice at four different stalls at a hawker centre.

Food	Lowest Price (\$)	Highest Price (\$)
A	4.20	8.80
B	6.00	10.30
C	3.70	6.20
D	4.60	12.50

- (a) Raymond wanted to buy food from 2 of the stalls. He had \$8. Which two stalls could he buy food from?

Ans : (a) Stall _____

and stall _____

- (b) Xue Ling had \$20. She bought food from one of the stalls and had \$9.50 left. Which stall did she buy her food from?

Ans : (b) Stall _____

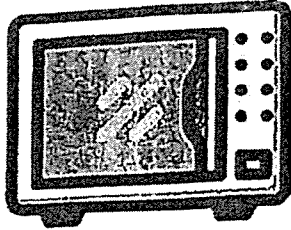
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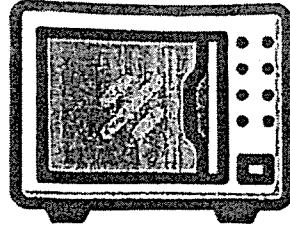
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BIG SALE!!!



Buy first toaster oven at
10% discount



Buy second toaster oven at
20% discount

Price of 2nd toaster oven should be equal to or lower than price of 1st toaster oven.

Uncle Jaime bought 2 toaster ovens at the sale. The two toaster ovens were priced at \$40 and \$60. How much did he pay for the two toaster ovens?

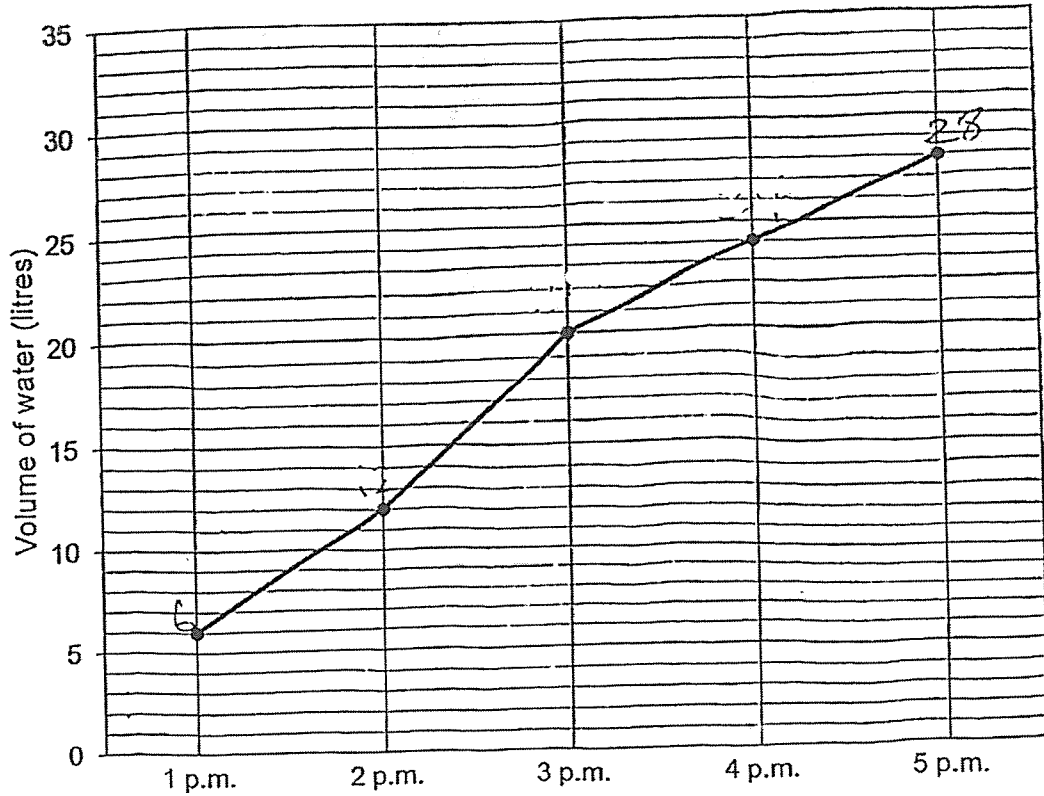
Ans : \$ _____

Sub-Total :

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- 29 The line graph shows the amount of water in a tank from 1 p.m. to 5 p.m. The tank was 20% filled at 1 p.m. Water flowed into the tank from 1 p.m. to 5 p.m.



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Please do not write in the margin.

- (a) During which 1-hour interval was the flow into the tank the greatest?

Ans : (a) _____ to _____

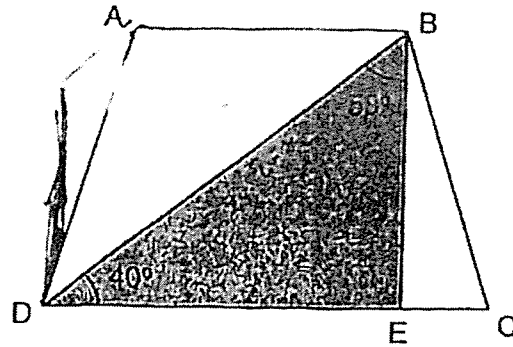
- (b) At 5 p.m., what fraction of the tank was filled with water?

Ans : (b) _____

Sub-Total :

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- 30 In the figure below, ABCD is a trapezium and $AD = BC$.



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

Statement	True	False	Not possible to tell
$AB \parallel CD$			
$\angle ADE + \angle CBE = 90^\circ$			
The shaded area is greater than the unshaded area.			

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End of Booklet B

Sub-Total :

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Anglo-Chinese School (Junior)



PRELIMINARY EXAMINATION (2023)

PRIMARY 6 MATHEMATICS PAPER 2

18 August 2023

Time : 1 hour 30 minutes

Name: _____ () Class: 6.()

Parent's Signature: _____

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. Do not use correction fluid/tape or highlighter.
6. The use of an approved calculator is allowed.

Paper	Booklet	Possible Marks	Marks Obtained
1	A	20	
	B	25	
2		55	
Total		100	

This question paper consists of 19 printed pages and 1 blank page.

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 A bag of sweets was shared equally among a group of 36 students. 12 of them gave up all of their sweets to the rest of the students. As a result, the rest of the students received 5 more sweets each. How many sweets were there in the bag at first?

Ans : _____

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2

- A box contained some red and yellow balls. At first, the number of red balls to the number of yellow balls is 1 : 3. After $\frac{1}{4}$ of the red balls and $\frac{3}{8}$ of the yellow balls were taken out, there were 63 balls left in the box. How many yellow balls were there in the box at first?

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Ans : _____

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Sub-Total :

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- 3 The table shows the amount of money Jamie spent at a restaurant for the first three weeks.

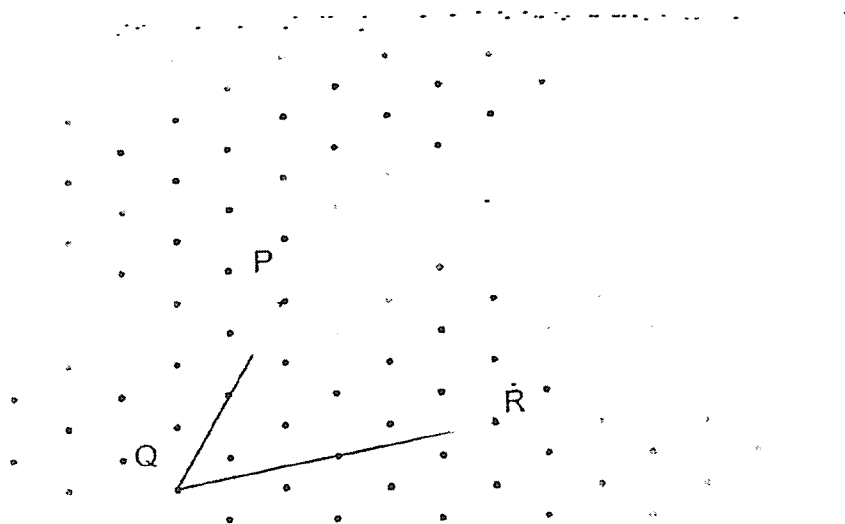
Week	Amount spent (\$)
1	36
2	39
3	37
4	?

Jamie will get a free meal if the average amount of money he spent for three of the four weeks is \$40 or more. What is the smallest amount Jamie must spend in Week 4 to receive the free meal?

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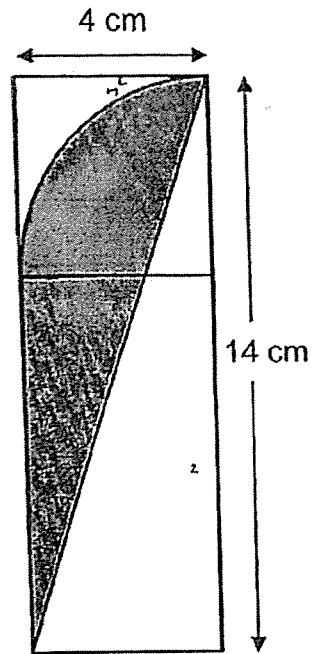
- 4 In the grid below, 2 sides of a trapezium PQRS have been drawn. Complete the drawing of trapezium PQRS where PQ is parallel to RS and RS is twice as long as PQ. Label dot S.



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Sub-Total :

- 5 The figure is made up of a rectangle, a square and a quadrant. Find the area of the shaded part. (Take $\pi = 3.14$)



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Ans : _____ cm^2

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Sub-Total :

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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 Mrs Lee wrote the word RESILIENCE repeatedly as shown. Study the letters below carefully and answer the questions that follow.

R E S I L I E N C E R E S I L I E N C E R E S I L I E N C E ...
3 4 5 6 3

- (a) How many 'E's are there in the 1st 100 letters?

Ans : (a) _____ [1]

- (b) How many letters are there altogether up to the 101st 'E'?

Ans : (b) _____ [2]

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- 7 The table shows the number of seashells collected by 3 boys.

Name	Number of seashells
Jim	17
Ken	x
Leo	$6x - 5$

- (a) Express the total number of seashells the 3 boys have in terms of x in the simplest form.

Ans : (a) _____ [1]

- (b) If the average number of seashells the 3 boys collected is 39, what is the value of x ?

Ans : (b) _____ [2]

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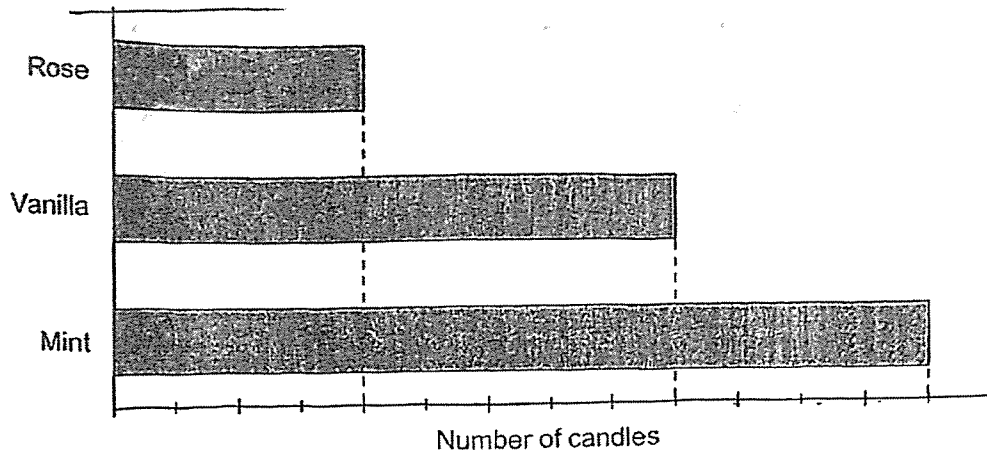
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- 8 Alisha bought candles of 3 different fragrances. The bar graph shows the number of each type of candle that she bought. The number of candles she bought is not shown on the scale.



- (a) What percentage of the candles Alisha bought were mint candles?

Ans : (a) _____ [1]

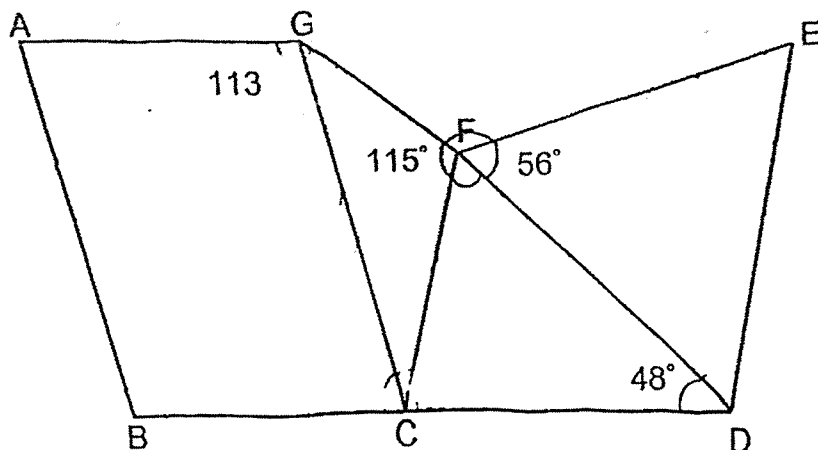
- (b) The price of each rose candle is \$12.80. Alisha spent \$153.60 on rose candles. How many vanilla candles did she buy?

Ans : (b) _____ [2]

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Sub-Total :

- 9 In the figure below, $ABCG$ is a parallelogram and $CDEF$ is a trapezium. $EF = ED$ and BCD is a straight line. $\angle AGC = 113^\circ$, $\angle GFC = 115^\circ$, $\angle EFD = 56^\circ$ and $\angle CDF = 48^\circ$



- (a) Find $\angle FCD$.

Ans : (a) _____ [1]

- (b) Find $\angle CGF$.

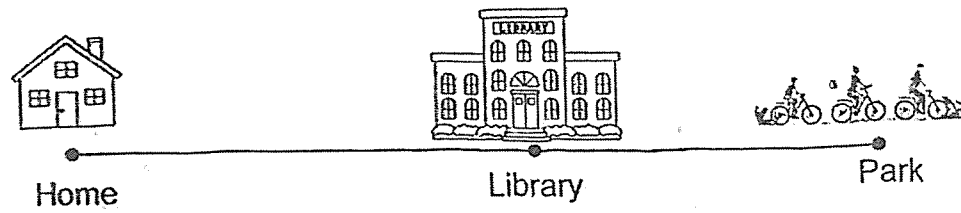
Ans : (b) _____ [2]

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- 10 Munirah cycled from her home to a park. On her way, she had to cycle past a library.



She cycled at an average speed of 15 km/h for $\frac{1}{2}$ h from her home to the library. She then cycled the remaining $\frac{2}{5}$ of the journey for 45 minutes.

- (a) What was the distance she cycled from her home to the library?

Ans : (a) _____ [1]

- (b) What was her average speed for the whole journey?

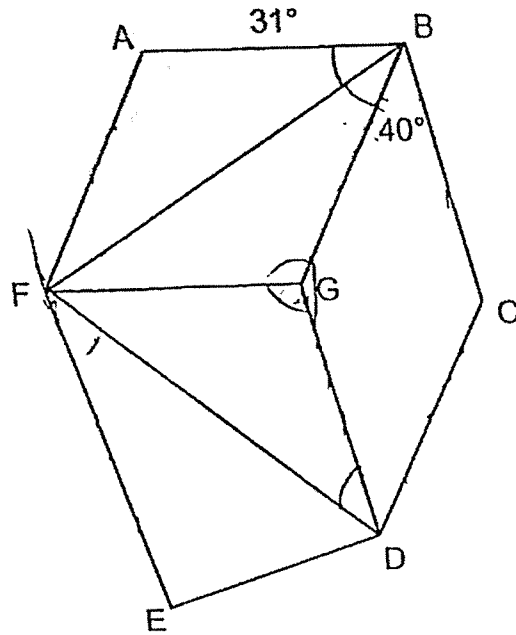
Ans : (b) _____ [2]

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- 11 In the figure below, ABGF and BCDG are rhombuses. $\angle ABF = 31^\circ$, $\angle CBG = 40^\circ$ and EF is parallel to DG.



- (a) Find $\angle FGD$.

Ans : (a) _____ [3] ?

- (b) Find $\angle DFE$.

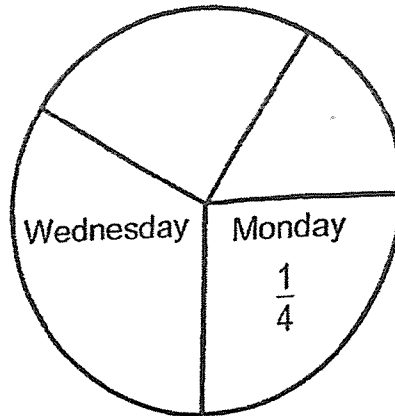
Ans : (b) _____ [2]

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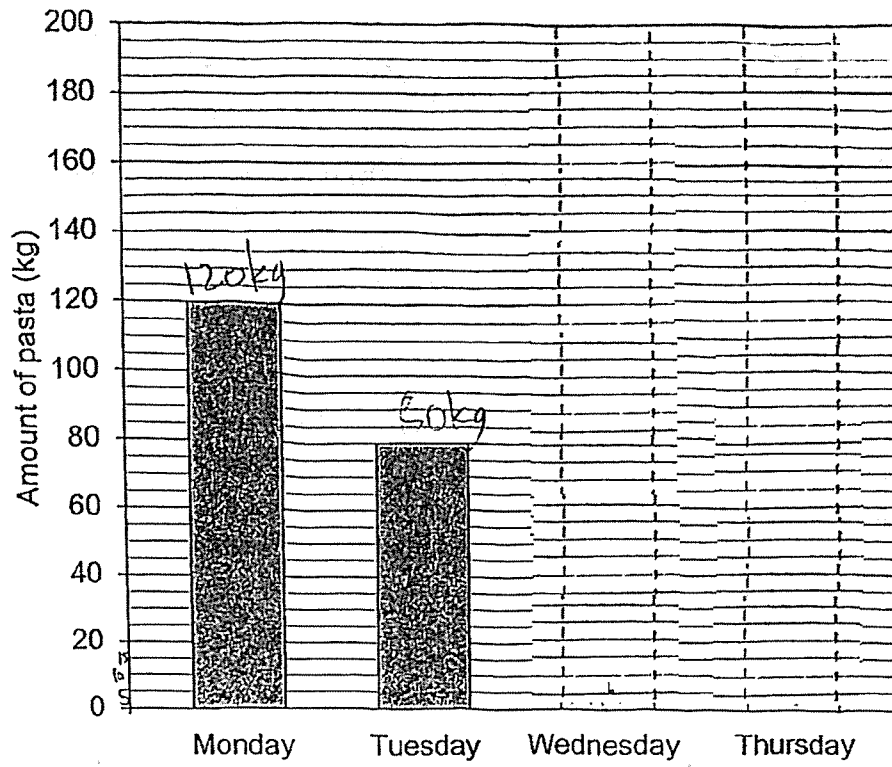
- 12 The pie chart below shows the amount of pasta sold from Monday to Thursday.



- (a) The ratio of the amount of pasta sold on Wednesday to the amount of pasta sold to Monday was 3 : 2. What fraction of the amount of pasta was sold on Wednesday?

Ans : (a) [1]

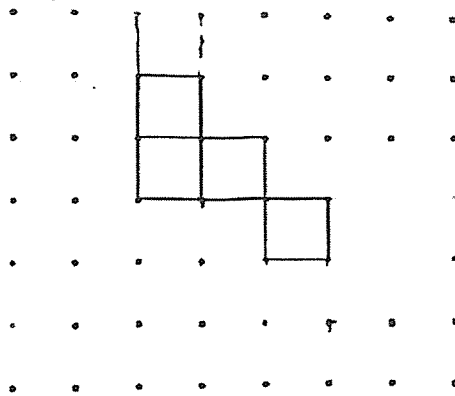
The amount of pasta sold is also represented by the bar graph below. The bars for the amounts of pasta sold on Wednesday and Thursday have not been drawn.



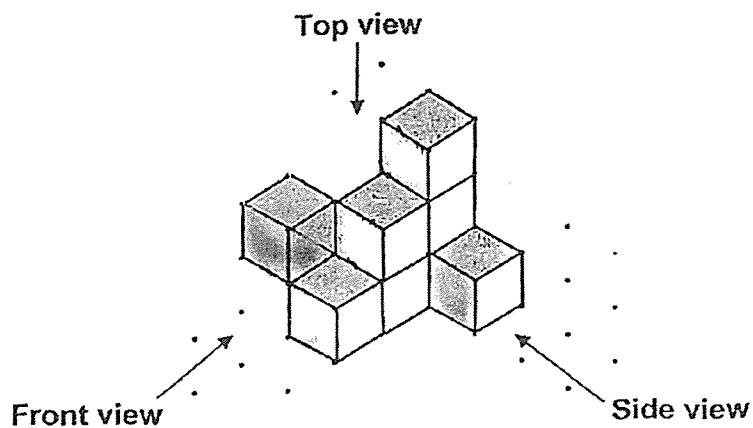
- (b) Draw the bars for the amount of pasta sold on Wednesday and Thursday in the graph above. [3]

13 Terry made a cube using cardboard.

- (a) Draw 2 more squares in the grid below to complete the net of the cube which Terry made. [1]



Terry then made 9 identical cardboard cubes to form solid P as shown below.



- (b) Draw the front view of solid P on the dot grid below. [1]

Front view



- (c) All the cubes were rearranged and glued together to form solid Q such that when the whole solid Q is painted blue including the base, the number of unpainted faces would be the least possible. How many faces were painted blue?

Ans : (c) _____ [2]

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- 14 Mr. Kassim had some mangoes and apples for sale. He sold 144 mangoes. 40% of the fruits he sold were apples.

(a) How many fruits did Mr Kassim sell altogether?

Ans : (a) _____ [1]

(b) He sold 30% of his fruits. 70% of the fruits left unsold were mangoes. How many apples did Mr. Kassim have at first?

Ans : (b) _____ [3]

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- 15 Raju, Sam and Tristan had a total of \$435. Raju spent $\frac{4}{5}$ of his money, Sam spent $\frac{2}{3}$ and Tristan spent $\frac{3}{4}$ of his money. In the end, Raju had \$55 more than Sam and Tristan had \$10 more than Sam. How much money did Tristan have at first?

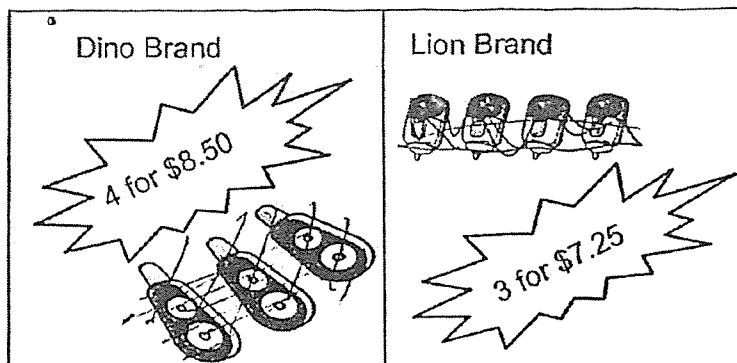
Ans : _____ [4]

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- 16 Matt bought some Dino Brand and Lion Brand correction tapes at the prices shown below.



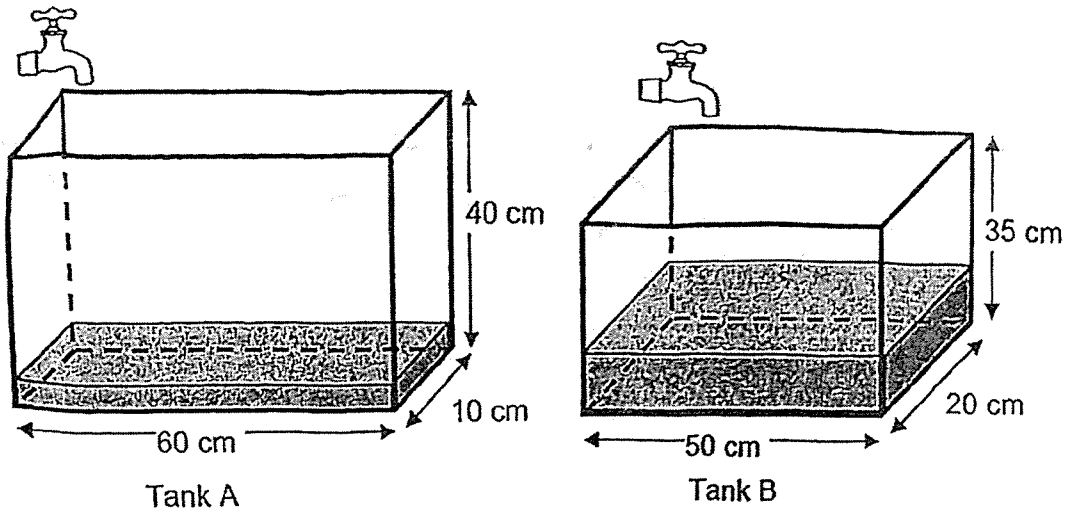
$\frac{1}{3}$ of the correction tapes Matt bought was Lion Brand correction tapes. He spent \$198 more on Dino Brand correction tapes. How much did he spend on the correction tapes?

Ans : _____ [4]

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Sub-Total :

- 17 Two rectangular tanks are shown below.



At the beginning, Tank A was $\frac{1}{10}$ filled with water and Tank B was $\frac{2}{5}$ filled with water. Both tanks had taps turned on at the same time and water flowed from both taps at the same rate of 1.2 litres per minute.

- (a) How long will it take for the height of the water to be the same in both tanks?

Ans : (a) _____ [3]

Please do not write in the margin.

Sub-Total :

(Go on to the next page)

(b) At what height will this happen?

Please do not write in the margin.

Ans : (b) _____ [2]

End of Paper 2

Please do not write in the margin.

Sub-Total :

SCHOOL : ACS PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : 2023 PRELIMINARY EXAMINATION

Booklet A

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

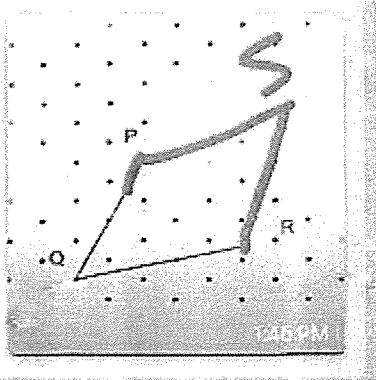
Booklet B

Q16	137
Q17	9009.099
Q18	2.75
Q19	13
Q20	$\frac{1}{2}$
Q21	$2.15, 2\frac{1}{5}, \frac{21}{5}$
Q22	$POQ = 180 - 138 = 42$ $ROS = 180 - 130 = 50$ $QOR = 180 - 42 - 50 = 88^\circ$
Q23	a) Southeast b) F
Q24	$(1.21 - 0.67) / 20 = 0.027\text{kg}$
Q25	$90 - 74 = 16 \times 2 = 32$ $(90 - 32) / 2 = 29$
Q26	a) $2y + 15 - 4 - 4 = 2y + 7$ b) $2(3) + 7 = 13\text{cm}$
Q27	a) A and C, $4.20 + 3.70 = 7.90$

	(A & C) $20 - 9.5 = 10.5 \text{ } \textcircled{C}$
Q28)	$60 \times 0.9 = 54$ $40 \times 0.8 = 32$ $54 + 32 = 86$
Q29)	2-3pm $22/30 = 73.3\%$
Q30)	True False false

Paper 2

Q1)	$(36 - 12) \times 5 = 120$ $120 / 12 = 10$ $36 \times 10 = 360$
Q2)	R : Y 1 : 3 6 : 15 $21u = 63$ $1u = 3$ 8 : 24 $24u = 72$
Q3)	$3 \times 40 = 120$ $120 - 39 - 37 = 44$

Q4)	
Q5)	$\frac{1}{2} \times 14 \times 14 = 98$ $\frac{1}{2} \times 4 \times 4 = 8$ $\frac{1}{4} \times 22/7 \times 4 \times 4 = 12.57$
Q6)	a) $3/10$ (3 E for 10 letters) $3 \times 10 = 30$ b) $101 \text{ E} = 10 \times 43 + 7 = 437 \text{ letters}$
Q7)	a) $7x + 12$ b) $7x + 12 = 39 \times 3$ $x = 15$
Q8)	a) $3/6 = 50\%$ b) $153.60 / 12.8 \times 2 = 24$
Q9)	a) $180 - 48 - 56 = 76$ b) $180 - 113 = 67$ $180 - 67 - 67 = 37$ $180 - 115 - 37 = 28$
Q10)	a) $15 \times \frac{1}{2} = 7.5$ $3u = 7.5$ $2u = 5$ b) $7.5 + 5 = 12.5$ $12.5 / (\frac{1}{2} + \frac{3}{4}) = 10 \text{ km/h}$

Q11)

a) $180 - 62 = 118$

b) $(180 - 102) / 2 = 39$

$180 - 102 - 39 = 39$

Q12)

a) $\frac{1}{4} = \frac{2}{8}$

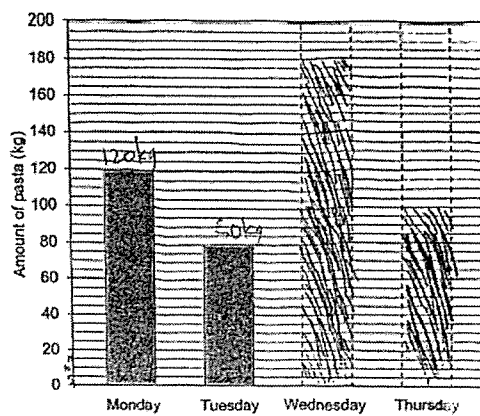
$2u = \frac{2}{8}$

$3u = \frac{3}{8}$

$2u = 120$

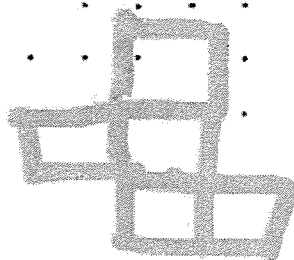
$3u = 180$

b)



Q13)

Front view



Q14)	$a) 60\% = 144$ $100\% = 240$ $b) 30\% = 240$ $70\% = 560$ $100\% = 560$ $30\% = 168$ $168 + 96 = 264$
Q15)	$R = 5u + 5 \times 55$ $S = 3u$ $T = 4u + 4 \times 10$ $(435 - 40 - 275) / 12u = 10$ $1u = 10$ $T = 10 \times 4 + 40 = 80$
Q16)	$4 \times 3 \text{ set} = 12$ $3 \times 2 \text{ set} = 6$ $8.5 \times 3 = 25.5$ $7.25 \times 2 = 14.5$ $25.5 - 14.5 = 11$ $198 / 11 = 18 \text{ group}$ $(25.5 + 14.5) \times 18 = \$720$
Q17)	$40 \times 1/10 = 4\text{cm}$ $35 \times 2/5 = 14\text{cm}$ $14 - 4 = 10\text{cm different}$ $50 \times 20 - 60 \times 10 = 400 \text{ different in surface}$ $400 \times 10 / 1200 = 3 \text{ min } 20 \text{ sec}$ $1200 \times 3 \text{ min } 20\text{sec} / 1000 + 14\text{cm} = 18\text{cm}$

