



Anglo-Chinese School (Junior)
Anglo-Chinese School (Primary)

**2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1 (BOOKLET A)
PRIMARY SIX**

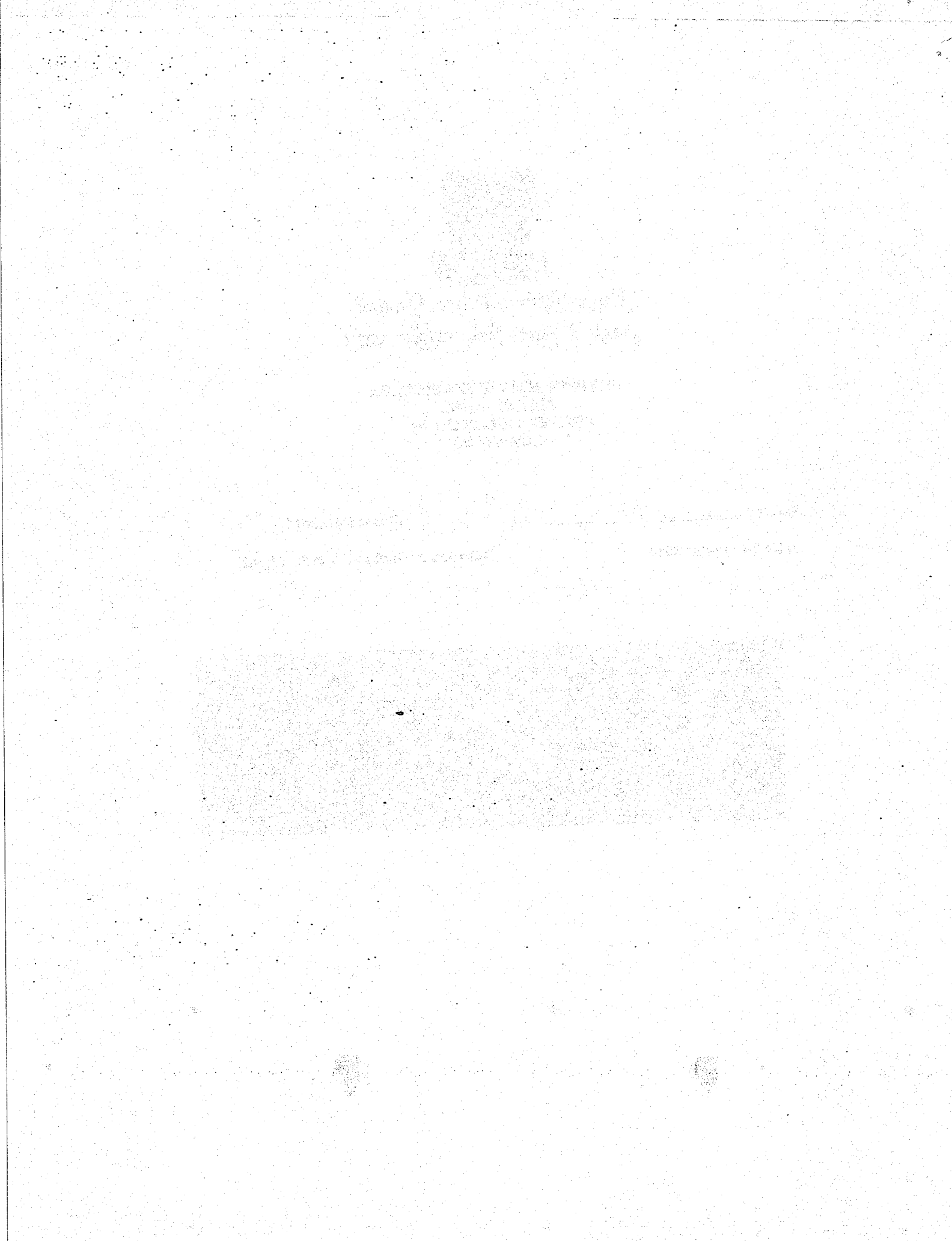
Name: _____ () Class: Primary 6 ____

Date: 24 August 2018

Duration of Booklets A & B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 9 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Show your work clearly on the Answer Sheet (AS) provided.
5. All answers must be written in English.



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 (1, 2, 3 or 4) on the Optical
Answer Sheet (OAS). (20 marks)

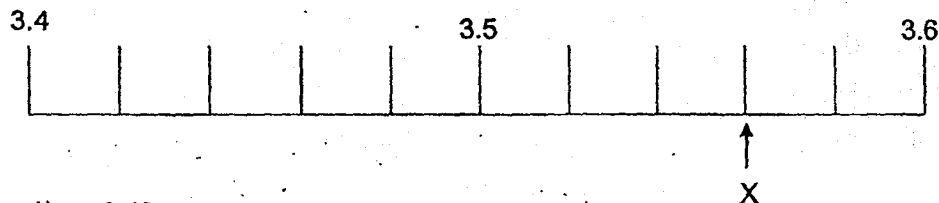
1. Find the value of $14 \times 5 - 4 \times 4 + 20 - 16$.

- 1) 18
- 2) 50
- 3) 58
- 4) 60

2. Express 2080 cm in m.

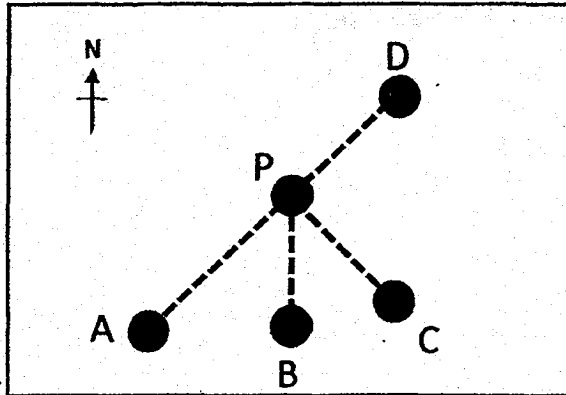
- 1) 2.8 m
- 2) 2.08 m
- 3) 20.8 m
- 4) 20.08 m

3. Part of a scale is shown below. What is the value of the reading at X?



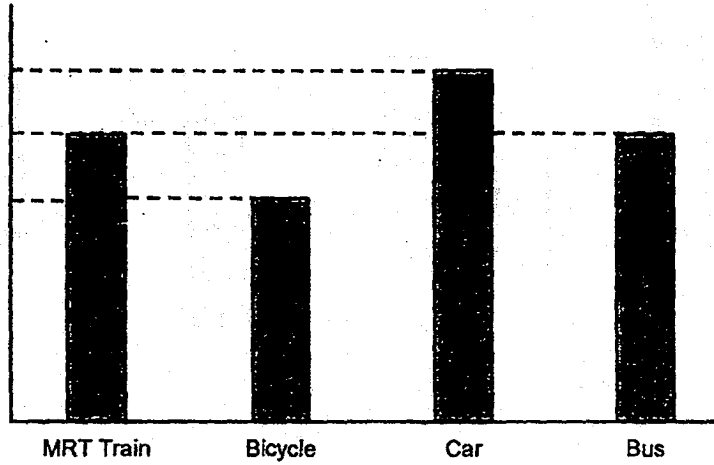
- 1) 3.48
- 2) 3.53
- 3) 3.56
- 4) 3.62

4. The figure below shows the map of 5 places, labelled A, B, C, D and P. Which place is south-west of P?

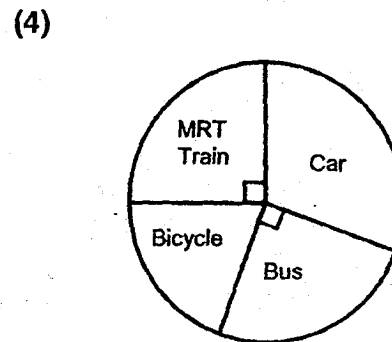
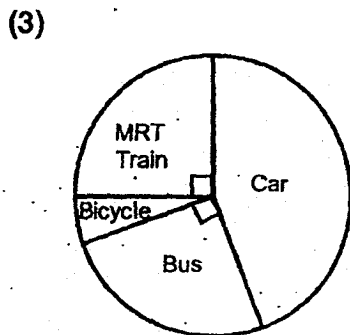
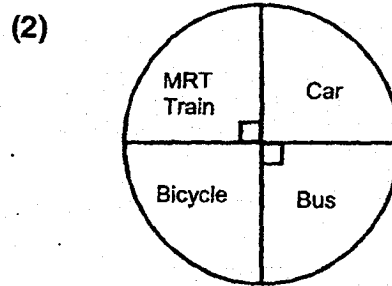
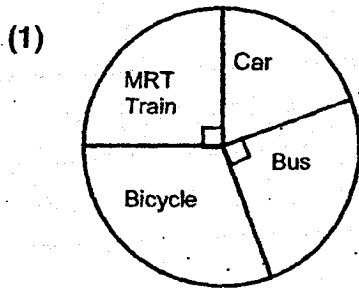


- 1) A
 - 2) B
 - 3) C
 - 4) D
5. 4 bags of sugar cost \$13.60. How much does 1 bag of sugar cost?
- 1) \$3.20
 - 2) \$3.40
 - 3) \$6.40
 - 4) \$6.80

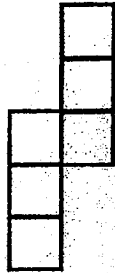
6. The bar graph shows the number of students who took different types of transport to school.



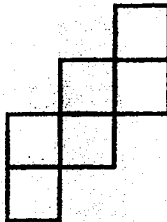
Which pie chart best represents the information in the bar graph?



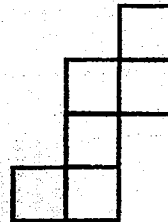
7. Which of the following 4 figures below is **NOT** the net of a cube?



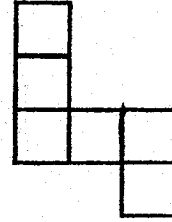
(1)



(2)



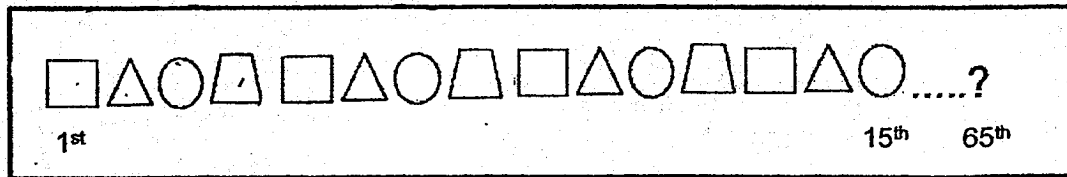
(3)



(4)

8. Tina used stickers of four different shapes to make a pattern. The first 15 stickers are shown below.

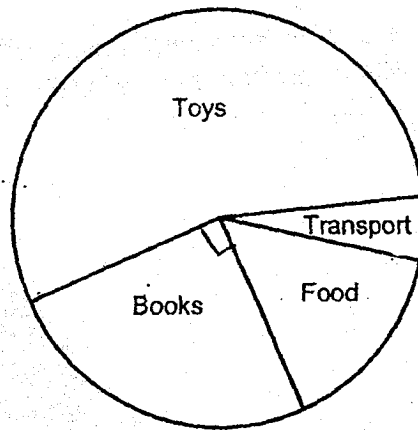
What is the shape in the 65th position?



9. The length of each side of a square is an even number. Which one of the following can be the perimeter of the square?

- 1) 15 cm
- 2) 24 cm
- 3) 36 cm
- 4) 44 cm

10. The pie chart shows how Mathew spent his pocket money last week. $\frac{1}{4}$ of his money was spent on books and $\frac{1}{5}$ of his money was spent on food and transport. He spent 3 times as much on food as transport. What was the ratio of the amount of money Matthew spent on food to the amount he spent on toys?



- 1) 1 : 5
- 2) 3 : 4
- 3) 3 : 11
- 4) 5 : 11

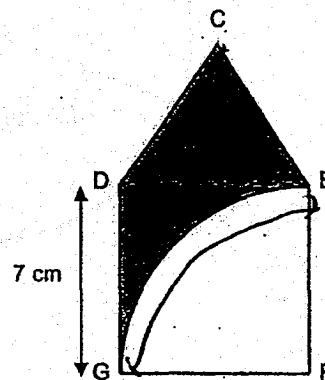
11. $\frac{1}{4}$ of a pole is painted white and $\frac{1}{2}$ of the remainder is painted red.

What fraction of the pole is not painted?

- 1) $\frac{1}{4}$
- 2) $\frac{3}{8}$
- 3) $\frac{1}{2}$
- 4) $\frac{5}{8}$

12. The figure below is made up of an equilateral triangle CDE and a square DEFG of length 7 cm with a quadrant in it. Find the perimeter of the shaded region. Take $\pi = \frac{22}{7}$.

- 1) 11 cm
- 2) 32 cm
- 3) 39 cm
- 4) 65 cm



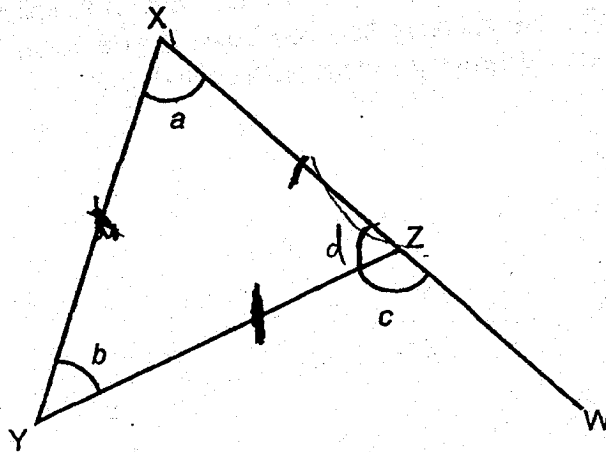
13. At 09 00, a lorry left Town X for Town Y travelling at a speed of 70 km/h. At the same time, a car left Town Y for Town X travelling at a speed of 90 km/h. The distance between Town X and Town Y is 480 km. At what time did the lorry and car pass each other?

- 1) 12 00
- 2) 13 00
- 3) 14 00
- 4) 15 00

14. A ribbon was first cut into 2 pieces in the ratio 1 : 3. The longer piece was then cut into two pieces in the ratio 3 : 2. The shortest piece was 20 cm shorter than the longest piece. What was the length of the ribbon before it was cut?

- 1) 40 cm
- 2) 80 cm
- 3) 90 cm
- 4) 100 cm

15. In the figure below, not drawn to scale, XYZ is an isosceles triangle where $XZ = ZY$. XZW is a straight line. Three angles are labelled as a , b and c .



Which of the following statements is true?

- (1) $\angle a + \angle b = 180^\circ - \angle c$
- (2) $\angle b = \angle c$
- (3) $\angle b = 180^\circ - \angle a$
- (4) $\angle c = 2\angle a$

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)

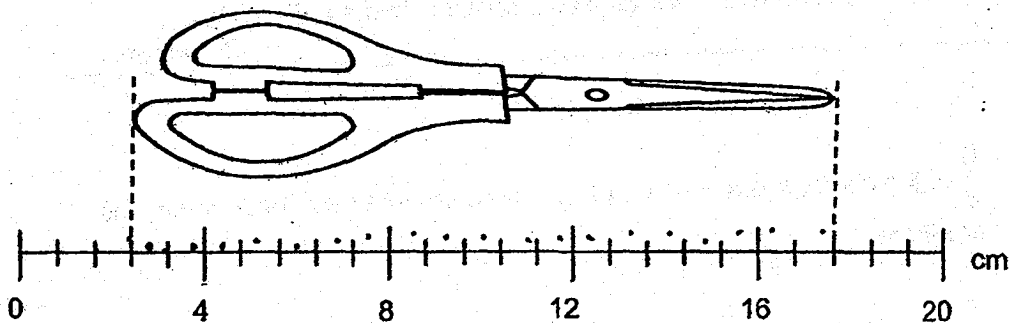
16. $\frac{5}{8}$ of the children in a field are girls. There are 45 boys. How many girls are there?

Ans : _____

17. The total volume of 8 identical cans of soda is 2.56 l. What is the total volume of 2 cans of soda in millilitres?

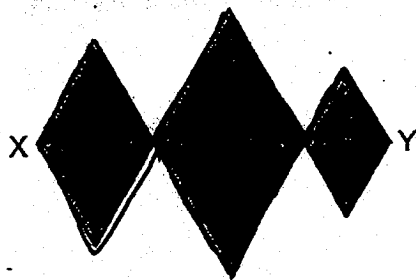
Ans : _____ ml

18. A pair of scissors is placed next to the scale. What is the length of the pair of scissors?



Ans : _____ cm

19. The shaded figure is made up of 6 equilateral triangles. The length of straight line XY is 21 cm. Find the perimeter of the shaded figure.



Ans : _____ cm

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20. Jane and Susan had some beads. After Jane gave 23 beads to Susan, she had 30 more than Susan. How many more beads did Jane have than Susan at first?

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 is $2\frac{1}{3}$ times as large as B. Express B as a fraction of A.

Ans : _____

22. Participants of a competition must obtain at least a certain score to qualify for a prize. There were 120 participants. The table shows the number of participants for each score.

Score	Number of Participants
0	11
1	28
2	33
3	12
4	21
5 or more	15

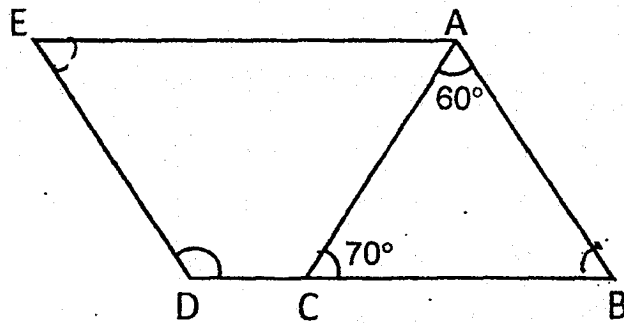
40% of the participants won a prize. From the table, what was the lowest score for a participant to qualify for a prize?

Ans : _____

23. The number of pears Mr Tay has is less than 50. If he sells his pears in packets of 4 or 7, he will have 3 pears left. How many pears does he have?

Ans : _____

24. In the figure below, not drawn to scale, ABDE is a parallelogram. $\angle ACB = 70^\circ$ and $\angle BAC = 60^\circ$. Find $\angle EDC$.

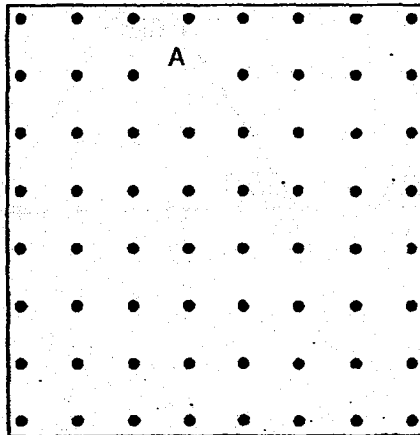


Ans : _____ °

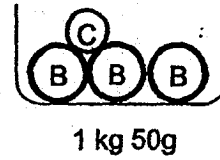
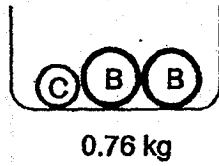
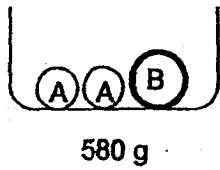
25. Catherine and Daphne shared some money. Catherine had $\$4d$ and Daphne had $\$(2d + 80)$. Both of them had $\$560$ altogether. Find the value of d .

Ans : \$ _____

26. The grid below shows a straight line. Draw another straight line that is parallel to it and passes through the white dot marked as A. This line must start on a black dot and end on another black dot.



27. 3 objects A, B and C of different masses were placed in identical containers and weighed. Their mass was recorded. What was the mass of A? Give your answer in grams.

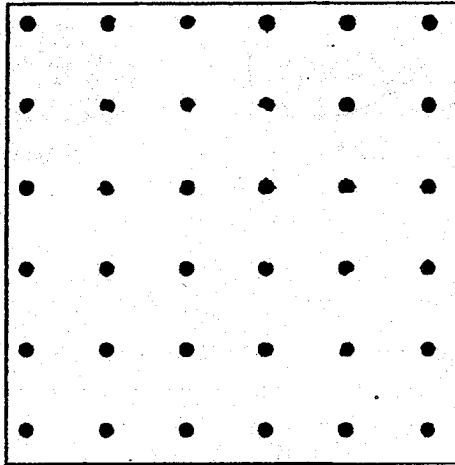


Ans : _____ g

28. The average mass of a group of 6 adults is 65 kg and the average mass of another group of 4 adults is 80 kg. What is the average mass of all the adults in the 2 groups?

Ans : _____ kg

29. The figure below shows an incomplete net of a cuboid. Within the grid, draw a rectangle to complete the net.



30. During a sale, the price of a bag was \$32 after a 20% discount. Henry was given a further discount of \$4. What was the total percentage discount given?

Ans : _____ %



Anglo-Chinese School (Junior)
Anglo-Chinese School (Primary)

2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 2
PRIMARY SIX

Name: _____ () Class: Primary 6 ____

Date: 24 August 2018

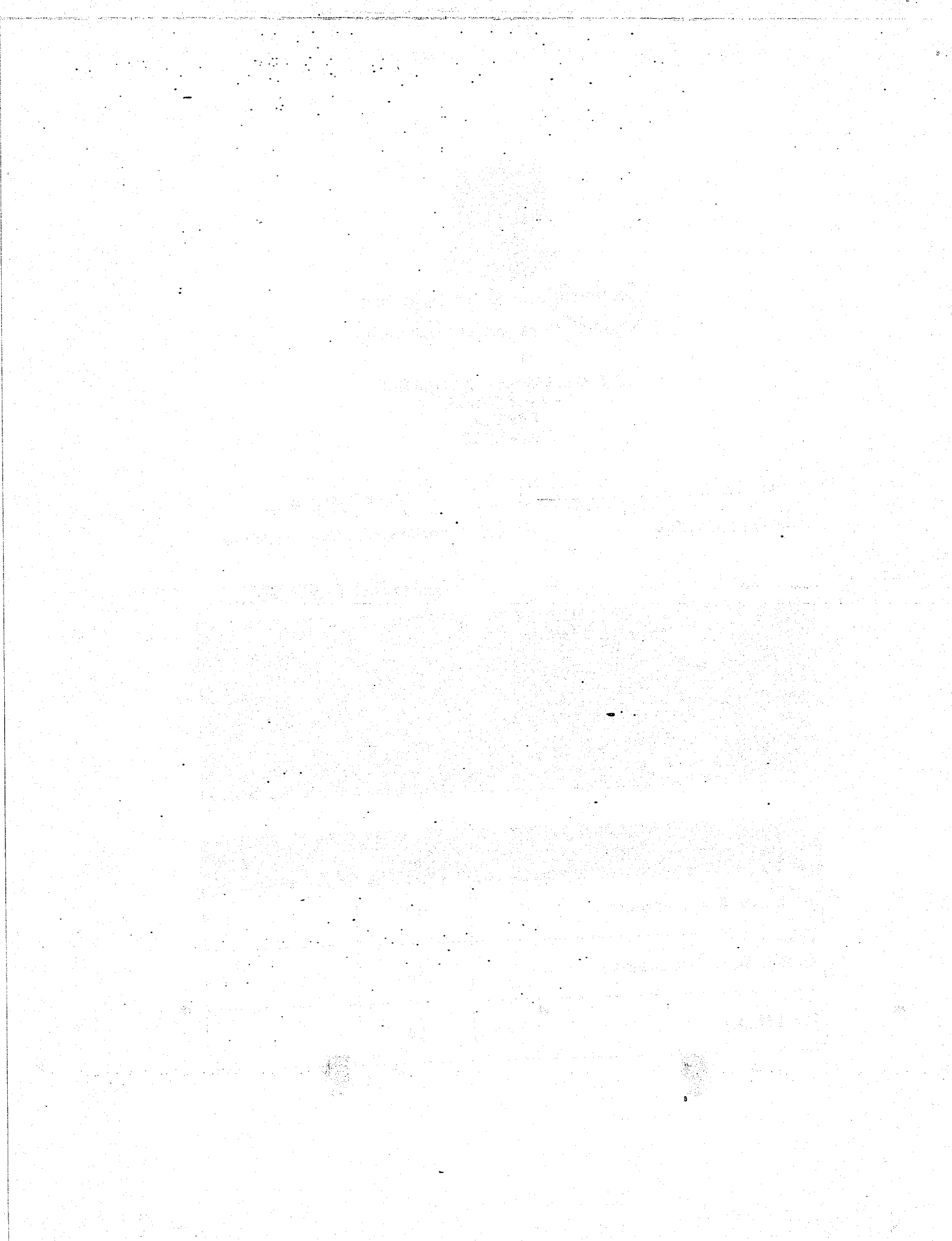
Duration of Paper 2: 1 hour 30 minutes

Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 16 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. You are allowed to use a calculator.

Paper 2		
Section A. Short Answers	10	
Paper 2		
Section B. Problem Sums	45	
Total Marks	55	



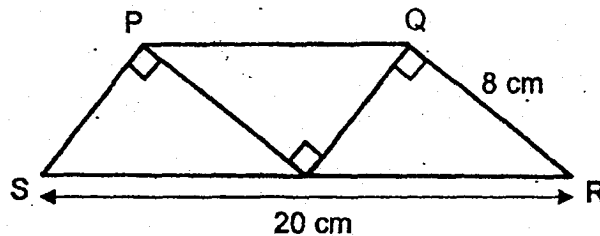
8

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)

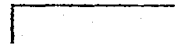
1. At a funfair, candies are only sold in packets of 9. Each packet is sold at \$5. One candy is given free for every two packets bought. What is the maximum number of candies Peter will receive when he spent \$25?

Ans : _____

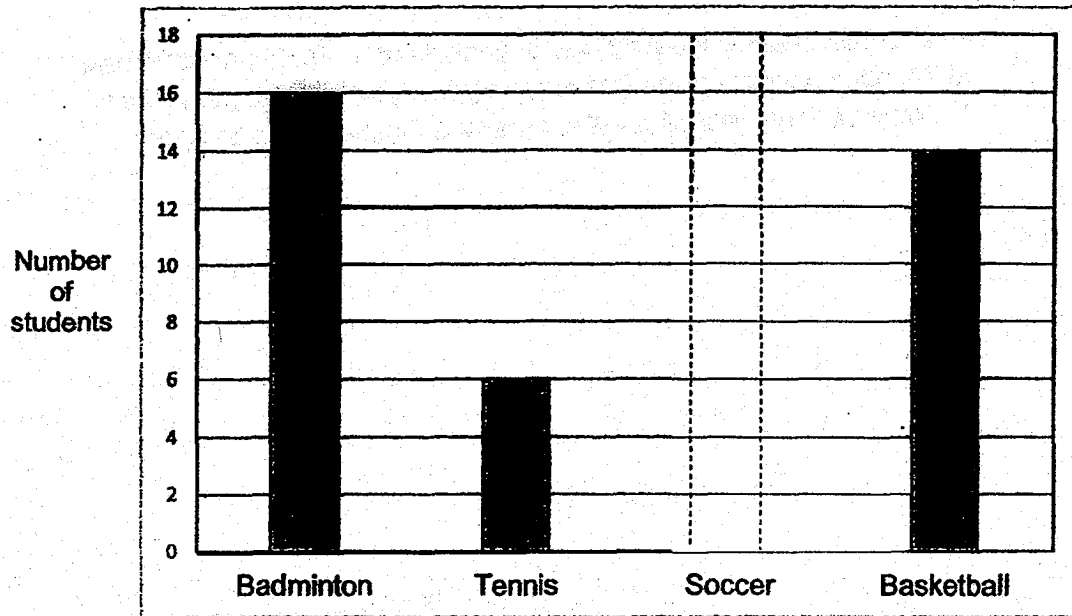
2. Mysha cut out three identical right-angled triangles. She joined them to form a figure PQRS as shown below. $SR = 20$ cm and $QR = 8$ cm. The perimeter of the figure PQRS is 44 cm. Find the area of the figure PQRS.



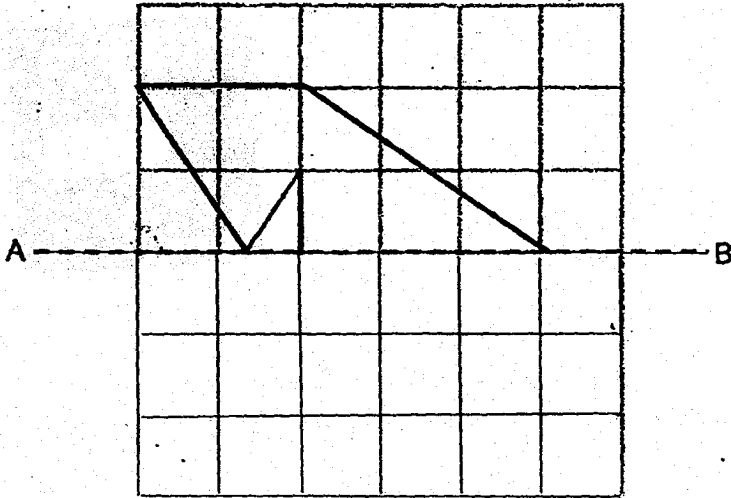
Ans : _____ cm²



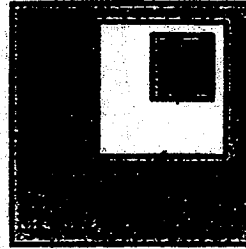
3. The bar graph shows the number of students playing in the various sports during the school's games day. $\frac{1}{4}$ of the students play soccer. Draw the bar that shows the number of students who play soccer.



4. In the figure below, draw 3 more straight lines to form a symmetric figure with AB as the line of symmetry.



5. Mrs Lee drew 3 squares to form a figure. The areas of the squares were in the ratio 1 : 4 : 13. She then shaded some parts of the figure as shown below. What is the ratio of the shaded parts to the unshaded part of the figure?



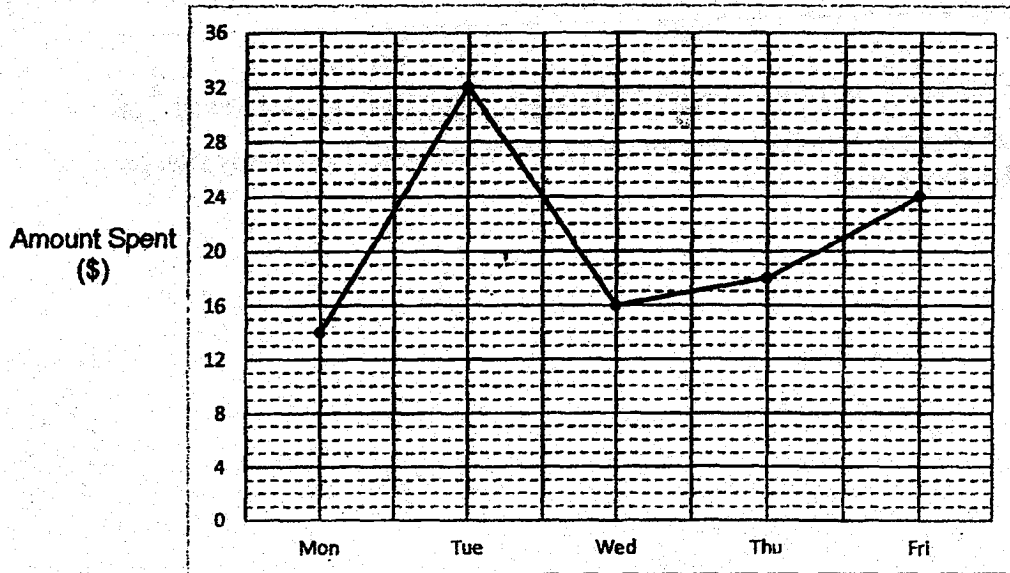
Ans : _____

For questions 6 to 17, show your working clearly question 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. Tom had $\frac{4}{5}$ as many stamps as Michael. After Michael gave away $\frac{3}{7}$ of his stamps, Tom had 40 more stamps than Michael. How many stamps did Tom have?

Ans : _____ [3]

7. Susan received \$40 each day for food and transport. She saved the rest of the amount of money after she spent on food and transport. The graph shows the daily amount of money she spent from Monday to Friday.



- (a) What is the difference between the amount Susan spent on Wednesday and Friday?
- (b) What was the total amount of money she saved on Monday and Tuesday?
- (c) Write down all the days in which Susan saved more than half of her daily amount of money.

Ans : (a) _____ [1]

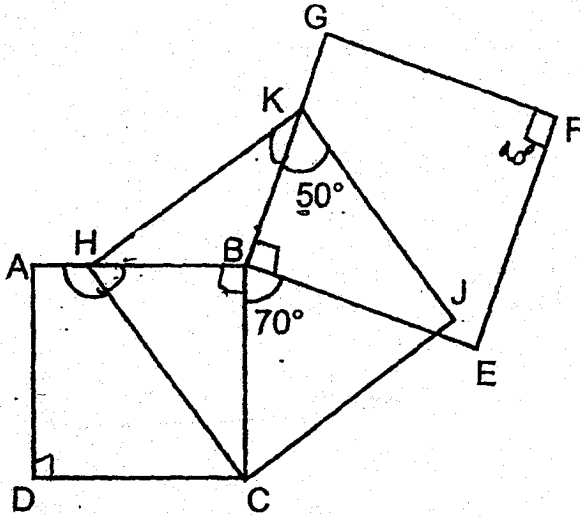
(b) _____ [1]

(c) _____ [1]

8. Ali and Sara started jogging from the same place in opposite directions along a straight path. Both of them did not change their speed. After jogging for 40 minutes, they were 7 km apart. Ali's average speed was 30 m/min faster than Sara's. How far did Ali jog?

Ans : _____ [3]

9. In the figure below, not drawn to scale, ABCD, HKJC and BGFE are squares. $\angle BKJ = 50^\circ$ and $\angle CBE = 70^\circ$. Find $\angle AHC$.



Ans : _____ [3]

10. The table below shows the price of pencils and erasers sold at a bookshop.

Item	Price per item
Pencil	b cents
Eraser	$(b + 10)$ cents

- (a) Azhar bought 3 pencils and 1 eraser. How much did he spend?
Give your answer in terms of b .
- (b) Raman paid \$5.50 for 8 pencils and a number of erasers.
If $b = 35$, how many ~~erasers~~ did he buy?
erasers

Ans : (a) _____ [1]

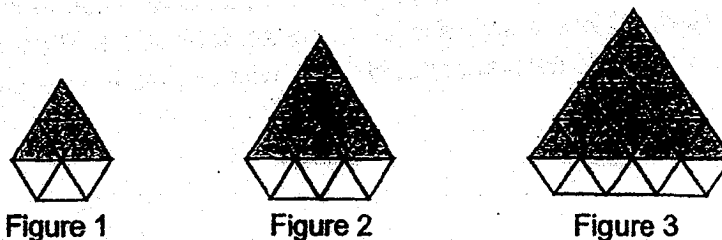
(b) _____ [2]

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11. A total of \$1 332.50 was collected from the sales of adult and child tickets to a concert. \$635.50 more was collected from the sale of the adult tickets than the child tickets. Each child ticket cost \$3.50 less than an adult ticket. There were twice as many adult tickets sold as the child tickets. Find the total number of children who went to the concert.

Ans : _____ {4}

12. Michael uses identical shaded and unshaded triangles to form figures that follow a pattern as shown below.



(a) The table shows the number of shaded and unshaded triangles for the first three figures. Complete the table for Figure 4.

Figure Number	1	2	3	4
Number of shaded triangles	4	9	16	
Number of unshaded triangles	3	5	7	
Total number of shaded and unshaded triangles	7	14	23	

[1]

(b) A figure in the pattern has a total of 529 shaded triangles. What is the Figure Number?

(c) Another figure in the pattern has a total of 63 unshaded triangles. What is the total number of shaded and unshaded triangles in this figure?

Ans : (b) _____ [1]

(c) _____ [2]

13. Ramesh had a rectangular block of wood 9 cm by 4 cm by 7 cm. He painted all the faces of the block.



- (a) What is the total painted area?
- (b) Ramesh cut the block into 1-cm cubes.
How many of these cubes have only 1 of their faces painted?

Ans : (a) _____ [2]

(b) _____ [2]

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14. Jerry, Ken and Leon shared some stamps. Jerry took 408 stamps. Ken took $\frac{1}{4}$ of the remainder. Leon had 24% of the total number of stamps. How many stamps did the 3 boys have altogether?

Ans : _____ [4]

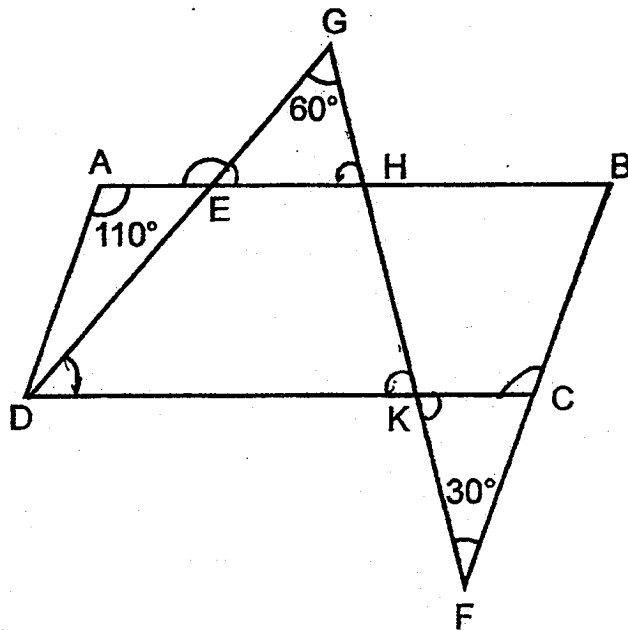
15. A group of girls sold an average of 60 balloons at a carnival. Then 2 boys joined the group. The two boys sold a total of 165 balloons. After the two boys joined the group, the average number of balloons sold by all the boys and girls became 65. How many girls were there in the group?

Ans : _____ [4]

16. In the figure below, not drawn to scale, ABCD is a parallelogram. GED, GHKF and BCF are straight lines. $\angle DAE = 110^\circ$, $\angle EGH = 60^\circ$ and $\angle KFC = 30^\circ$.

(a) Find $\angle KCF$

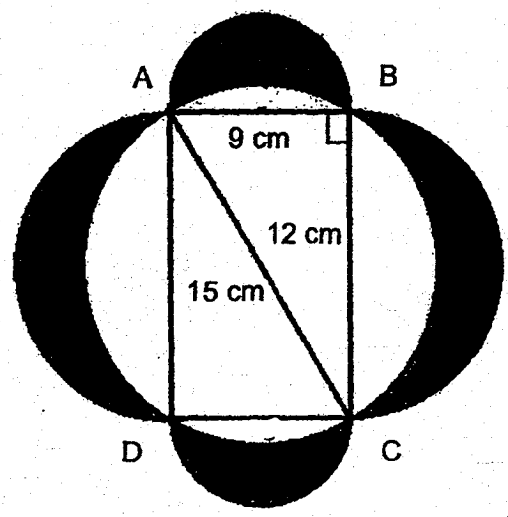
(b) Find $\angle AEG$



Ans : (a) _____ [2]

(b) _____ [3]

17. The figure is made up of four semi-circles and a rectangle ABCD. AB = 9 cm, BC = 12 cm and AC = 15 cm. Find the total area of the shaded parts. Take $\pi = 3.14$.



Ans : _____ [5]

End of Paper 2



ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : : ANGLO-CHINESE
SUBJECT : : MATHEMATICS
TERM : : PRELIMINARY EXAMINATION

Paper 1

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

Q16 75 girls

Q17 640 ml

Q18 15.2 cm

Q19 84 cm

Q20 76 beads

Q21 $\frac{3}{7}$

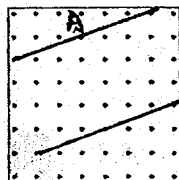
Q22 3

Q23 31 pears

Q24 130°

Q25 \$80

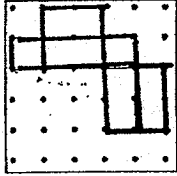
Q26



Q27 145 g

Q28 71 kg

Q29



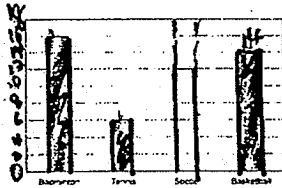
Q30 30%

Paper 2

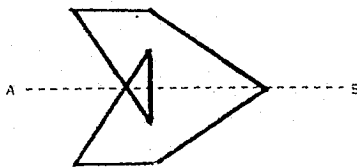
Q1 $9 \times 5 = 45$
 $45 + 2 \Rightarrow \underline{47 \text{ candies}}$

Q2 $44 - 30 = 14$
 $14 - 8 = 6$
 $\frac{1}{2} \times 8 \times 6 = 24$
 $24 \times 3 \Rightarrow \underline{72 \text{ cm}^2}$

Q3



Q4



Q5 Shaded parts $\rightarrow 1 + (13 - 4) = 10$
 Unshaded part $\rightarrow 4 - 1 = 3$
 $S : U \Rightarrow \underline{10 : 3}$

Q6 $28u - 20u = 8u$
 $8u \rightarrow 40$
 $28u \rightarrow \frac{28}{8} \times 40 \Rightarrow \underline{140 \text{ stamps}}$

Q7 (a) $24 - 16 \Rightarrow \underline{\$8}$

(b) $40 - 14 = 26$
 $40 - 32 = 8$
 $26 + 8 \Rightarrow \underline{\$34}$

(c) Mon, Wed, Thu

Q8 $40 \times (1u + 30) = 40u + 1200$
 $40u + 1200 + 40u = 80u + 1200$
 $7000 = 80u + 1200$
 $(-1200) \quad (-1200)$
 $5800 = 80u$
 $40u = 5800 \div 2 = 2900$
 $2900 + 1200 \Rightarrow \underline{4100 \text{ m}}$

Q9 $\angle HKB \rightarrow 90^\circ - 50^\circ = 40^\circ$
 $\angle KBH \rightarrow 360^\circ - 180^\circ - 70^\circ = 110^\circ$
 $\angle BHK \rightarrow 180^\circ - 110^\circ - 40^\circ = 30^\circ$
 $\angle BHC \rightarrow 90^\circ - 30^\circ = 60^\circ$
 $\angle AHC \rightarrow 180^\circ - 60^\circ \Rightarrow \underline{120^\circ}$

Q10 (a) $b + b + b + b + 10 \Rightarrow \underline{(4b + 10) \text{ ¢}}$

(b) $8b \rightarrow 8 \times 35 = 280 \text{ ¢} = \2.80
 $5.50 - 2.80 = \$2.70 = 270 \text{ ¢}$
 $35 + 10 = 45 \text{ ¢}$
 $270 \div 45 \Rightarrow \underline{6 \text{ erasers}}$

Q11 $1up + 7u = 635.50$
 $2up + 7u = 1332.50$
 $2up = 697$
 $1up = 697 \div 2 = \$348.50$
 $\$348.50 + 7u = 635.50$
 $7u = 287$
 $1u = 287 \div 7 \Rightarrow \underline{41 \text{ children}}$

Q12 (a)

4
25
9
34

(b) Figure Number 22

(c) 1087.

Q13 (a) $2 \times (9 \times 7) + 2 \times (9 \times 7) - 2 \times (9 \times 4)$
 $= 126 + 56 + 72 \Rightarrow \underline{254 \text{ cm}^2}$

(b) Total number of cubes on the front and back surfaces with one of the faces painted $\rightarrow 2 \times 7 \times 5 = 70$
Total number of cubes in the left and right surfaces with one of the faces painted $\rightarrow 2 \times 2 \times 5 = 20$
Total number of cubes on the top and bottom surfaces with one of the faces painted $\rightarrow 2 \times 7 \times 2 = 28$
 $70 + 20 + 28 \rightarrow 118 \text{ cubes}$

Q14 $3u \rightarrow 24\%$
 $4u \rightarrow \frac{4}{3} \times 24 = 32\%$
 $100\% - 32\% = 68\%$
 $68\% \rightarrow 408$
 $100\% \rightarrow \frac{100}{68} \times 408 \Rightarrow \underline{600 \text{ stamps}}$

Q15 Difference (in average) $\rightarrow 65 - 60 = 5$
Difference (between 2 girls and 2 boys) $\rightarrow 165 - 60 - 60 = 45$
Number of girls and boys at the end $\rightarrow 45 + 5 = 9$
Number of girls $\rightarrow 9 - 2 \Rightarrow \underline{7}$

Q16 (a) $\angle KCF \rightarrow 180^\circ - 110^\circ \Rightarrow \underline{70^\circ}$

(b) $\angle FKC \rightarrow 180^\circ - 70^\circ - 30^\circ = 80^\circ$
 $\angle HEG \rightarrow 180^\circ - 80^\circ - 60^\circ = 40^\circ$
 $\angle AEG \rightarrow 180^\circ - 40^\circ \Rightarrow \underline{140^\circ}$

Q17 $\frac{1}{2} \times 9 \times 12 = 54 \text{ cm}^2$

$$\frac{1}{2} \times 3.14 \times 4.5 \times 4.5 = 31.79 \text{ cm}^2$$

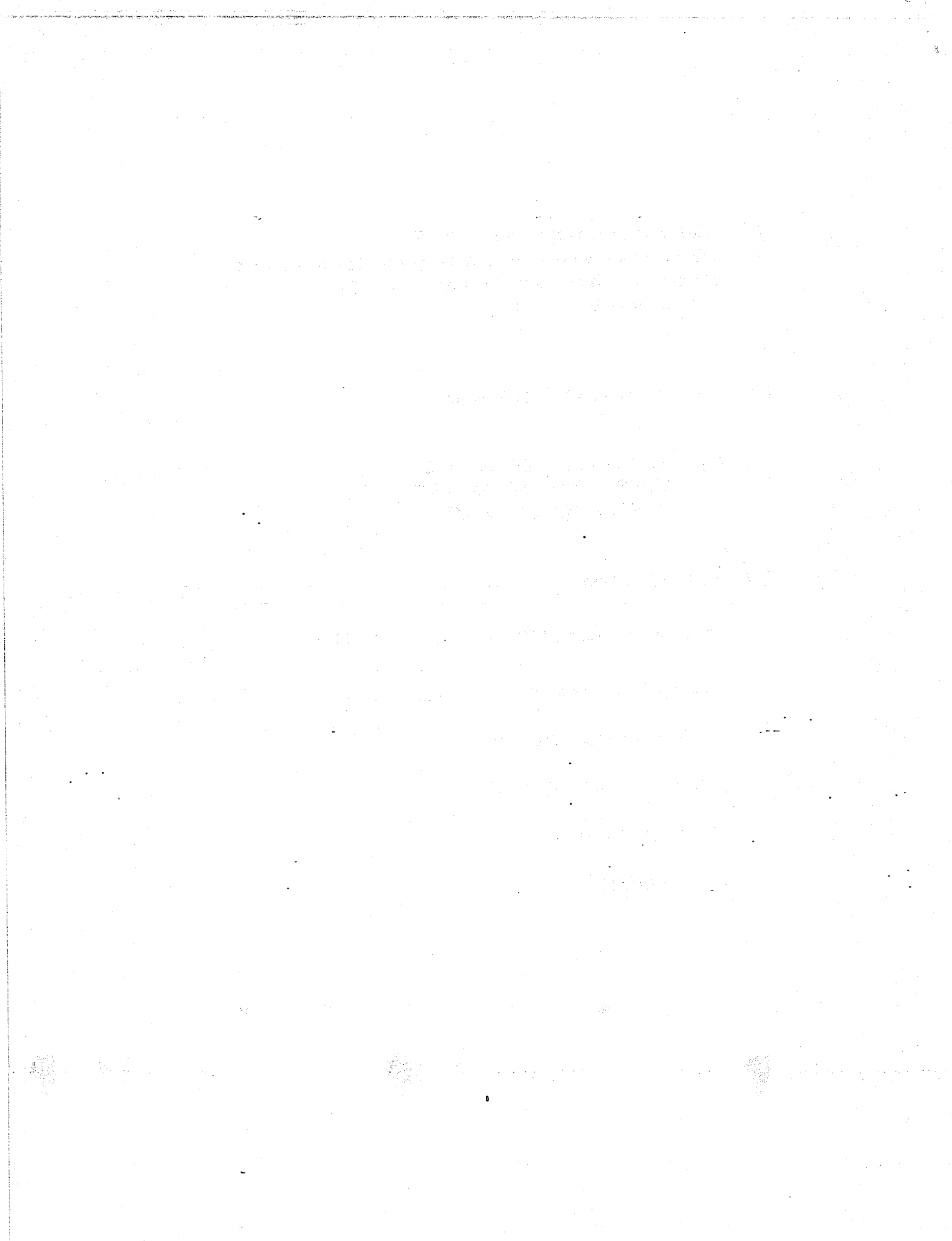
$$\frac{1}{2} \times 3.14 \times 6 \times 6 = 56.52 \text{ cm}^2$$

$$54 + 31.79 + 56.52 = 142.31 \text{ cm}^2$$

$$\frac{1}{2} \times 3.14 \times 7.5 \times 7.5 = 88.31 \text{ cm}^2$$

$$142.31 - 88.31 = 54 \text{ cm}^2$$

$$54 \times 2 \Rightarrow \underline{108 \text{ cm}^2}$$



Index No.

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Maha Bodhi School
2018 Preliminary Examination
Primary 6
Mathematics
Paper 1
(Booklet A)

Name : _____ ()

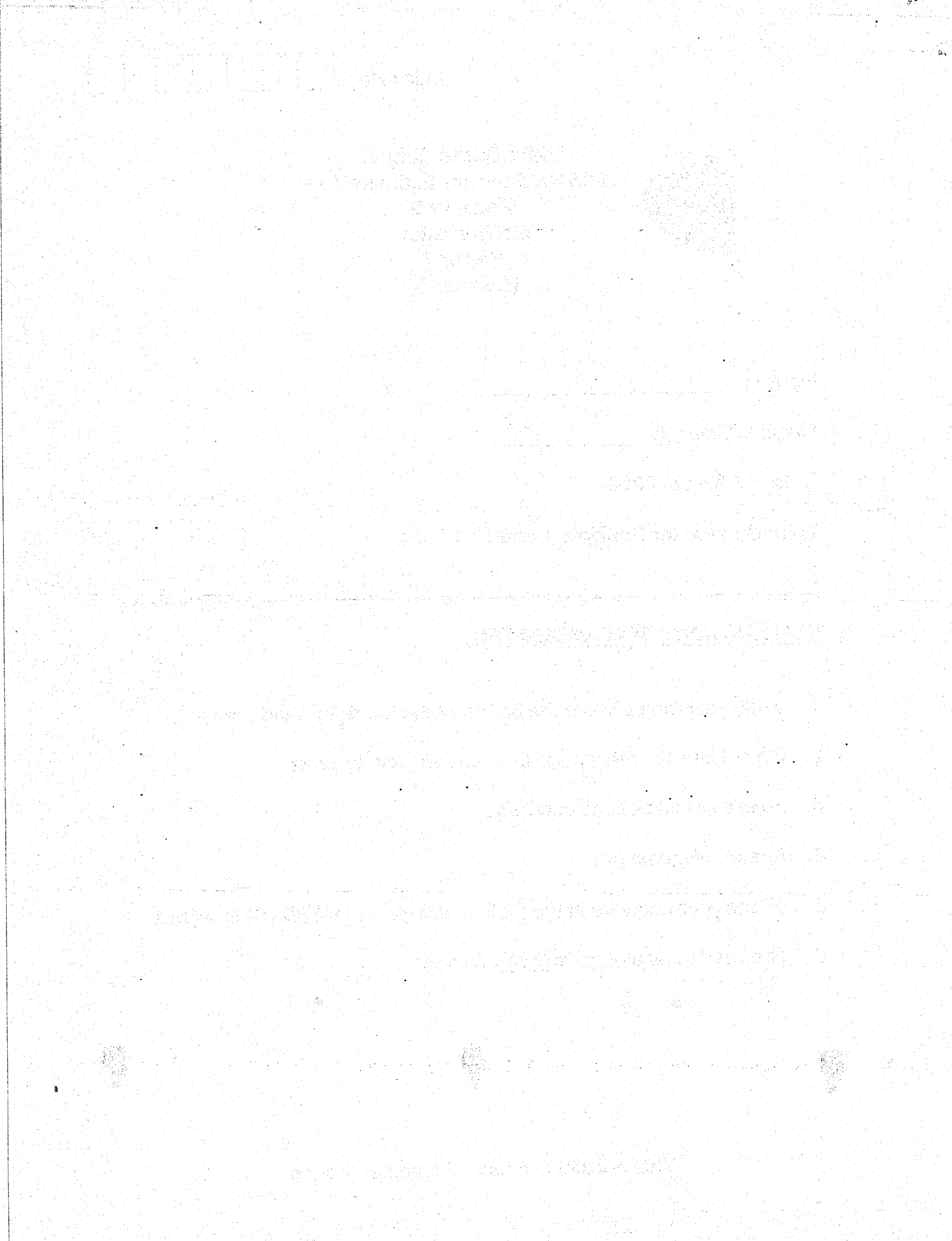
Class : Primary 6 _____

Date : 7 August 2018

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES:

1. Write your Index No. in the boxes at the top right hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. The use of calculators is **NOT** allowed.



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). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)
All diagrams are not drawn to scale.

1. Which one of the following is equal to 60 thousands, 40 tens and 15 ones?

- (1) 604 015
- (2) 600 415
- (3) 60 415
- (4) 6415

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

- (1) 22
- (2) 20
- (3) 11
- (4) 10

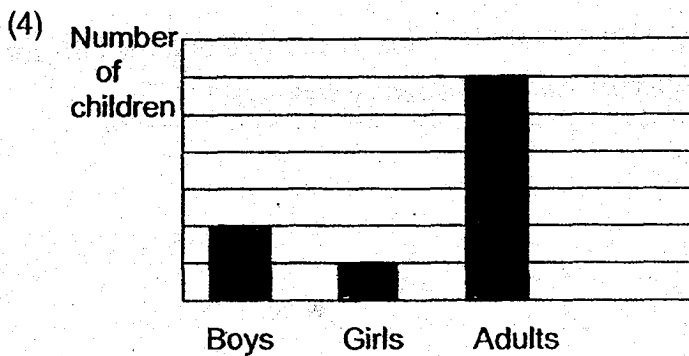
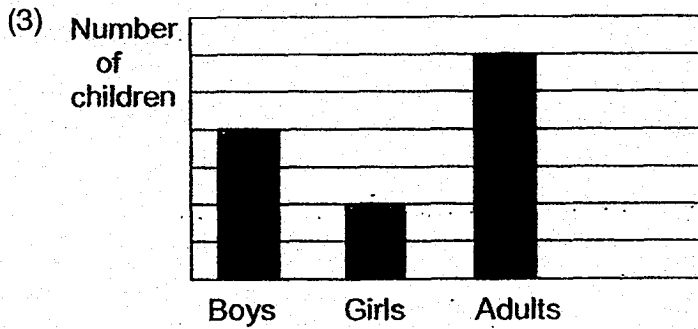
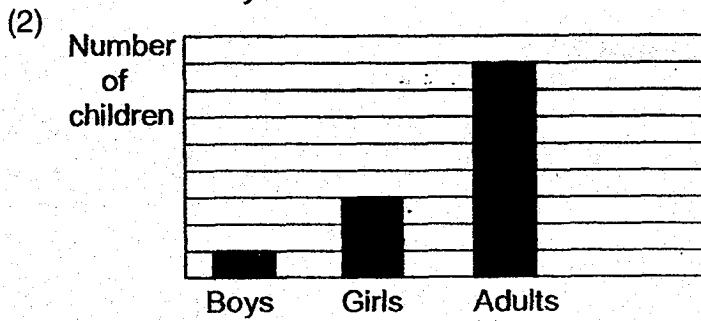
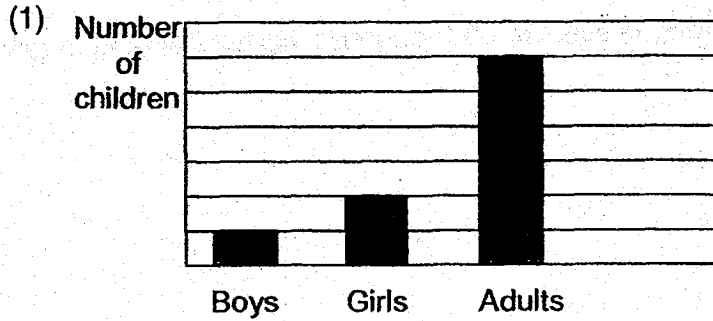
3. 3040 g is the same as _____.

- (1) 3 kg 4 g
- (2) 3 kg 40 g
- (3) 30 kg 4 g
- (4) 30 kg 40 g

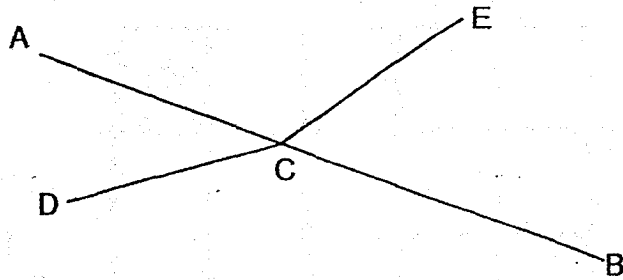
4. Melvin and Ramesh took part in a race. Melvin ran at 5 m/s and took 15 seconds. Ramesh ran at 3 m/s. What was the time taken by Ramesh?

- (1) 15 s
- (2) 25 s
- (3) 45 s
- (4) 75 s

5. There are twice as many boys as girls. There are twice as many adults as children.
Which one of the following bar graphs shows the above information correctly?

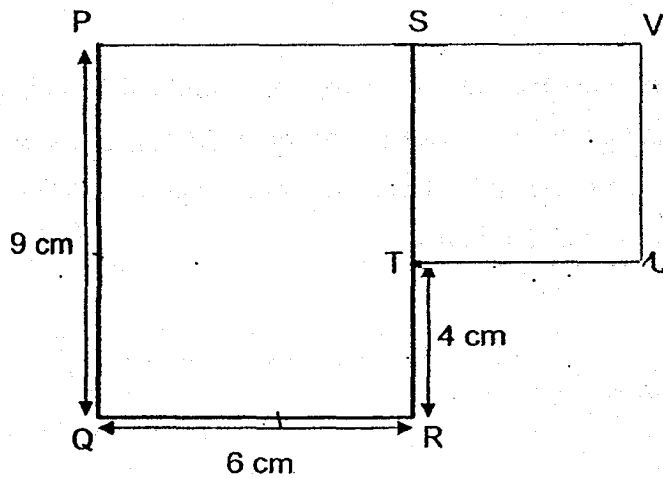


6. In the diagram below, AB, CD and CE are straight lines.



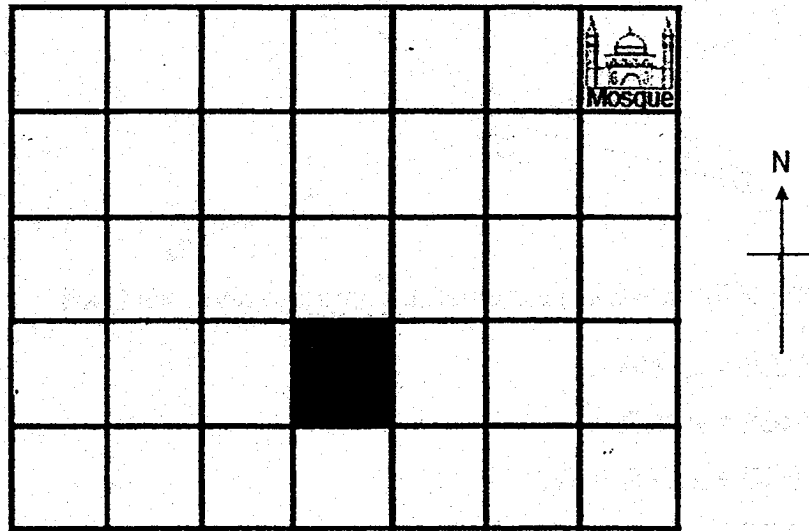
Which one of the following statements about the angles is true?

- (1) $\angle ACD = \angle ECB$
 - (2) $\angle ACE = \angle BCD$
 - (3) $\angle ECB + \angle BCD = 180^\circ$
 - (4) $\angle ACE + \angle ECB = 180^\circ$
7. The figure below is made up of Rectangle PQRS and Square STUV.
- What is the perimeter of the figure?



- (1) 19 cm
- (2) 34 cm
- (3) 40 cm
- (4) 45 cm

8. In the diagram below, the shaded square is _____ of the mosque.



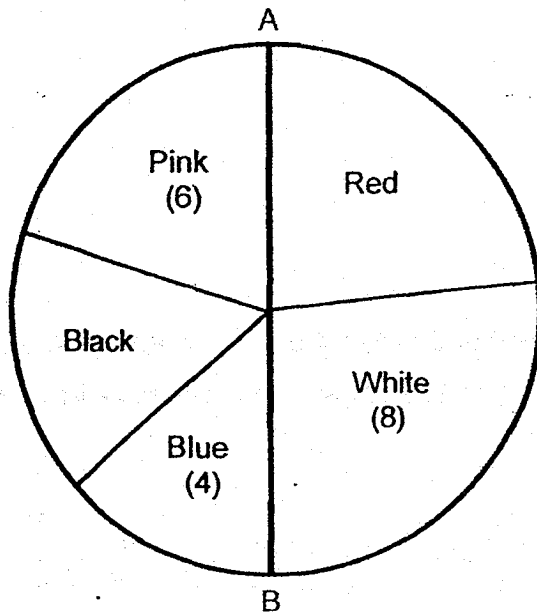
- (1) north-east
- (2) north-west
- (3) south-east
- (4) south-west

9. A car left Village A and travelled at an average speed of 70 km/h towards Town P.
A coach left Village B and travelled at an average speed of 50 km/h towards Town Q.
Village A and Village B are 10 km apart. How far apart are the two vehicles one hour after the drivers have started their journeys?



- (1) 100 km
- (2) 110 km
- (3) 120 km
- (4) 130 km

10. 30 students in a class were asked to choose a colour for their class T-shirt. Their responses are shown in the pie-chart below. AB is a straight line.



How many more students chose Red than Black?

- (1) 5
(2) 2
(3) 7
(4) 12
11. A solid cuboid of height 5 cm has a square base of side 4 cm. What is its volume?
- (1) 20 cm^3
(2) 40 cm^3
(3) 80 cm^3
(4) 100 cm^3

12. $48 \div \boxed{?} = 0.048 \times 100$

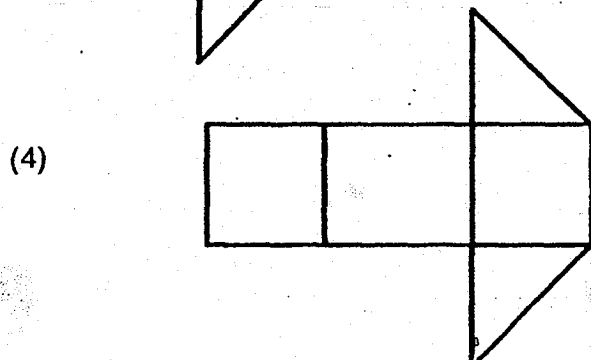
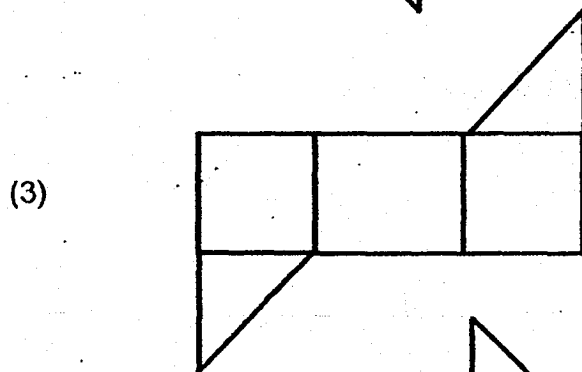
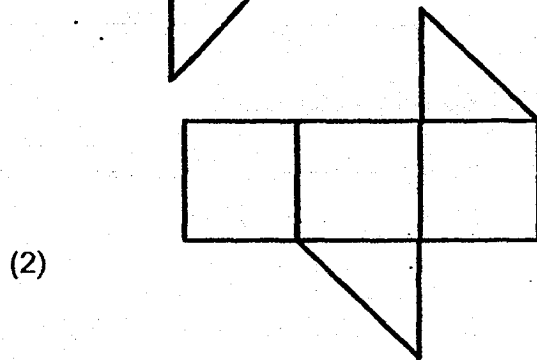
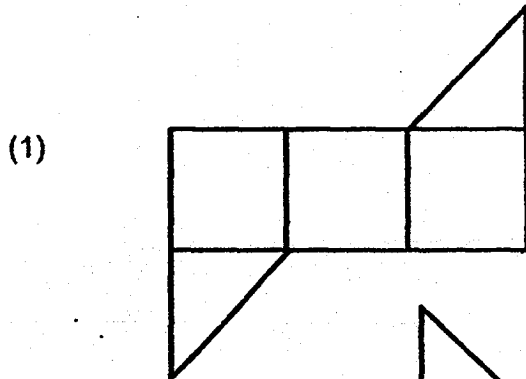
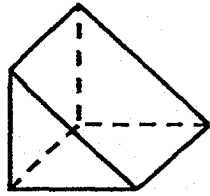
What is the missing number in the box?

- (1) 1
- (2) 10
- (3) 100
- (4) 1000

13. John spent \$50 of his allowance and saved the rest. When he increased his spending by 10%, his savings decreased by 20%. How much was his allowance?

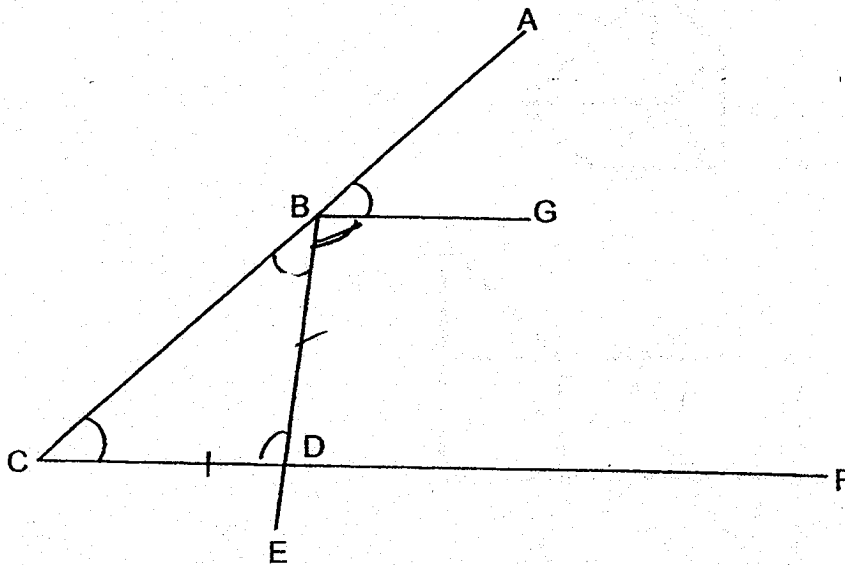
- (1) \$44
- (2) \$55
- (3) \$75
- (4) \$80

14. A cube was cut into 2 halves to form the solid figure below.
Which one of the following is a possible net of the solid figure?



15. 4 straight lines are connected to form the diagram shown below.

$$\angle ABG = \angle EBC = \angle ACF = 41^\circ.$$



The students in a class then made the following statements:

- $\angle GBC + \angle BCF = 180^\circ$
- $\angle GBD = \angle BDF$
- $BE \perp BG$
- $BG \parallel CF$
- $BD \perp CF$

How many of the above statements are true?

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

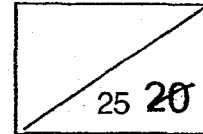
Index No. -



Maha Bodhi School
2018 Preliminary Examination
Primary 6
Mathematics
Paper 1
(Booklet B)

Name : _____ ()

Marks:



Class : Primary 6 _____

Date : 7 August 2018

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES:

1. Write your Index No. in the boxes at the top right hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.
6. The use of calculators is **NOT** allowed.

This booklet consists of 7 printed pages.

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)
All diagrams are not drawn to scale.

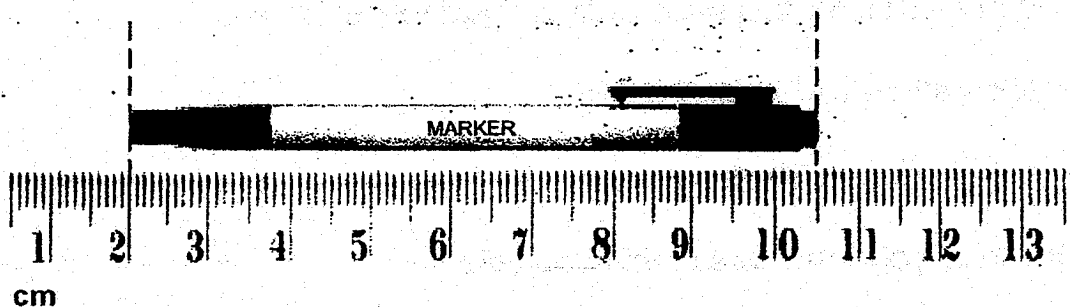
16. How many common factors are there in 24 and 32?

Ans: _____

17. Find the value of $\frac{3}{10} \div 12$. Give your answer in its simplest form.

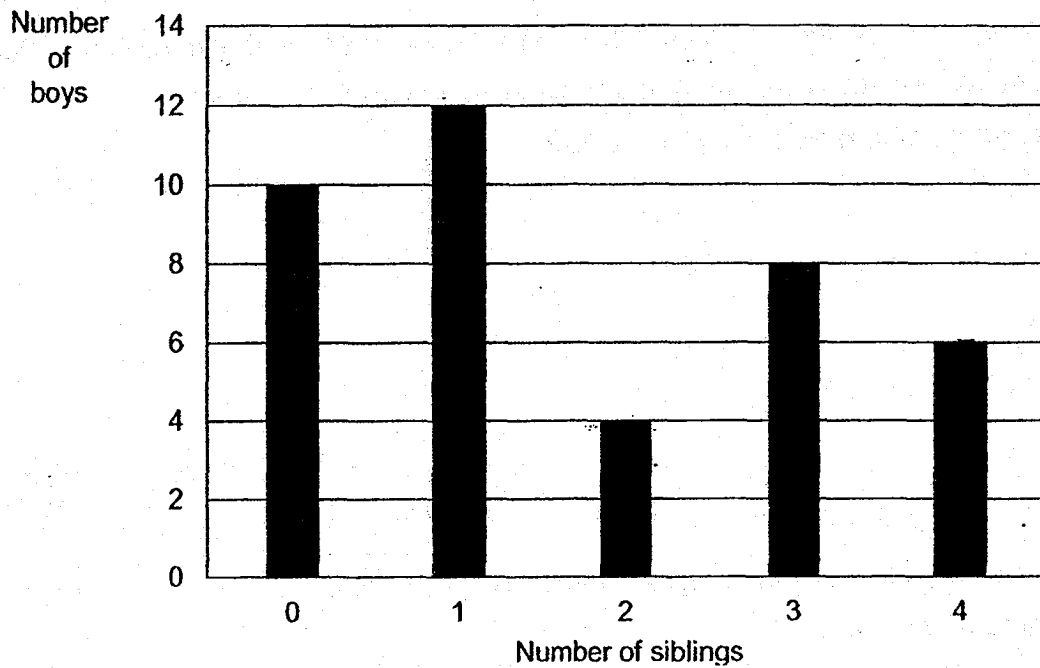
Ans: _____

18. What is the length of the marker shown below?



Ans: _____ cm

19. A survey was conducted on a group of 40 boys to find out the number of siblings they have. The results of the survey are shown in the bar graph below.



Based on the results, how many boys have the greatest number of siblings?

Ans: _____ boys

20. Mr Wee baked $5n$ cookies. He gave 8 cookies to each of his pupils and had n cookies left. Express the number of pupils Mr Wee had in terms of n .

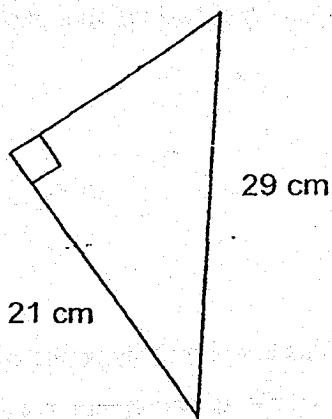
Ans: _____ pupils

Questions 21 to 30 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided.
For questions which require units, give your answers in the units stated. (20 marks)
All diagrams are not drawn to scale.

21. A ribbon was 70.1 cm long at first. Alice gave away some of the ribbon and the remaining ribbon was then cut into 6 equal pieces of length 8.7 cm each.
Find the length of ribbon that was given away.

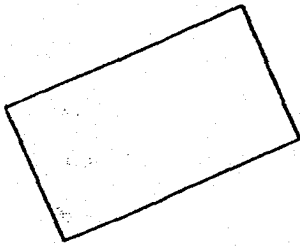
Ans: _____ cm

22. The perimeter of the right-angled triangle shown below is 70 cm.
What is the area of the triangle?

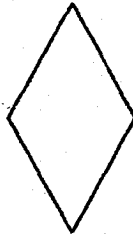


_____ cm²

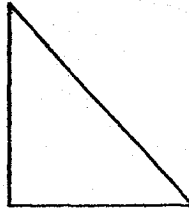
23. Look at the 6 geometrical figures shown below.
How many of them have both perpendicular and parallel lines?



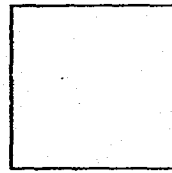
rectangle



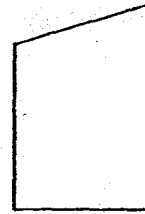
rhombus



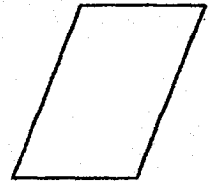
right-angled
triangle



square



trapezium



parallelogram

Ans: _____

24. Mr Wong had some red bowls and 76 blue bowls. He broke 8 red bowls and 6 blue bowls. He had 120 bowls left. How many red bowls did Mr Wong have at first?

Ans: _____ red bowls

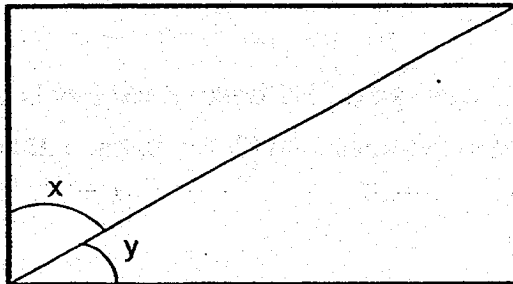
25. Karen had 12 litres of fruit punch at first. Her friends drank $\frac{1}{4}$ of it.
Karen then gave $\frac{1}{2}$ litre of the remaining fruit punch to her neighbours.
How much fruit punch did Karen have in the end?

Ans: _____ litres

26. At a fruit stall, the price of a mango is $\frac{3}{4}$ the price of a rock melon. The price of a guava is half the price of a mango. What is the ratio of the price of a rock melon to the price of a mango to the price of a guava?

Ans: _____

27. In the rectangle shown below, $\angle x = \frac{3}{2}$ of $\angle y$. Find $\angle x$



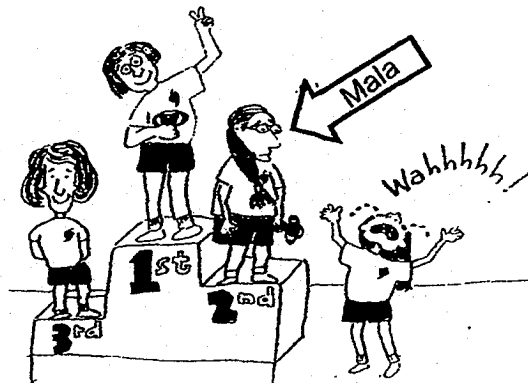
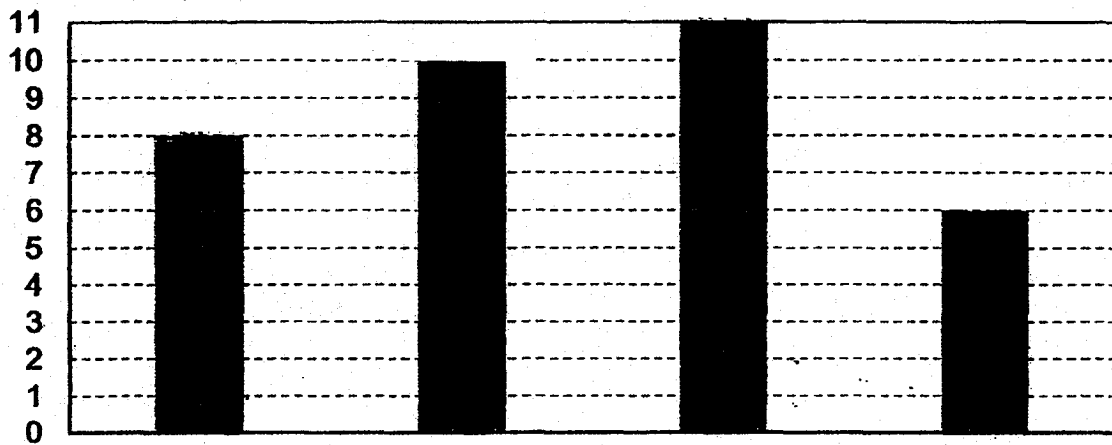
Ans: _____°

28. Yi Ting is m years old. Her father is 4 times her age and 2-years older than her mother. How old was Yi Ting's mother when Yi Ting was born?
Express your answer in terms of m in the simplest form.

Ans: _____ years old

29. The bar graph below shows the timing (in minutes) taken by 4 girls to complete a 800 m race.

Time
(in minutes)



Write down the time taken by Mala to complete the race.

Ans: _____ min'

30. There were 30 questions in a quiz. For the first 10 questions, Jay took 2 minutes to answer each question. He took thrice as long for each of the remaining questions. The quiz lasted 30 minutes. What is the most number of questions Jay could have answered?

Ans: _____ questions

Index No.



Maha Bodhi School
2018 Preliminary Examination
Primary 6
Mathematics
Paper 2

Name : _____ ()

Class : Primary 6 _____

Date : 7 August 2018

Duration: 1 h 30 min

INSTRUCTIONS TO CANDIDATES:

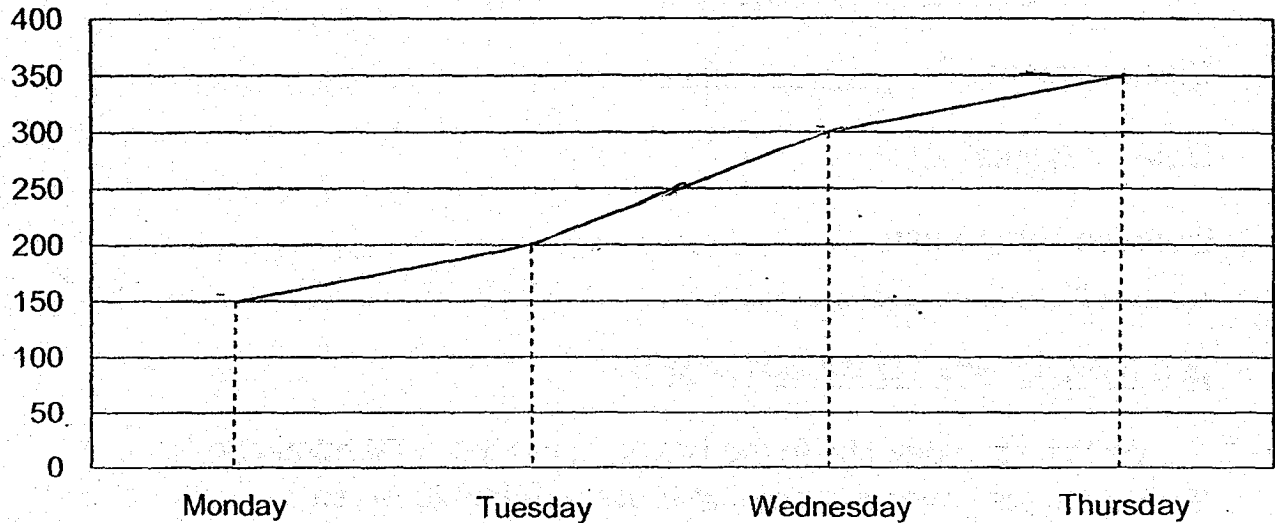
1. Write your Index No. in the boxes at the top right hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

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

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)
All diagrams are not drawn to scale.

1. The line graph below shows the number of buns sold from Monday to Thursday.

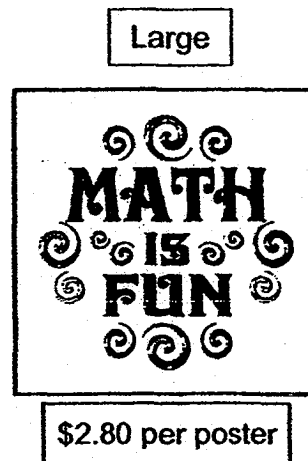
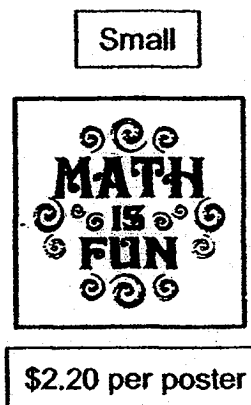
Number of buns sold



On average, how many buns were sold over the 4 days?

Ans: _____ buns

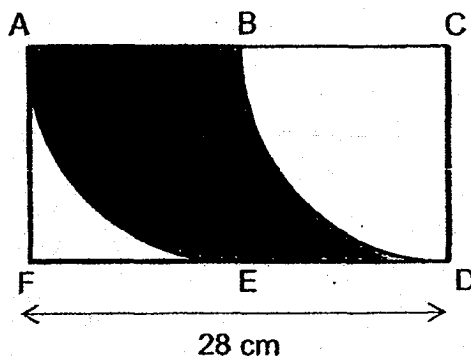
2. Two types of poster are sold at the prices shown.



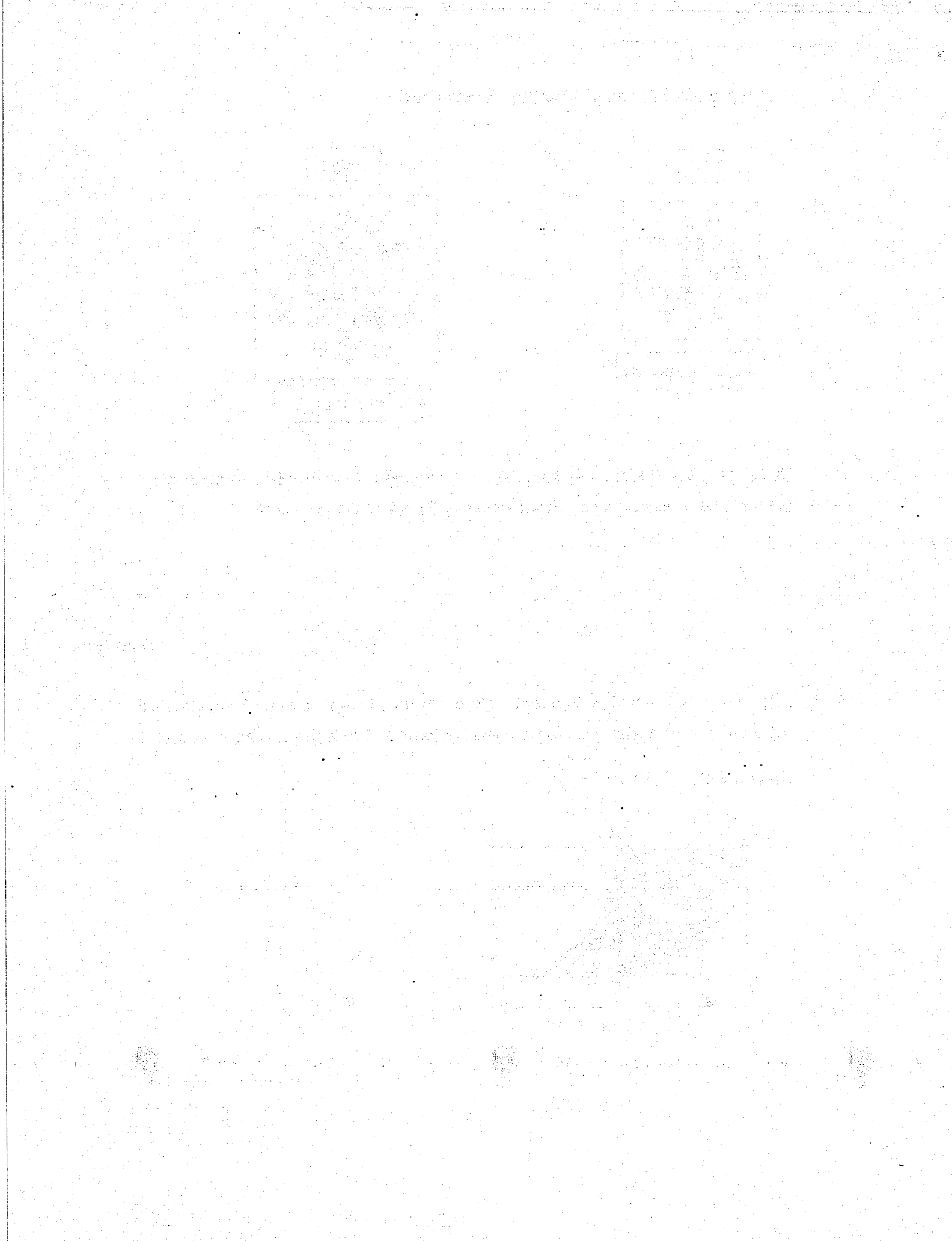
Yuting paid \$80.60 for some small and large posters. She bought 2 more large posters than small posters. How many small posters did she buy?

Ans: _____ small posters

3. In the figure below, ACDF is a rectangle of length 28 cm made up of two identical squares. A quarter circle is drawn in each square. What is the perimeter of the shaded part? (Take $\pi = \frac{22}{7}$)



Ans: _____ cm



4. Liming had a piece of wire $15x$ cm long. He formed a triangle with sides measuring x cm, $3x$ cm and 18 cm, with part of the wire. What is the length of the remaining wire? Express your answer in terms of x in the simplest form.

Ans: _____ cm

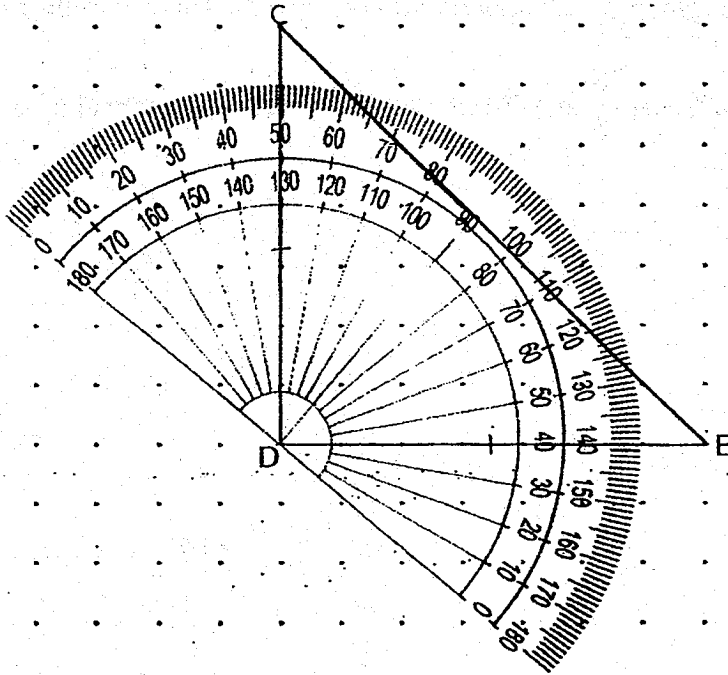
5. A barrel of oil has a mass of 3.1 kg when it was $\frac{1}{4}$ full. The same barrel of oil has a mass of 8 kg when it was $\frac{5}{6}$ full. What was the mass of the barrel of oil when it was completely full?

Ans: _____ kg

For questions 6 to 17, show your working clearly in the space provided for each question 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)
All diagrams are not drawn to scale.

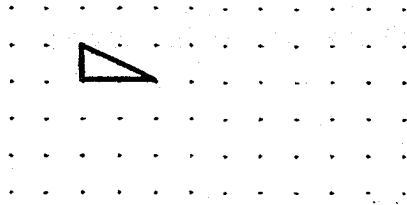
6. CDE is a right-angled isosceles triangle. CD is perpendicular to DE.
The line DE has been drawn for you.

- (a) Using the protractor in the dot paper below, draw and label Triangle CDE. [2]
- (b) Measure $\angle DEC$.

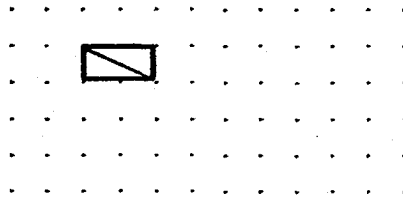


Ans: (b) _____ [1]

7. A unit shape in the form of a right-angled triangle is drawn in the dot paper below.

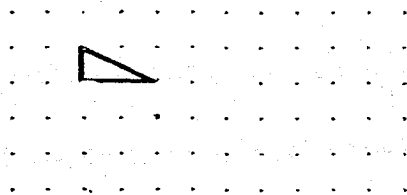


A quadrilateral formed when 2 such unit shapes are joined together as shown below has 2 lines of symmetry,



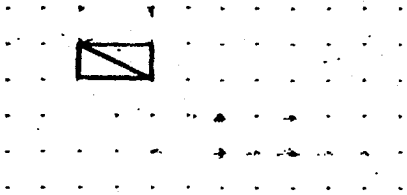
Using the **smallest** number of unit shapes, a pencil, ruler and the given dots, form another 3 different quadrilaterals in the dot paper below such that:

(a) the quadrilateral formed has no line of symmetry



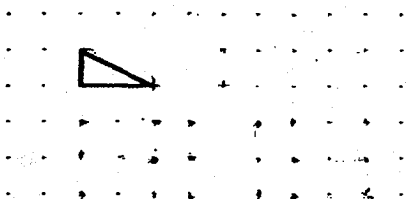
[1]

(b) the quadrilateral formed has one line of symmetry



[1]

(c) the quadrilateral formed has four lines of symmetry



[1]



8. Mr Sim takes $\frac{3}{4}$ h to travel from his home to Town A at an average speed of 64 km/h. If he wants to reach Town A 15 minutes earlier, at what speed must he travel?

Ans: _____ [3]

9. A rectangular tank measuring 112 cm by 80 cm is filled with water to a height of 14 cm. When 28.8 litres of water is removed, the water level drops to $\frac{2}{5}$ the height of the ~~container~~ tank. What is the capacity of the tank?

Ans: _____ [4]

10. Sharul was given \$20 on Monday.

He recorded the fraction of the money he had that was spent that day.

The next day, he would bring the amount left from the day before to school and record the fraction of this amount of money that was spent. He repeated this daily.

The table below shows the fraction of his money that he spent on 3 days.

Date Day	13 August Monday	14 August Tuesday	15 August Wednesday	16 August Thursday
Fraction Spent	$\frac{1}{10}$	$\frac{1}{3}$	$\frac{1}{4}$	
Amount left	\$18	(a)		(b)

(a) What was the amount of money Sharul had left on Tuesday?

(b) Sharul spent \$2 on Thursday.

What fraction of the money he had on Thursday was spent?

Ans: (a) _____ [2]

(b) _____ [2]

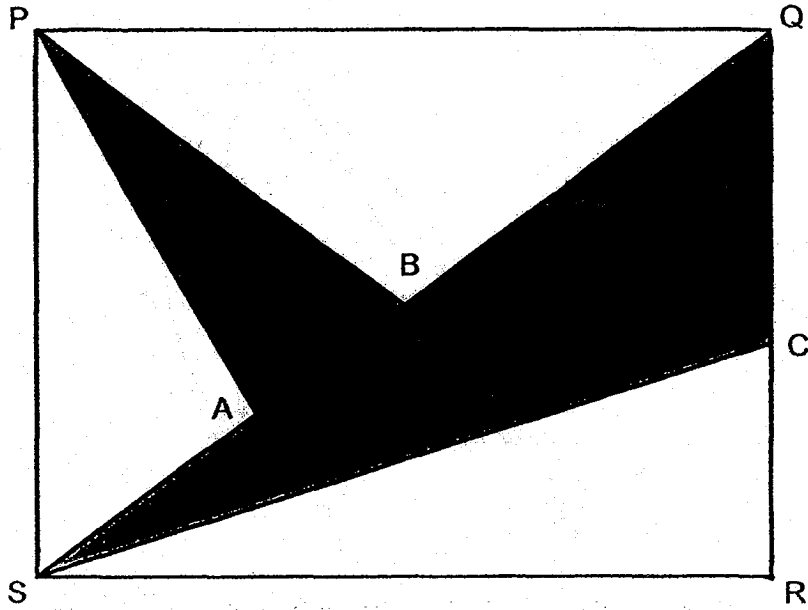
11. Siti has some 20-cent coins and 50-cent coins in the ratio 3 : 4. The total value of all the coins is \$52. What is the value of all her 20-cent coins?

Ans: _____ [3]

12. Ali, Bob and Carl shared a sum of money.
Ali received 40% of the total amount that Bob and Carl received.
Bob received 80% of what Carl received.
Bob received \$96 more than Ali.
Find the sum of money shared by the 3 boys.

Ans: _____ [3]

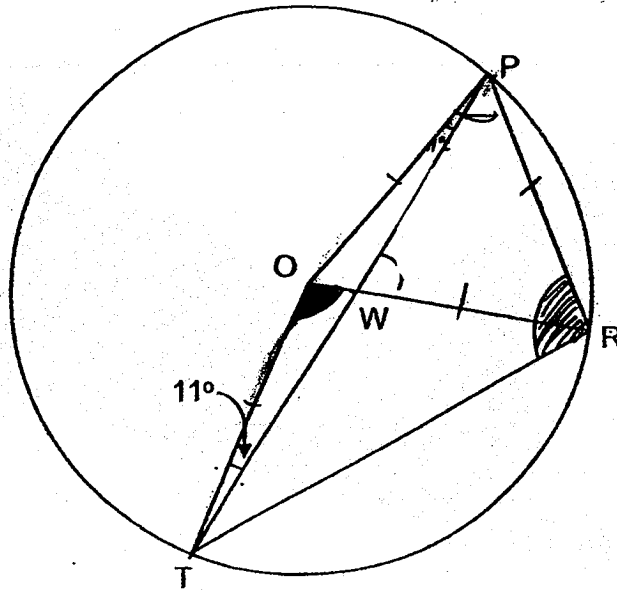
13. In the rectangle shown below, $PQ = 28$ cm and $QR = 21$ cm.
 The ratio of $SA : AB : BQ = 3 : 2 : 5$, CR is $\frac{3}{4}$ of QC and $PB = QB$.
 What fraction of the rectangle PQRS is shaded?



Ans: _____ [4]

14. In the diagram below, Triangle OPT, Triangle OPR and Triangle OTR are inside a circle with O being the centre of the circle. $OR = PR$ and $\angle PTO = 11^\circ$.

- (a) Find $\angle TOR$
 (b) Find $\angle PRT$



Ans: (a) _____ [2]

(b) _____ [2]

15. The teacher told the class that the average marks for a test was 82 marks. However, Nicole was absent for the test. The table below shows the average marks before Nicole took the test.

	Boys	Girls
Number	20	
Average marks	79	86

After Nicole had taken the test, the teacher changed the average marks for the girls and announced that the final average marks for the class was 82.5 marks.

- (a) How many marks did Nicole score for the test?
(b) What was the average marks scored by the girls finally?

Give your answer correct to 1 decimal place.

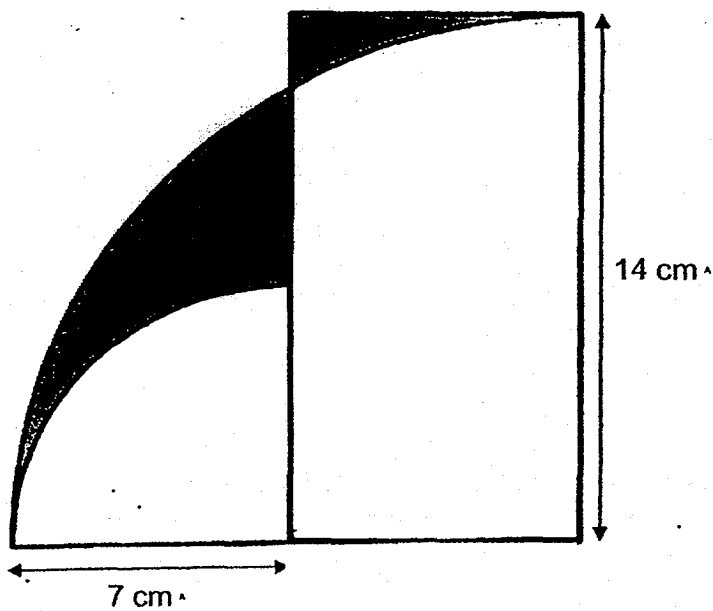
Ans: (a) _____ [2]

(b) _____ [2]

16. The members of the Computer Club are divided into 2 groups.
There are 12 more members in Group A than in Group B.
The ratio of the number of boys in Group B to that of Group A is 3 : 4
 $\frac{3}{4}$ of the girls in the Computer Club are in Group B.
There are 138 members in the Computer Club.
How many boys are there in Group A?

Ans: _____ [5]

17. The figure shows two quarter circles and a rectangle. The radius of the big quarter circle is 14 cm. The radius of the small quarter circle is 7 cm. What is the difference in area between the two shaded parts X and Y? (Take $\pi = \frac{22}{7}$)

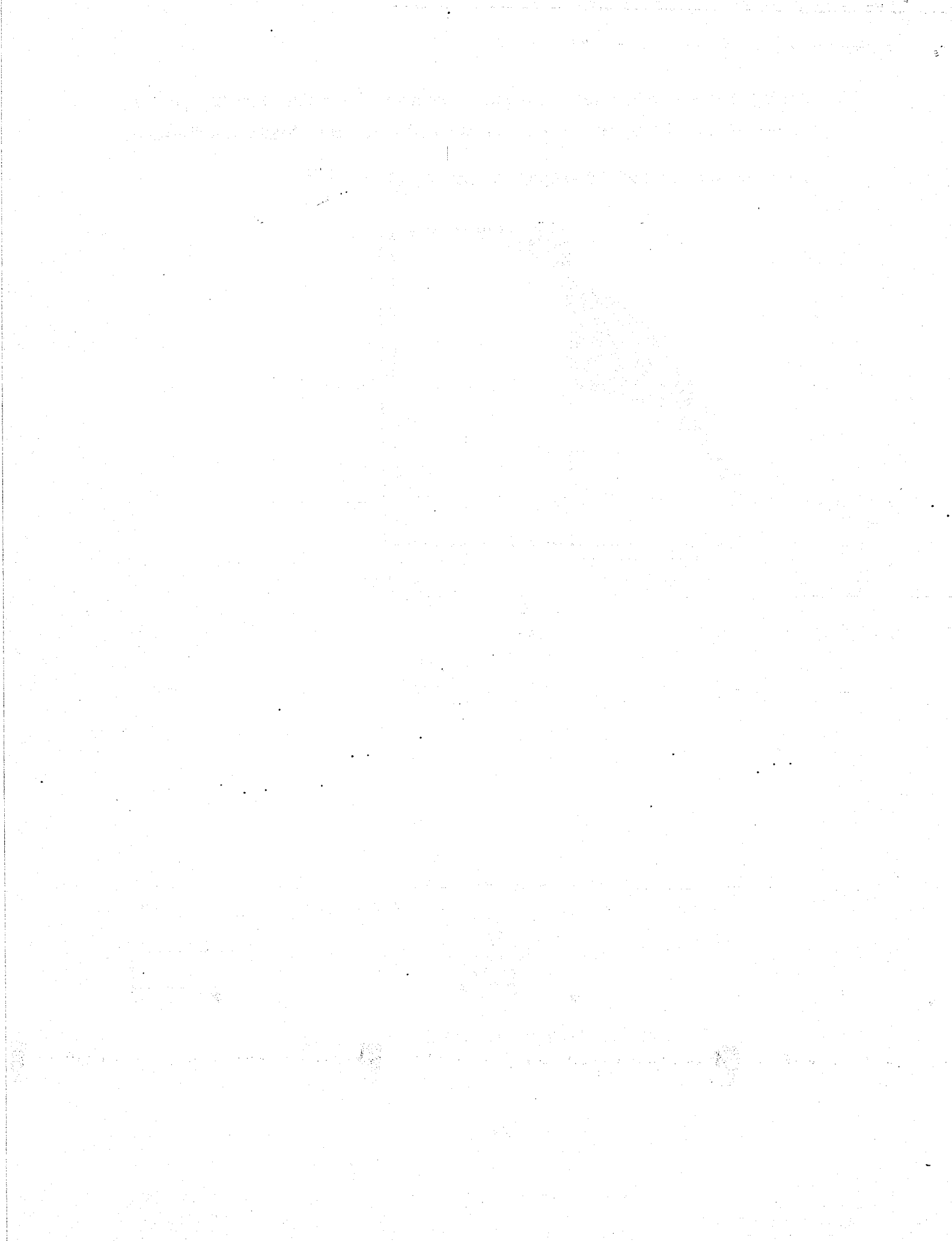


Ans: _____ [5]



/ 5

*Remember to check your work! Every mark counts.
~ End of Paper ~*



ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : MAHA BODHI SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

PAPER 1 BOOKLET A

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

PAPER 1 BOOKLET B

Q16) 4

Q17) $\frac{1}{40}$

Q18) 8.5cm

Q19) 6

Q20) $(\frac{n}{2})$

Q21) $8.7 \times 6 = 52.2$

$$70.1 - 52.2 = \underline{17.9\text{cm}}$$

Q22) $29 + 21 = 50$

$$70 - 50 = 20$$

$$\frac{1}{2} \times 20 \times 21 = \underline{210\text{cm}^2}$$

Q23) 3

Q24) $76 - 6 = 70$

$120 - 70 = 50$

$50 + 8 = \underline{58}$

Q25) Remaining fruit punch $\rightarrow \frac{3}{4} \times 12$

$= 9$ litres

Ans: $9 - \frac{1}{2} = 8\frac{1}{2}$ litres

Q26) $8 : 6 : 3$

Q27) $3 + 2 = 5$

$90 \div 5 = 18$

$18 \times 3 = \underline{54}^\circ$

Q28) Father $\rightarrow M \times 4$

$= 4m$

Mother $\rightarrow (4m - 2)$

$4m - 2 - m = \underline{(3m - 2)}$ years old

Q29) 8 min

Q30) First 10 qn $\rightarrow 10 \times 2$

$= 20$ min

Remaining time left $\rightarrow 30 - 20$

$= 10$ min

Time taken for ea remaining qn $\rightarrow 2 \times 3$

$= 6$ min

$10 \div 6 \approx 1$ qn

$10 + 1 = \underline{11}$

PAPER 2

Q1) $150 + 200 + 300 + 350 = 1000$

$1000 \div 4 = \underline{250}$ buns

Q2) $2.80 \times 2 = 5.60$

$80.60 - 5.60 = \$75$

1 set $\rightarrow 2.20 + 2.80$

$= \$5$

$$\begin{aligned}\text{Number of sets} &\rightarrow 75 \div 5 \\ &= \underline{15}\end{aligned}$$

$$\text{Q3) } 28 \div 2 = 14$$

$$\frac{1}{2} \times \frac{22}{7} \times 28 = 44\text{cm}$$

$$44 + 14 + 14 = \underline{72\text{cm}}$$

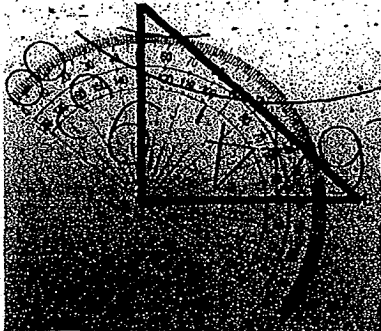
$$\begin{aligned}\text{Q4) Length of remaining wire} &\rightarrow 15x - x - 3x - 18 \\ &= \underline{(11x - 18)\text{cm}}\end{aligned}$$

$$\begin{aligned}\text{Q5) 7 units} &\rightarrow 8 - 3.1 \\ &= 4.9\text{kg}\end{aligned}$$

$$\begin{aligned}1 \text{ unit} &\rightarrow 4.9 \div 7 \\ &= 0.7\text{kg}\end{aligned}$$

$$\begin{aligned}\text{Mass of barrel of oil} &\rightarrow 8\text{kg} + (0.7\text{kg} \times 2) \\ &= \underline{9.4\text{kg}}\end{aligned}$$

Q6a)

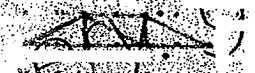


Q6b) 45°

Q7)



It has one line of symmetry



It has four lines of symmetry



$$Q8) \frac{3}{4} \times 64 = 48$$

$$\frac{3}{4} h = 45 \text{ min}$$

$$45 - 15 = 30$$

$$30 \text{ min} = \frac{1}{2} h$$

$$48 \div \frac{1}{2} = \underline{96 \text{ km/h}}$$

$$Q9) \text{ Vol of water in tank at first } \rightarrow 112 \times 80 \times 14 \\ = 125\,440 \text{ cm}^3$$

$$28.8 \text{ litres} = 28\,800 \text{ cm}^3$$

$$\frac{2}{5} \rightarrow 125\,440 - 28\,800 \\ = 96\,640 \text{ cm}^3$$

$$\frac{1}{5} \rightarrow 96\,640 \div 2 \\ = 48\,320 \text{ cm}^3$$

$$\frac{5}{5} = 48\,320 \times 5$$
$$= \underline{241\,600\text{cm}^3}$$

$$\text{Q10a) } 20 \times \frac{1}{10} = 2$$

$$18 \times \frac{1}{3} = 6$$

$$18 - 6 = \underline{\$12}$$

$$\text{Q10 b) } 12 \times \frac{1}{4} = 3$$

$$12 - 3 = 9$$

$$\text{Ans} = \frac{2}{9}$$

$$\text{Q11) } 20\text{c} : 50\text{c}$$

$$3 : 4$$

$$3 \times 0.2 = 0.6$$

$$4 \times 0.5 = 2$$

$$0.6 + 2 = 2.6$$

$$52 \div 2.6 = 20$$

$$20 \times 0.6 = \underline{\$12}$$

$$\text{Q12) Bob} \rightarrow 80\%$$

$$\text{Carl} \rightarrow 100\%$$

$$\text{Ali} \rightarrow \frac{40}{100} \times 180\%$$

$$= 72\%$$

$$80 - 72 = 8$$

$$8\% \rightarrow \$96$$

$$252\% \rightarrow 96 \div 8 \times 252$$

$$= \underline{\$3024}$$

$$\text{Q13) Area of triangle SQR} = \frac{1}{2} \times 28 \times 21$$

$$= 294\text{cm}^2$$

$$\begin{aligned}\text{Area of triangle SQC} &= \frac{1}{2} \times 12 \times 28 \\ &= 168\text{cm}^2\end{aligned}$$

$$\begin{aligned}\text{Area of triangle PBS} &= \frac{1}{4} \times 28 \times 21 \\ &= 147\text{cm}^2\end{aligned}$$

$$\begin{aligned}\text{Area of triangle PAB} &= \frac{2}{5} \times 147 \\ &= 58.5\text{cm}^2\end{aligned}$$

$$\begin{aligned}\text{Area of triangle PQRS} &= 28 \times 21 \\ &= 588\text{cm}^2\end{aligned}$$

$$\begin{aligned}\text{Area of shaded part} &= 588 + 168 \\ &= 226.8\text{cm}^2\end{aligned}$$

$$\text{Fraction} \rightarrow \frac{226.8}{588}$$

$$\text{Ans} = \frac{27}{70}$$

$$\begin{aligned}\text{Q14a) } \angle \text{OPT} &= 11^\circ \\ \text{QR} &= \text{PR} = \text{OP} \\ \angle \text{POR} &= 60^\circ \\ \text{TOR} &= 180 - 11 - 11 - 60 \\ &= \underline{98^\circ}\end{aligned}$$

$$\begin{aligned}\text{Q14b) } \angle \text{ORT} &= (180 - 98) \div 2 \\ &= 41^\circ \\ \angle \text{PRT} &= 41 + 60 \\ &= \underline{101^\circ}\end{aligned}$$

$$\begin{aligned}\text{Q15a) Boys} &\rightarrow 82 - 79 = 3 \\ &3 \times 20 = 60\text{marks}\end{aligned}$$

$$\text{Girls} \rightarrow 86 - 82 = 4$$

$$60 \div 4 = 15 \text{ (girls at first)}$$

$$\text{Original total} \rightarrow (20 + 15) \times 82 \\ = 2870$$

$$\text{Marks scored by Nicole} \rightarrow 2970 - 2870 \\ = \underline{100}$$

$$\text{Q15b) } 1290 + 100 = 1390 \\ 1390 \div 16 = 86.875 \\ \approx \underline{86.9}$$

$$\text{Q16) No of members in A} \rightarrow (138 + 12) \div 2 \\ = 75$$

$$\text{No of members in B} \rightarrow 75 - 12 \\ = 63$$

$$3\text{units} + 3\text{parts} = 4\text{ units} + 1\text{ part} - 12$$

$$3\text{units} + 3\text{parts} = 63$$

$$4\text{units} + 1\text{part} = 75$$

$$1\text{part} = 75 - 4\text{units}$$

$$3\text{units} + 3(75 - 4\text{ units}) = 63$$

$$3\text{units} + 225 - 12\text{units} = 63$$

$$225 - 63 = 12\text{units} - 3\text{ units}$$

$$9\text{units} = 162$$

$$1\text{unit} = 162 \div 9$$

$$= 18$$

$$4\text{units} = 18 \times 4$$

$$= \underline{72\text{ boys}}$$

$$\text{Q17) Area of small quadrant} \rightarrow \frac{1}{4} \times \frac{22}{7} \times 7 \times 7$$

$$= 38.5\text{cm}^2$$

$$\text{Area of big quadrant} \rightarrow \frac{1}{4} \times \frac{22}{7} \times 14 \times 14$$

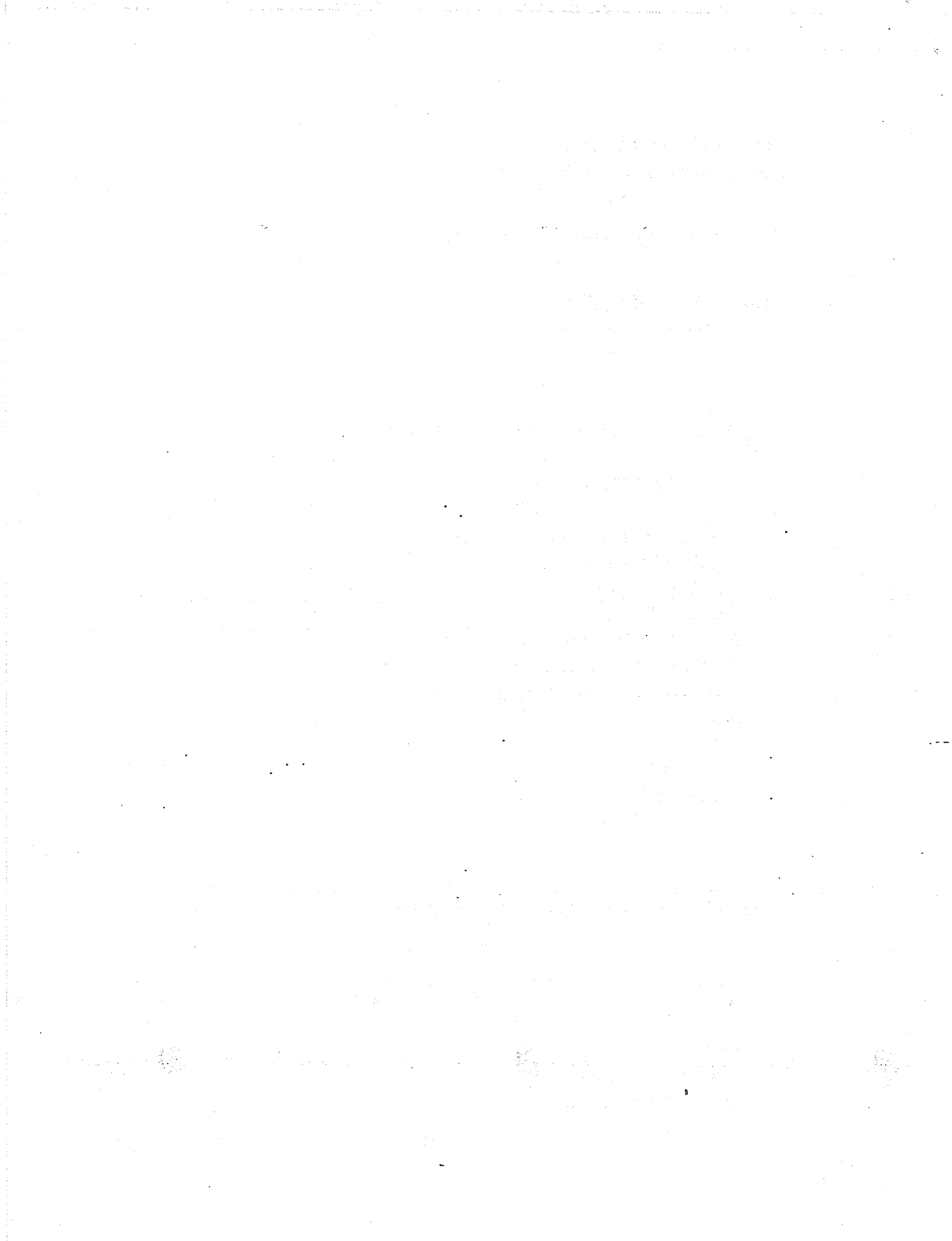
$$= 154\text{cm}^2$$

$$14 \times 7 = 98$$

$$154 - 38.5 = 115.5$$

$$115.5 - 98 = \underline{17.5\text{cm}^2}$$

END



METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2018 PRIMARY 6 MATHEMATICS

PAPER 1 (BOOKLET A)

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS)
provided.

The use of calculators is not allowed.

Name: _____ ()

Class: Primary 6. _____

Date: 2 August 2018

Parent's Signature : _____

This booklet consists of 8 printed pages including this page

MEMORANDUM FOR THE RECORD

DATE: 10/10/45

TO: SAC, NEW YORK

FROM: SA [Name], NEW YORK

SUBJECT: [Subject]

[Text]

[Text]

[Text]

[Text]

[Text]

[Text]

[Text]

[Text]

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). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.
(20 marks)

1. Round 538 527 to the nearest ten thousands.

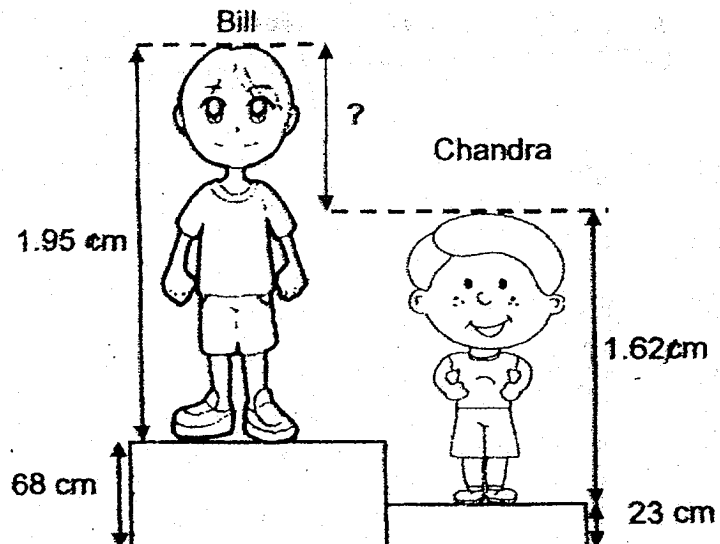
- (1) 530 000
- (2) 538 000
- (3) 539 000
- (4) 540 000

2. The mass of a sack of potatoes is 5.45 kg. Find the mass of 30 such sacks of potatoes.

- (1) 16.35 kg
- (2) 54.5 kg
- (3) 163.5 kg
- (4) 545 kg

3. Bill and Chandra are standing on the podium. What is the distance between the top of Bill's head and the top of Chandra's head?

- (1) 33 cm
- (2) 45 cm
- (3) 78 cm
- (4) 91 cm



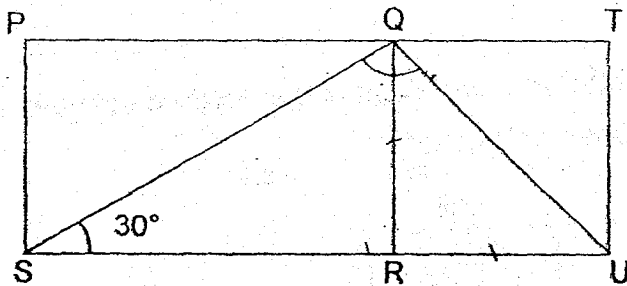
(Go on to the next page)

4. The table shows the total number of cars sold by Mr Tan, a car dealer, from January to April.

Month	No. of cars sold
Jan	0
Feb	17
Mar	29
Apr	62

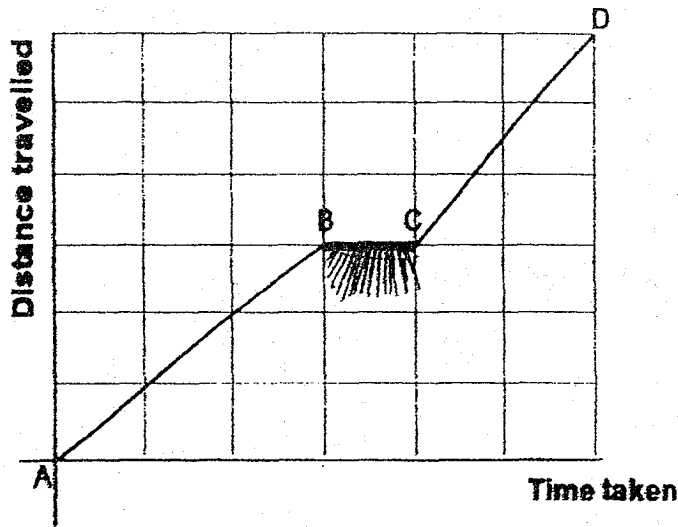
What was his average number of cars sold per month?

- (1) 23
 (2) 27
 (3) 36
 (4) 108
5. In the figure below, PQRS is a rectangle and QTUR is a square. PQT and SRU are straight lines. Find \angle SQU.

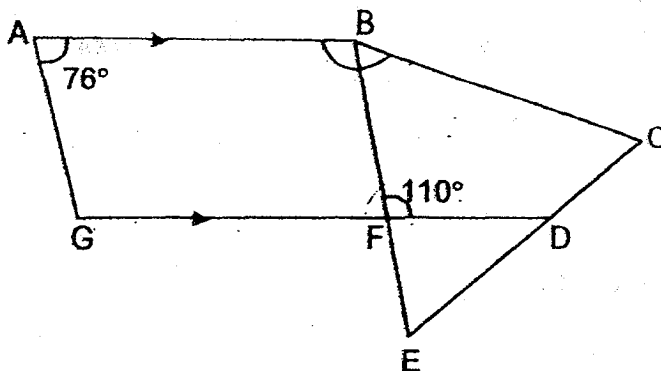


- (1) 45°
 (2) 60°
 (3) 90°
 (4) 105°

6. The distance-time graph shows the journey taken by Mr Lim from Town A to Town D. Which statement describes the graph?



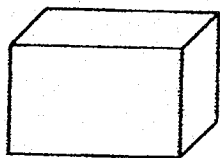
- (1) He travelled at the same speed from Point B to Point C.
 - (2) He travelled at the same speed from Point A to Point D.
 - (3) His speed from Point A to Point B is faster than his speed from Point C to Point D.
 - (4) His speed from Point A to Point B is slower than his speed from Point C to Point D.
7. In the diagram below, ABFG is a trapezium and BCE is an equilateral triangle. AB // GF and GFD is a straight line. Find $\angle ABC$.



- (1) 104°
- (2) 164°
- (3) 170°
- (4) 186°

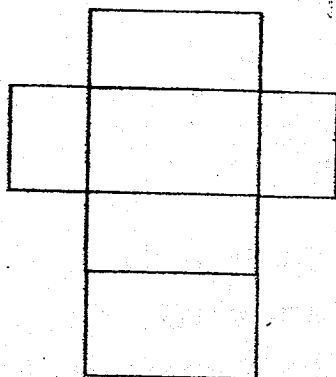
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8.

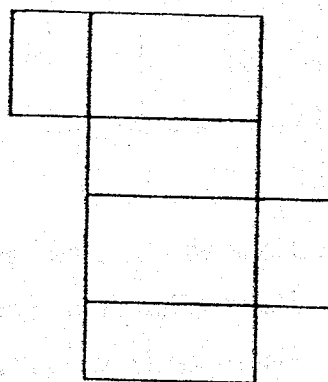


Which one of these figures could not be a net of the cuboid?

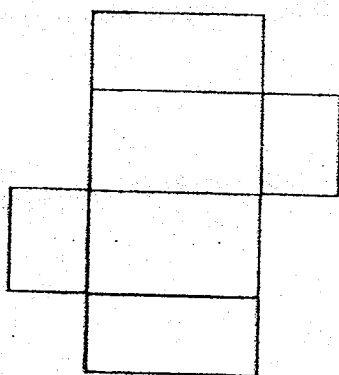
(1)



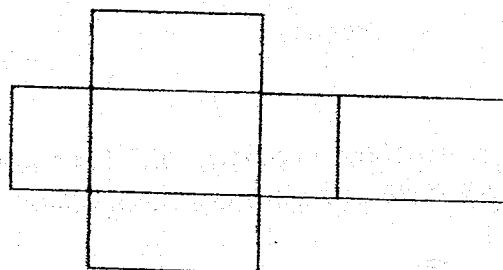
(2)



(3)



(4)



9. Simplify $9y + 7 - 5y + y - 3 + 2$.

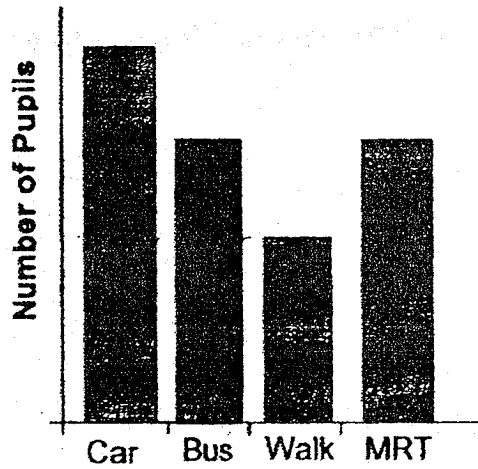
(1) $3y + 2$

(2) $3y + 6$

(3) $5y + 2$

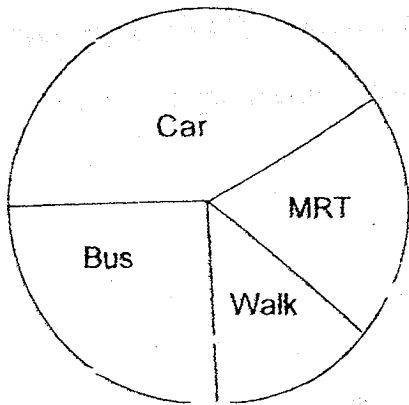
(4) $5y + 6$

10. The bar graph shows how pupils of Champion Primary School went to school on a certain day.

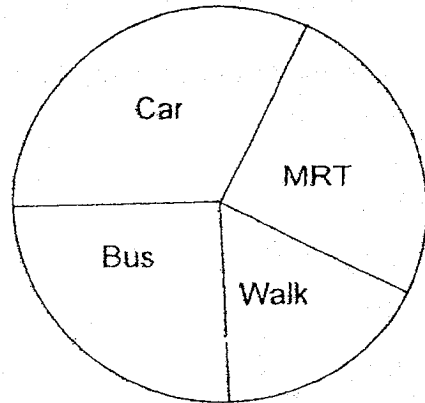


Which pie chart represents the information given in the bar graph?

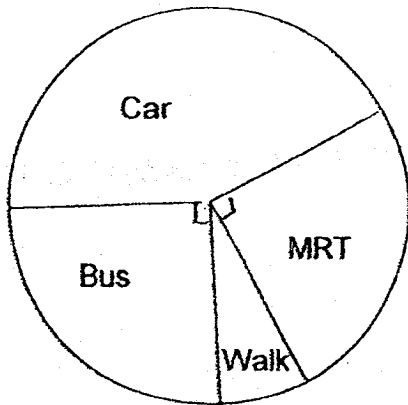
(1)



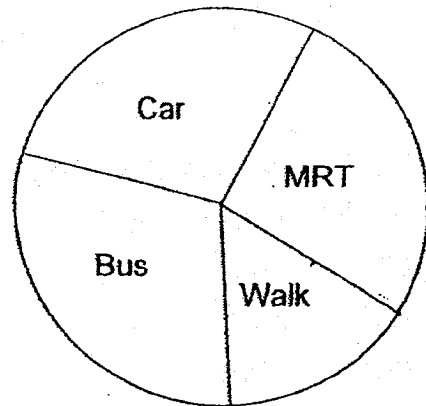
(2)



(3)



(4)



11. Mr Tan bought a total of 300 red and black beads in separate boxes. All the boxes of red beads had the same number of beads. All the boxes of black beads had 70 beads in each box. Which one of the following could not be the number of red beads in a box?

(1) 30

(2) 32

(3) 36

(4) 45

12. In a box, $\frac{4}{9}$ of the fruits are apples and the rest are pears. $\frac{2}{3}$ of the apples are red and the rest are green. There are 24 green apples. How many pears are there in the box?

(1) 40

(2) 72

(3) 90

(4) 162

13. Lee Min donated 30% of her savings and still had \$210 of her savings left. How much money did she donate?

(1) \$63

(2) \$90

(3) \$120

(4) \$147

14. The letter x represents a number between 4 and 6. Which of the following algebraic expression has the largest value?

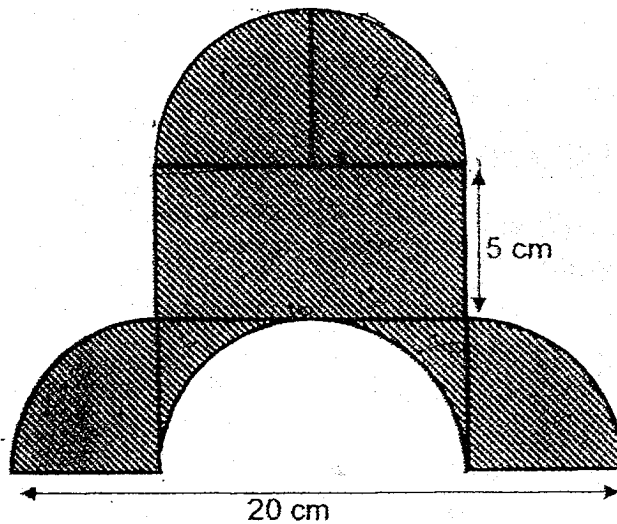
(1) $\frac{x+6}{x}$

(2) $\frac{x+6}{6}$

(3) $\frac{6-x}{x}$

(4) $\frac{6-x}{6}$

15.



The figure above is formed by 4 identical quarter circles, 1 semicircle and 1 rectangle. Find the area of the shaded figure.

Leave your answer in terms of π .

(1) $(12\frac{1}{2}\pi + 100) \text{ cm}^2$

(2) $(25\pi + 50) \text{ cm}^2$

(3) $(25\pi + 150) \text{ cm}^2$

(4) $(50\pi + 50) \text{ cm}^2$

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PRELIMINARY EXAMINATION 2018 PRIMARY 6 MATHEMATICS

PAPER 1 (BOOKLET B)

Total Time for Booklets A and B : 1 hour

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 this booklet.

The use of calculators is not allowed.

Name: _____ ()

Class: Primary 6. _____

Date: 2 August 2018

Parent's Signature: _____

Paper 1 Booklet A	/ 20
Paper 1 Booklet B	/ 25
Paper 2	/ 55
TOTAL	/ 100

This booklet consists of 9 printed pages including this page

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)

Do not write
in this space

16. Find the value of $15.3 - 9.04$.

Ans : _____

17. Find the value of 147×80 .

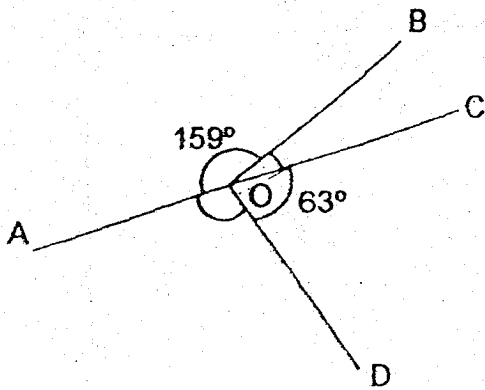
Ans : _____

18. $a : b = 7 : 4$ and $b : c = 6 : 7$ What is the ratio of $a : c$?
Give your answer in the simplest form.

Ans : _____

(Go on to the next page)

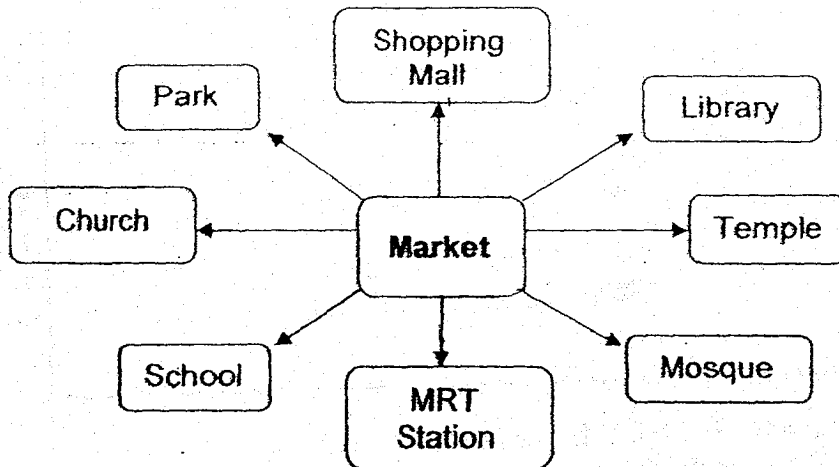
19. In the figure below, AOC is a straight line. $\angle AOB = 159^\circ$ and $\angle COD = 63^\circ$. What is the sum of $\angle AOD$ and $\angle BOC$?



Ans : _____

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20. Mrs Lim was at the market. After she turned 225° anti-clockwise, she is now facing the park. Where was she facing at first?



Ans : _____

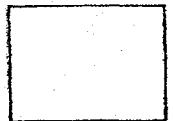
Questions 20 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(20 marks)

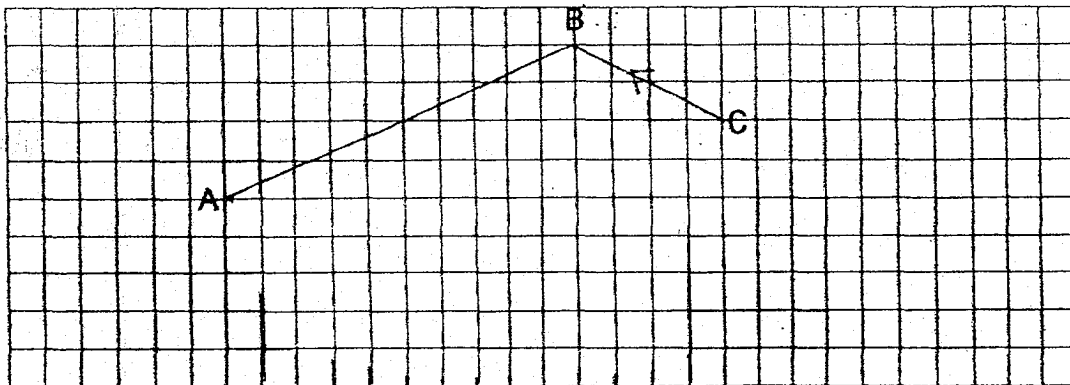
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21. Eileen prepared $\frac{6}{7}$ litres of apple juice for some friends. She poured the juice into cups of $\frac{1}{5}$ litres each. How much apple juice was left? Give your answer as a fraction in the simplest form.

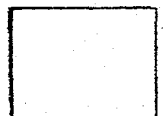
Ans : _____ l



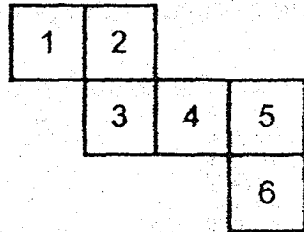
22. AB and BC are two sides of a trapezium. $BC \parallel AD$ and the length of BC and AD are in the ratio of 2:3. Complete the trapezium by drawing the other two sides in the square grid and label it. Measure the length of CD.



Ans: CD = _____ cm



23. The diagram shows the net of a cube. The cube is placed with Face "2" at the bottom of the cube. Which face is at the top of the cube?



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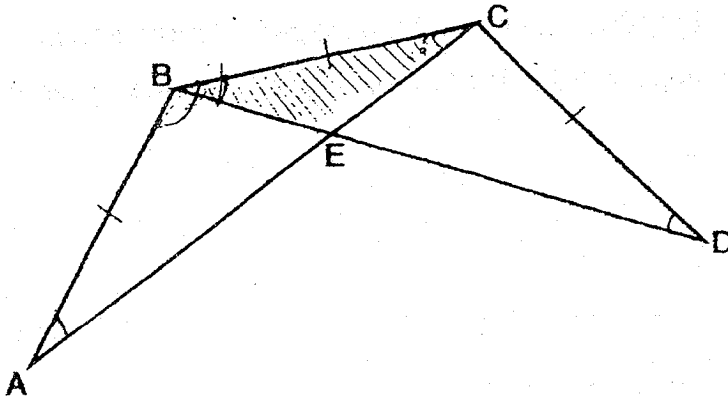
Ans : Face _____

24. Janette took 15 minutes to cycle from her house to the library. She travelled 850 m. Find Janette's speed in km/h.

Ans : _____ km/h

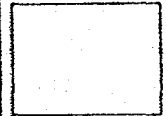
25. In the figure below, AEC and BED are straight lines. $AB = BC = CD$.

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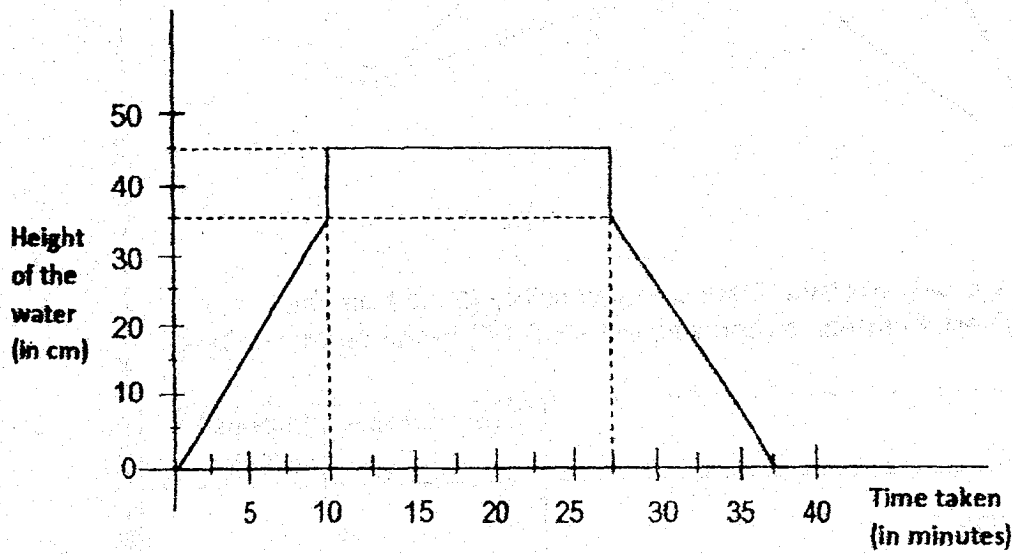
Each statement below is true, false or not possible to tell from the information given. For each statement, put a tick (\checkmark) in the correct column.

Statement	True	False	Impossible to Tell
Area of Figure ABCDE = Area of $\triangle ABC$ + Area of $\triangle BCD$ - Area of $\triangle BCE$			
$\angle BAC = \angle CDB$			



26. The graph below shows the height of water in a bathtub at different times of Sally's bathing activity. The height of the bathtub was 50 cm. She switched on the tap to fill the bathtub. She switched off the tap and stepped into the tub. After her bath, she stepped out of the bathtub and drained the water.

Do not write
in this space



- (a) What fraction of the height of the bathtub was filled with water when Sally switched off the tap? Give your answer in the simplest form.
- (b) How long did Sally stay in the bathtub?

Ans : (a) _____

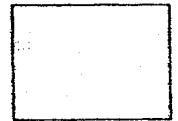
(b) _____ min



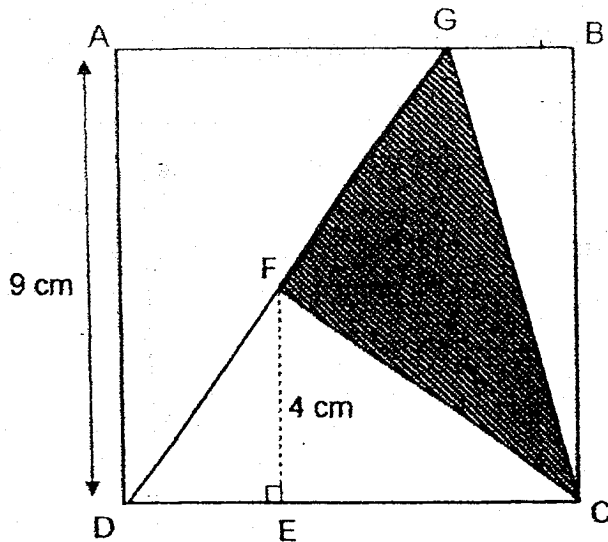
27. The pupils in a room are divided equally into Group A and Group B. The ratio of the number of boys to the number of girls in Group A is 2 : 3 and in Group B is 1 : 2. What is the ratio of the total number of girls to the total number of pupils in the room?

Do not write
in this space

Ans : _____



28. The figure below is formed by a square ABCD and a triangle DGC. AD = 9 cm, EF = 4 cm and FC is a straight line. Find the area of the shaded part.

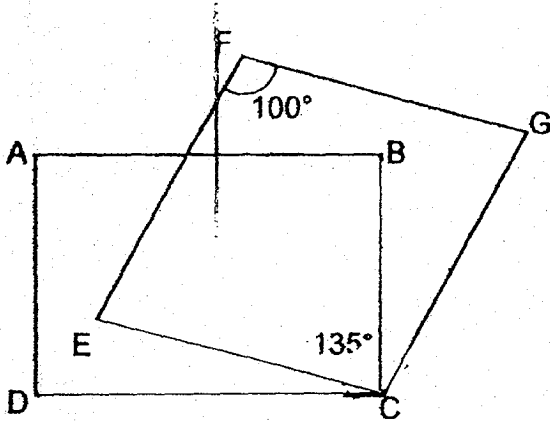


Ans : _____ cm²



29. In the figure, ABCD is a rectangle and CEFG is a rhombus. $\angle EFG = 100^\circ$ and $\angle DCG = 135^\circ$. Find $\angle BCE$.

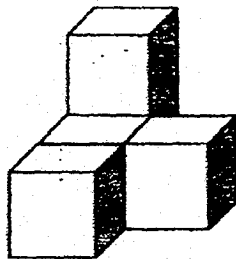
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Ans: _____ °



30. The solid below is made up of 5 identical cubes. The solid has a volume of 40 cm^3 . How many more cubes have to be added to the solid to form a bigger cube with a volume of 216 cm^3 .



Ans: _____



METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



PRELIMINARY EXAMINATION 2018 PRIMARY 6 MATHEMATICS

PAPER 2

Duration: 1h 30 min

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 this booklet.

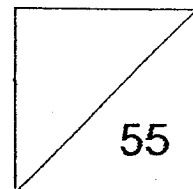
The use of an approved calculator is expected, where appropriate.

Name: _____ ()

Class: Primary 6. _____

Date: 2 Aug 2018

Parent's Signature : _____



This booklet consists of 13 printed pages including this 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)

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- 1 The table below shows the number of television sets owned per flat in a housing estate.

Number of television sets owned per flat	1	2	3	4
Number of flats	135	540	297	108

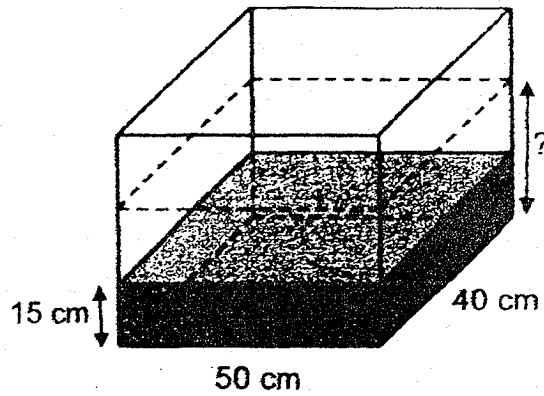
- (a) How many television sets are owned by the flats in the housing estate?
(b) What percentage of flats owned at least two television sets?

Ans : (a) _____ [1]

(b) _____ [1]



- 2 A rectangular tank 50 cm long and 40 cm wide was filled partially with water. 12 litres of water were poured out of the tank. The height of the water became 15 cm. What was the height of the water at first?



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space

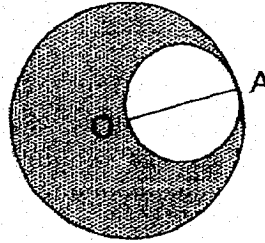
Ans : _____ cm

- 3 Nazri had some marbles. He gave $\frac{2}{5}$ of them to his classmates and $\frac{1}{3}$ of the remainder to his brother. He then had 38 marbles left. How many marbles did he give to his brother?

Ans : _____

- 4 O is the centre of the large circle and AO is the diameter of the small circle. The diameter of the large circle is 2 times the diameter of the small circle. The circumferences of the big and small circles meet each other at point A. The perimeter of the shaded figure is 30π cm, what is the diameter of the small circle?

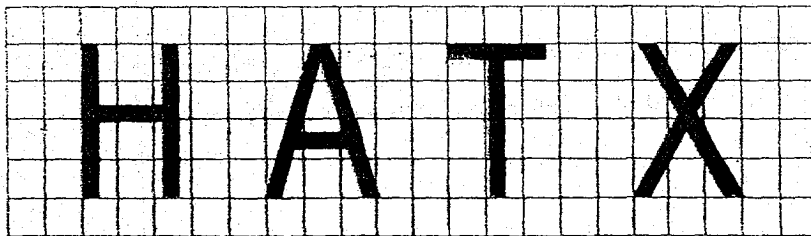
Do not write in this space



Ans : _____ cm



- 5 Look at the letters in the square grid below.



Write each letter once in the table below based on the description for each row or column.

	Have 1 line of symmetry	Have 2 lines of symmetry
Description		
Have perpendicular lines		
Have no perpendicular lines		



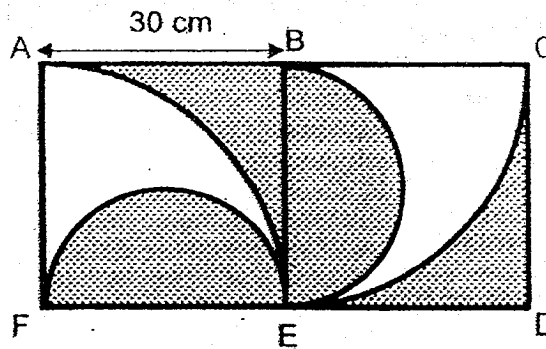
For Questions 6 to 17, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question. (45 marks)

Do not write in this space

- 6 Siti bought n notebooks and 3 times as many files. She paid a total of \$160 for the notebooks and files. The notebooks cost \$25 more than the files. If $n = 5$, what was the cost of each file?

Ans: _____ [3]

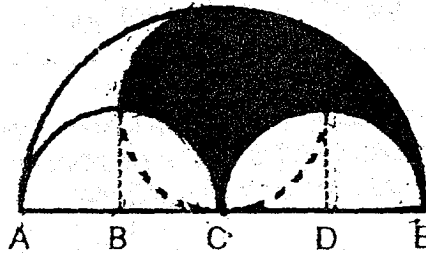
- 7 The shaded figure below is formed by semicircles, quarter circles and squares. ABEF is a square. What is the area of the shaded region? ($\pi = 3.14$)



Ans: _____ [3]

- 8 The figure shows three semicircles and a circle. $AB = BC = CD = DE = 5$ cm, find the perimeter of the shaded part. Give your answer in 2 decimal places.

Do not write
in this space

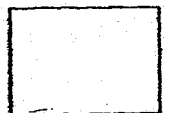


Ans: _____ [3]



- 9 Every time Mei Ling saves 60 cents, her mother puts another 30 cents into her savings. When Mei Ling had \$25.20 in her savings, how much of it had been put in by her mother?

Ans: _____ [3]



- 10 Peter set off from Town A towards Town B at 7.00 a.m. at a constant speed of 70 km/h. John set off from Town A towards Town B at 8.30 a.m. at a constant speed of 90 km/h. At what time did John manage to catch up with Peter on the road?

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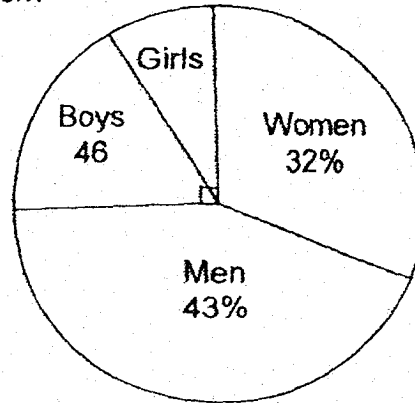
Ans: _____ [3]

- 11 A group of children shared 533 stamps among themselves. $\frac{1}{2}$ of them received 4 stamps each, $\frac{5}{12}$ of them received 3 stamps each and the rest received 2 stamps each. How many children were there?

Ans: _____ [4]

- 12 The pie chart below shows the percentage of people who visited an exhibition. 25% of the people were children. There were 46 boys. There were 88 more women than girls.

- (a) How many men were there?
(b) How many people visited the exhibition?



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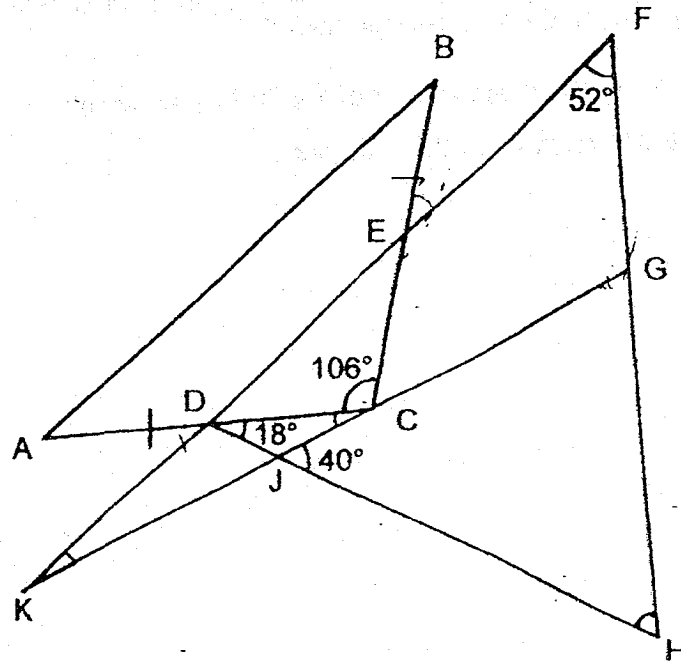
Ans : (a) _____ [3]

(b) _____ [1]



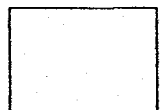
13 The figure below shows three overlapping triangles. ABC is an isosceles triangle and $AB \parallel FK$. $\angle ACB = 106^\circ$, $\angle CDH = 18^\circ$, $\angle KFH = 52^\circ$ and $\angle GJH = 40^\circ$. Find

- (a) $\angle FHD$.
- (b) $\angle FKG$.



Do not write in this space

Ans : (a) _____ [3]
 (b) _____ [1]



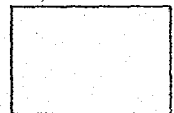
14 The total height of 3 men was 5.01 m. A fourth man joined the group and the average height decreased by 0.08 m. A fifth man joined the group and the average height then increased by 0.06 m.

- (a) What was the average height of the first three men?
(b) What was the height of the fifth man?

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in this space

Ans : (a) _____ [1]

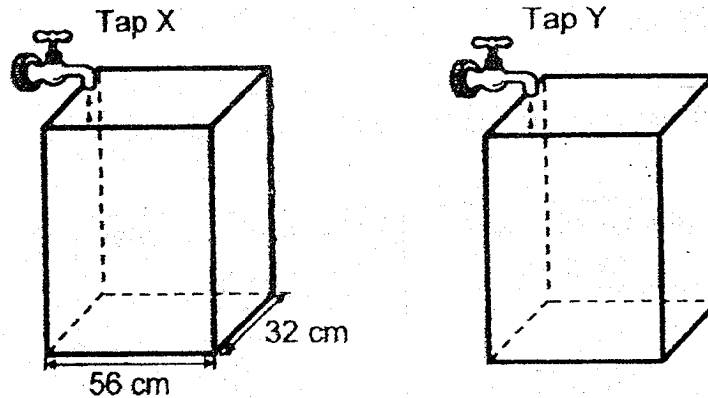
(b) _____ [3]



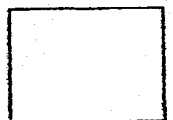
- 15 The figure below shows 2 identical tanks. Water from Tap X flowed at a rate of 2.8 litres per minute while water from Tap Y flowed at a rate of 3.2 litres per minute. Tap X was turned on at 10 a.m. Tap Y was turned on 2 minutes later. The taps were turned off at the same time when the water level in the 2 tanks reached the same height.

Do not write
in this space

- (a) At what time was the water level the same in both tanks?
(b) What was the height of the water level in both tanks in the end?



Ans: (a) _____ [3]
(b) _____ [2]



- 16 The figures which are made up of shaded and unshaded squares follow a pattern as shown below.

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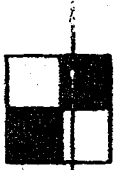


Figure 1

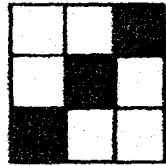


Figure 2

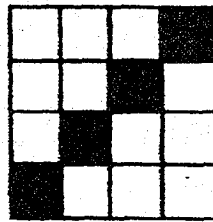


Figure 3

- (a) Find the number of shaded and unshaded squares in Figure 5.

[1]

Figure Number	Number of shaded squares	Number of unshaded squares
1	2	2
2	3	6
3	4	12
4	5	20
5	i) _____	ii) _____

- (b) In which figure is there a total of 256 squares?
 (c) A figure in the pattern has a total of 529 shaded and unshaded squares. What is the number of shaded squares in the figure?

Ans: (b) _____ [1]

(c) _____ [2]



17

Computer sale

1st computer at 20% discount

2nd computer at 30% discount*

*Price of 2nd computer should be equal or lower than price of 1st

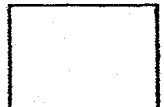
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Mr Chan and Mr Tan each bought two computers during the Great Singapore Sale.

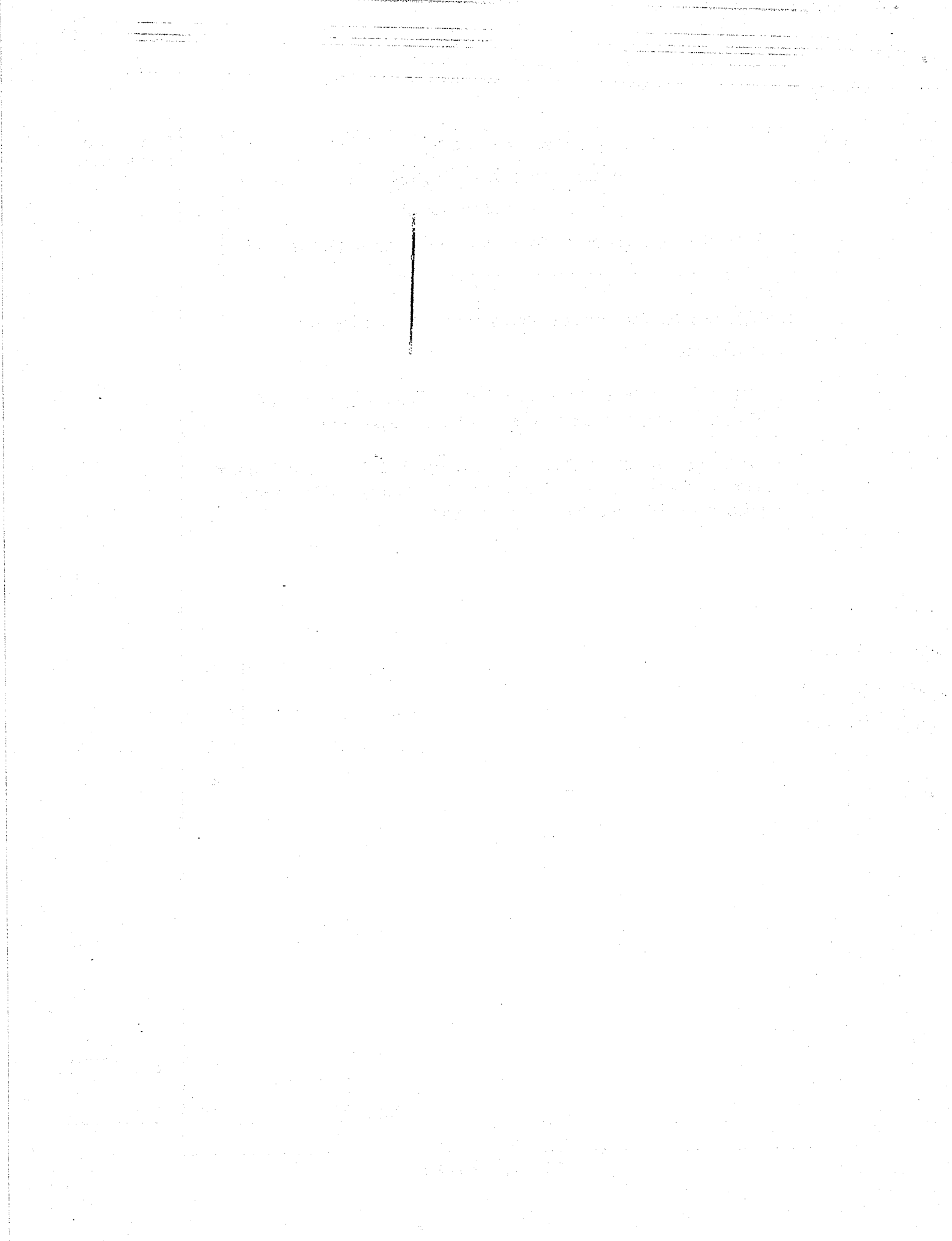
- (a) Mr Chan's computers were priced at \$1250 and \$2370, before 7% GST. How much did he pay in total, including GST?
- (b) Mr Tan paid a total of \$3445.40, including 7% GST. He paid \$449.40 more for the 1st computer than for the 2nd computer. What was the price of the 1st computer before discount?

Ans: (a) _____ [2]

Ans: (b) _____ [3]



END OF PAPER



ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : METHODIST GIRLS' SCHOOL (PRIMARY)
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAM

PAPER 1 BOOKLET A

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

PAPER 1 BOOKLET B

Q16) 6.26

Q17) 11 760

Q18) 3 : 2

Q19) 138°

Q20) MRT Station

Q21) $\frac{2}{35}$

Q22)



CD = 4.6 cm

Q23) Face 6

Q24) 3.4 km/h

Q25) Area of Figure ABCDE: True

$\angle BAC = \angle CDB$: Impossible to tell

Q26a) $\frac{7}{10}$

Q26b) 17.5 min

Q27) 19 : 30

Q28) 22.5 cm^2

Q29) 55°

Q30) 22

PAPER 2

Q1a) $540 \times 2 = 1080$

$$297 \times 3 = 891$$

$$108 \times 4 = 432$$

$$1080 + 891 + 432 + 135 = \underline{2538}$$

Q1b) $540 + 297 + 108 = 945$

$$945 + 135 = 1080$$

$$\frac{945}{1080} \times 100 = \underline{87.5\%}$$

Q2) 12 litres = $12\,000 \text{ cm}^3$

$$12\,000 \text{ cm}^3 \div (50 \text{ cm} \times 40 \text{ cm}) = 6 \text{ cm}$$

$$15 \text{ cm} + 6 \text{ cm} = \underline{21 \text{ cm}}$$

Q3) $1 - \frac{2}{5} = \frac{3}{5}$

$$\frac{3}{5} = 3 \text{ units}$$

$$\frac{1}{3} \text{ of } 3 \text{ units} = 1 \text{ unit}$$

$$2 \text{ units} = 38$$

$$1 \text{ unit} = 38 \div 2 \\ = \underline{19}$$

Q4) Perimeter of small circle = πd

$$\text{Perimeter of big circle} = \pi + 2d = 2 \pi d$$

$$\text{Total perimeter of figure} = \pi d + 2 \pi d \\ = 3 \pi d - 30 \pi$$

$$d = \underline{10\text{cm}}$$

Q5)

Description	Have 1 line of symmetry	Have 2 lines of symmetry
Have perpendicular lines	T	H
Have no perpendicular lines	A	X

$$Q6) 160 - 25 = 135$$

$$135 \div 2 = 67.50$$

$$3n \text{ files} = 67.50$$

$$1 \text{ file} = 67.50 \div 3n$$

$$1 \text{ file} = 67.50 \div 15$$

$$= \underline{\$4.50}$$

$$Q7) \text{Area of rectangle} : 30 \times 60 = 1800\text{cm}^2$$

$$\text{Area of semicircle} : \frac{1}{2} \times 30 \times 30 \times 3.14 = 141\text{cm}^2$$

$$1800\text{cm}^2 - 141\text{cm}^2 = 387\text{cm}^2$$

$$\text{Area of circle} : 15 \times 15 \times 3.14 = 706.5\text{cm}^2$$

$$706.5\text{cm}^2 + 387\text{cm}^2 = \underline{1093.5\text{cm}^2}$$

Q8) Circumference of Semi: $10 \times 3.142 \times \frac{1}{2} = 15.71$

Circumference of quarter: $15.71 \div 2 = 7.855$

Circumference of big quarter: $20 \times 3.142 \times \frac{1}{4} = 15.71$

$15.71 + 7.855 + 7.855 + 15.71 = \underline{47.13\text{cm}}$

Q9) $0.60 + 0.30 = 0.90$

$25.20 \div 0.90 = 28$

$28 \times 0.30 = \underline{\$8.40}$

Q10) In 1.5h Peter travelled : 105km

$90 - 70 = 20$

$105 \div 20 = 5.25\text{h}$

$= 5 \text{ hours } 15\text{mins}$

$8.30\text{am} + 5 \text{ hours } 15\text{mins} = \underline{1.45\text{pm}}$

Q11) $\frac{1}{2} = \frac{6}{12}$

$\frac{6}{12} = 4 \text{ stamps each}$

$\frac{5}{12} = 3 \text{ stamps each}$

$\frac{1}{12} = 2 \text{ stamps each}$

$6\text{u} \times 4 = 24$

$5\text{u} \times 3 = 15$

$1\text{u} \times 2 = 2$

Total: 41

$533 = 41\text{u}$

$1\text{u} = 533 \div 41$

$= 13$

$12\text{u} = 13 \times 12$

$= \underline{156}$

$$\text{Q12a) } 32\% - 88 + 46 = 25\%$$

$$42 \rightarrow 7\%$$

$$6 \rightarrow 1\%$$

$$258 \rightarrow 43\%$$

Total men: 258

$$\text{Q12b) } 100\% \rightarrow \underline{600}$$

$$\text{Q13a) } \angle BEF = \angle CBA$$

$$= (180^\circ - 106^\circ) \div 2$$

$$= 37^\circ$$

$$\angle BEF = \angle DEC$$

$$= 37^\circ$$

$$\angle CDE = 180^\circ - 37^\circ - 106^\circ$$

$$= 37^\circ$$

$$37 + 18 = 55^\circ$$

$$\angle FHD = 180^\circ - 52^\circ - 55^\circ$$

$$= \underline{73^\circ}$$

$$\text{Q13b) } \angle JGH = 180 - 73 = 40$$

$$= 67^\circ$$

$$\angle FGK = 113^\circ$$

$$\angle FKG = 180 - 113 - 52$$

$$= \underline{15^\circ}$$

$$\text{Q14a) } 5.01 \div 3 = \underline{1.67m}$$

$$\text{Q14b) } 1.67 - 0.08 = 1.59$$

$$1.59 \times 4 = 6.36$$

$$1.59 + 0.06 = 1.65$$

$$1.65 \times 5 = 8.25$$

$$8.25 - 6.36 = \underline{1.89m}$$

$$\text{Q15a) } 3.2 - 2.8 = 0.4$$

$$2.8 \times 2 = 5.6 \text{ litres}$$

$$5.6 \div 0.4 = 14$$

$$14 + 2 = 16 \text{ min}$$

$$10 \text{ am} + 16 \text{ mins} = \underline{10.16 \text{ am}}$$

$$\begin{aligned} \text{Q15b) } 2.8 \times 16 &= 44.8 \\ 44800 \div 56 \div 32 &= \underline{25\text{cm}} \end{aligned}$$

$$\begin{aligned} \text{Q16a) i} &\rightarrow 6 \\ \text{ii} &\rightarrow 30 \end{aligned}$$

$$\begin{aligned} \text{Q16b) } \sqrt{256} &= 16 \\ 16 - 1 &= \underline{\text{Figure 15}} \end{aligned}$$

$$\begin{aligned} \text{Q16c) } \sqrt{529} &= 23 \\ 23 - 1 &= 22 \\ 22 + 1 &= \underline{23} \end{aligned}$$

$$\begin{aligned} \text{Q17a) } (80\% \times 2370) \times 1.07 &= 2028.72 \\ (70\% \times 1250) \times 1.07 &= 936.25 \\ \text{Total} &\rightarrow 2028.72 + 936.25 \\ &= \underline{\$2964.97} \end{aligned}$$

$$\begin{aligned} \text{Q17b) } 107\% &\rightarrow 3445.40 - 449.40 \\ &= 2996 \\ 100\% &\rightarrow 2800 \text{ (2 com)} \\ 1^{\text{st}} \text{ com} &\rightarrow 1400 + 420 \\ &= 1820 \\ 80\% &\rightarrow 1820 \\ 100\% &\rightarrow \underline{\$2275} \end{aligned}$$

END

Index
No.

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PEI CHUN PUBLIC SCHOOL
PRELIMINARY EXAMINATION, 2018

MATHEMATICS
PAPER 1
(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS) **Total Time For Booklets A & B : 1 h**

Name : _____ ()

Class : Primary 6 / _____

Date : 1 August 2018

INSTRUCTIONS TO CANDIDATES

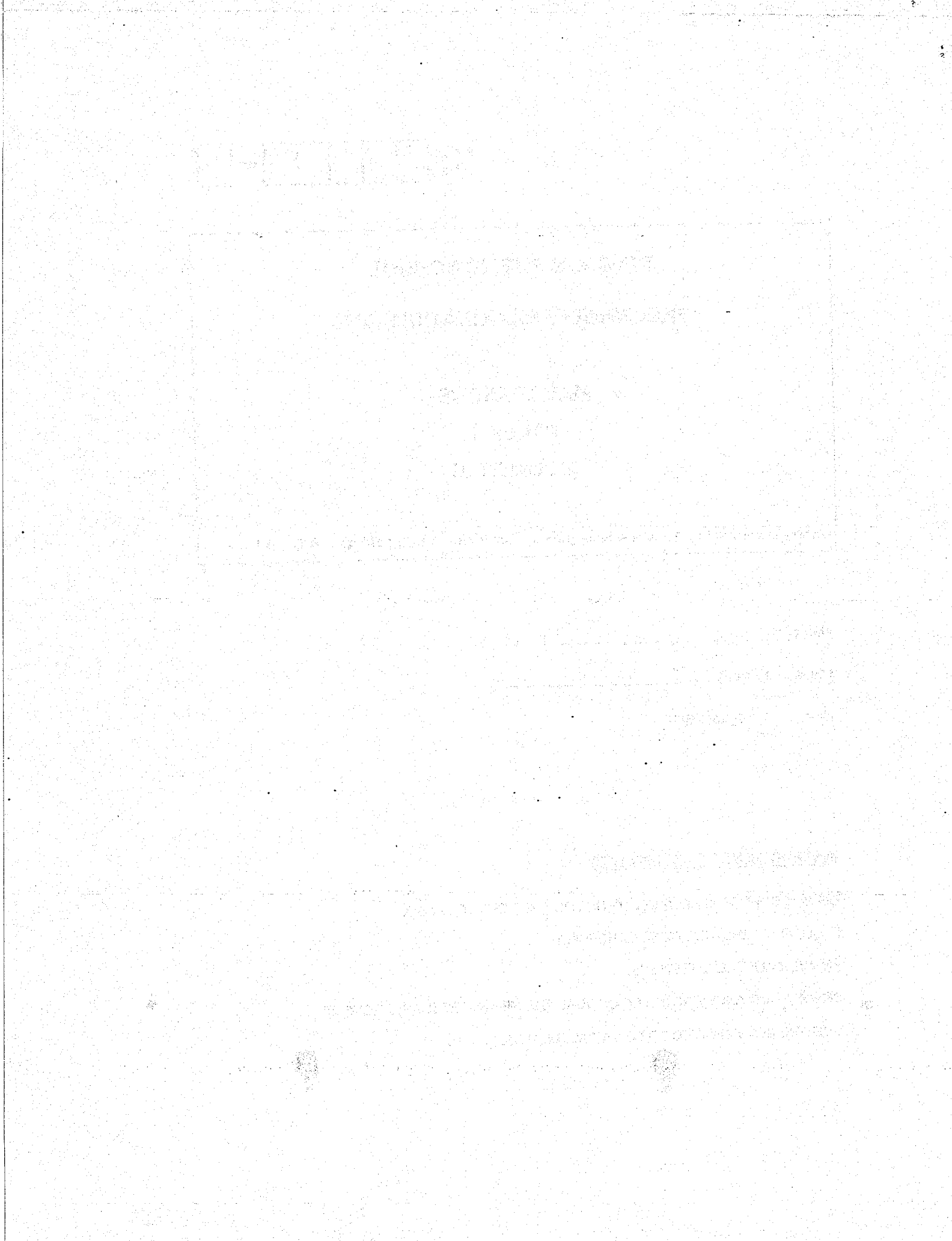
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL THE QUESTIONS.

SHADE YOUR ANSWERS IN THE OPTICAL ANSWER SHEET (OAS) PROVIDED.

YOU ARE **NOT** ALLOWED TO USE A CALCULATOR.



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). Shade the correct oval (1, 2, 3 or 4) on the
Optical Answer Sheet. (20 marks)

1. Which of the following is eight hundred and five thousand and twenty-one in figures?

- (1) 85 021
- (2) 805 021
- (3) 850 021
- (4) 8 005 021

2. Round 299 542 to the nearest thousand.

- (1) 290 000
- (2) 299 500
- (3) 300 000
- (4) 300 542

3. What is the value of 500×80 ?

- (1) 40
- (2) 400
- (3) 4000
- (4) 40 000

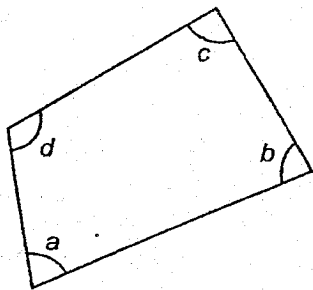
4. Which of the following is the same as 9.04 l?

- (1) 904 cm³
- (2) 9004 cm³
- (3) 9040 cm³
- (4) 9400 cm³

5. Which of the following is the smallest?

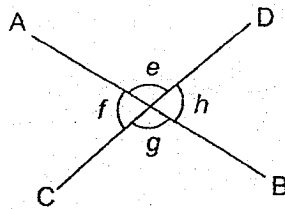
- (1) 0.6
- (2) 0.31
- (3) 0.079
- (4) 0.102

6. Which of the marked angles in the figure below is greater than a right angle?



- (1) $\angle a$
- (2) $\angle b$
- (3) $\angle c$
- (4) $\angle d$

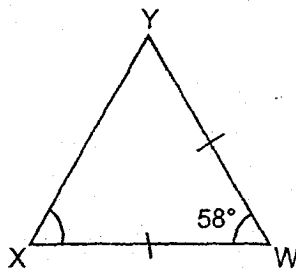
7. In the figure below, AB and CD are straight lines.



Which of the following statements is true?

- (1) $\angle e = \angle g$
- (2) $\angle f = \angle e$
- (3) $\angle f + \angle h = 180^\circ$
- (4) $\angle e + \angle g = 180^\circ$

8. The figure below shows an isosceles triangle WXY . $\angle YWX = 58^\circ$.

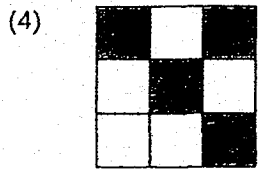
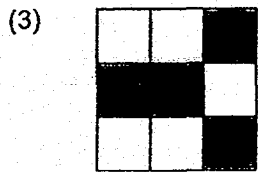
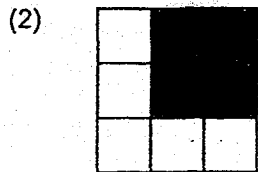
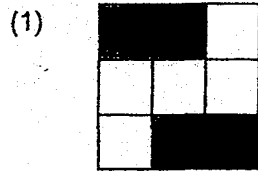


Find $\angle WXY$.

- (1) 64°
 - (2) 61°
 - (3) 58°
 - (4) 32°
9. Simplify the expression $9y + 7 - 5y + 3$.
- (1) $14y + 4$
 - (2) $4y - 10$
 - (3) $4y + 4$
 - (4) $4y + 10$
10. Express 4.2 as a percentage.

- (1) 4.2%
- (2) 42%
- (3) 420%
- (4) 4200%

11. Which of the following is not a symmetric figure?



12. Suzy had some apples. $\frac{2}{5}$ of them were green and the rest were red. She sold all the green apples and $\frac{1}{4}$ of the red apples. What fraction of the apples were sold?

(1) $\frac{3}{20}$

(2) $\frac{11}{20}$

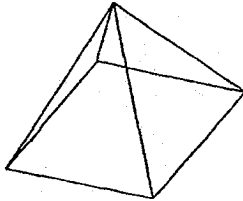
(3) $\frac{13}{20}$

(4) $\frac{14}{20}$

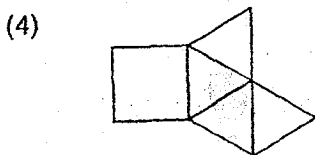
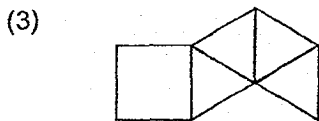
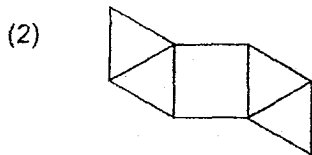
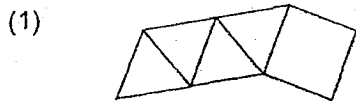
13. Mrs Yong wanted to pack 72 oranges and 96 apples into as many bags as possible with no remainder. She packed the same number of fruit in each bag. The number of apples in each bag was the same. How many oranges were there in each bag?

- (1) 24
- (2) 7
- (3) 3
- (4) 4

14. The figure below shows a pyramid.

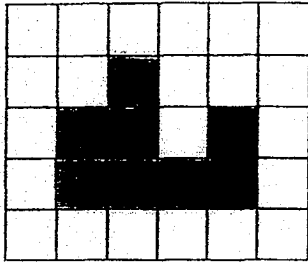


Which of the following is **not** a net of the pyramid?

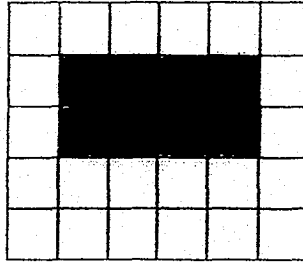


15. The diagrams below show three different views of a solid that is made up of 12 unit cubes.

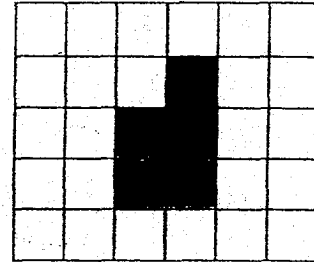
Front View



Top View

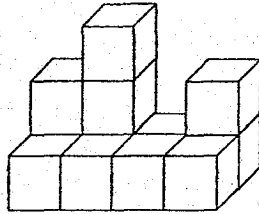


Side View

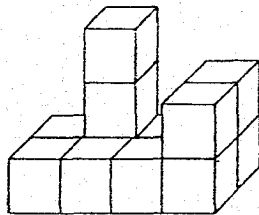


Which of the following solid matches the three views?

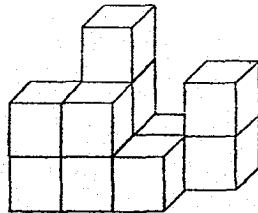
(1)



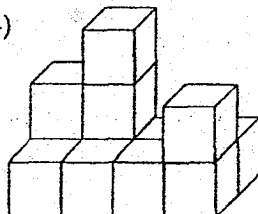
(2)



(3)



(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)

Do not write
in this space

16. What is the missing number in the box?

$$6 : 15 = \boxed{?} : 55$$

Answer: _____

17. Find the value of $35 - 2 \times (3 + 4) + 6$.

Answer: _____

18. Find the value of $\frac{3}{7} \div 9$.

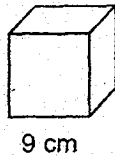
Answer: _____

19. Find the value of $\frac{42 - 3y}{6} + 8$ when $y = 4$.

Answer: _____

SCORE

20. Find the volume of the cube shown below.



Answer: _____ cm^3

Do not write
in this space

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. Find the value of

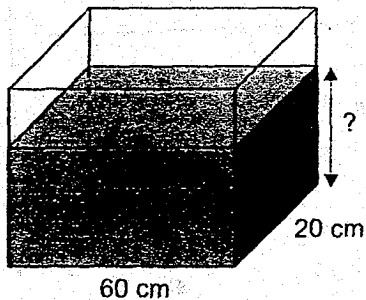
(a) 20.7×1000

(b) $8.06 \div 20$

Answer: (a) _____

(b) _____

22. The base of a rectangular container is 60 cm long and 20 cm wide. Peter poured $36\,000 \text{ cm}^3$ of water into the container. What is the height of the water level?

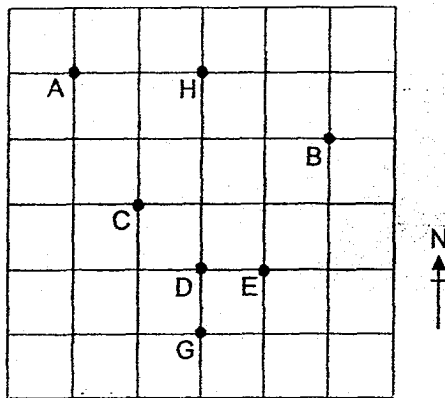


Answer: _____ cm

SCORE

23. Seven landmarks are shown in the square grid below.

Do not write in this space



- (a) In which direction is A from E?
- (b) A treasure is buried under one of the landmarks. The treasure is south of H and south-west of B. Under which landmark is the treasure buried?

Answer: (a) _____

(b) _____

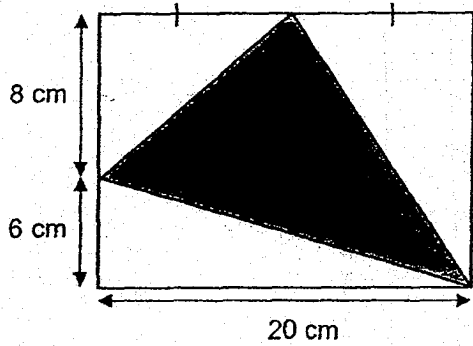
-
24. The ratio of the number of boys to the number of girls in a hall is 2 : 7. There are 180 children. Find the difference between the number of boys and the number of girls.

Answer: _____

SCORE

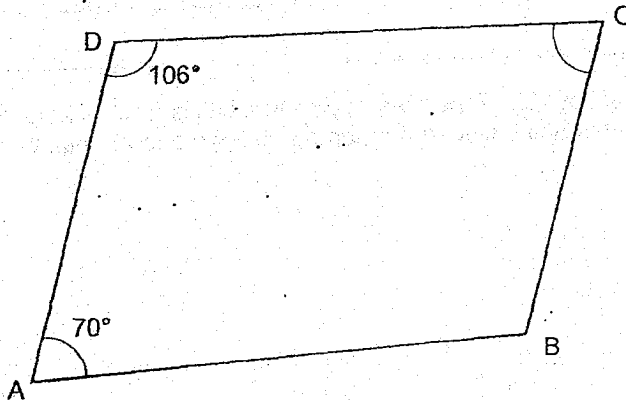
25. The figure below shows a rectangle and a triangle. What is the area of the shaded triangle?

Do not write
in this space



Answer: _____ cm^2

26. ABCD is a trapezium. $\angle DAB = 70^\circ$. $\angle ADC = 106^\circ$.



- (a) Name the pair of parallel sides of the trapezium.
(b) Find $\angle BCD$.

Answer: (a) _____

(b) _____ $^\circ$

SCORE

27. A table with 4 columns is filled with numbers in a certain pattern. The first 4 rows of the table are shown below.

	Column A	Column B	Column C	Column D
Row 1	1	2	3	4
Row 2	8	7	6	5
Row 3	9	10	11	12
Row 4	16	15	14	13
⋮	⋮	⋮	⋮	⋮

In which row and column will the number 295 appear?

Answer: Row: _____

Column: _____

-
28. One machine took 80 minutes while another took 100 minutes to print the same number of copies of a newsletter. In 80 minutes, the faster machine printed 360 more copies of the newsletter than the slower one. What was the total number of copies printed by the two machines?

Answer: _____

Do not write
in this space

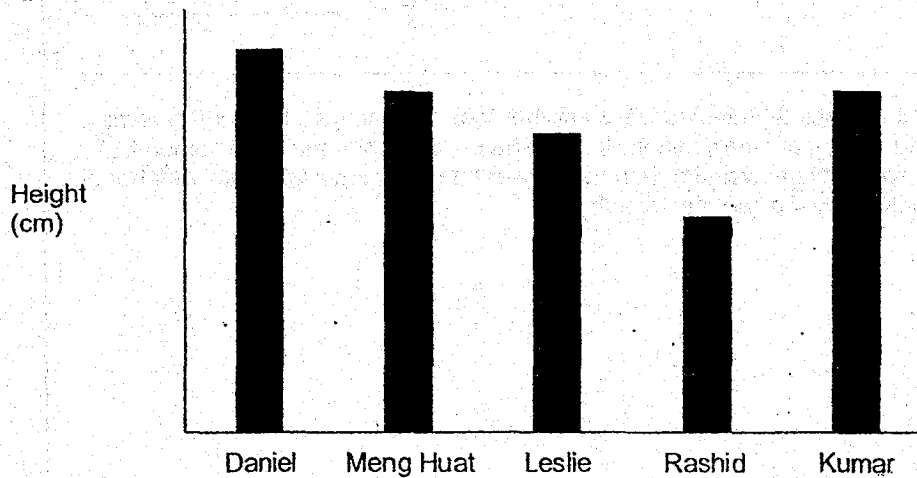
SCORE

29. Siva saves \$3 a day during weekdays and \$6 a day on Saturday and Sunday. He started saving on Friday, 8 June. How many days did he take to save \$69?

Do not write
in this space

Answer: _____

30. The bar graph below shows the height of 5 boys.



Based on the information above, put a tick (✓) in the correct box.

	True	False	Not possible to tell
(a) Leslie's height is less than Rashid's height.			
(b) The average height of the 5 boys is more than Rashid's height but less than Daniel's height.			

End of Paper

Index No.

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PEI CHUN PUBLIC SCHOOL

PRELIMINARY EXAMINATION, 2018

MATHEMATICS

PAPER 2

Time: 1 h 30 min

Name : _____ ()

Class : Primary 6 / _____

Date : 1 August 2018

Parent's Signature: _____

Paper 1 (Booklet A)	/	20
Paper 1 (Booklet B)	/	25
Paper 2	/	55
TOTAL	/	100

INSTRUCTIONS TO CANDIDATES

- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
- FOLLOW ALL INSTRUCTIONS CAREFULLY.
- ANSWER ALL QUESTIONS.
- SHOW YOUR WORKING CLEARLY AS MARKS ARE AWARDED FOR CORRECT WORKING.
- WRITE YOUR ANSWERS IN THIS BOOKLET.
- YOU ARE ALLOWED TO USE A CALCULATOR.

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)

Do n
in thi

1. There are 4032 people at a concert hall. $\frac{2}{7}$ of the people are females.
How many females are there in the concert hall?

Answer: _____

2. The average height of 4 boys is 1.36 m. The height of one of the boys is 1.45 m.
What is the average height of the other 3 boys?

Answer: _____ m

SCORE

3. There were 13 bookshelves each holding the same number of books. 1 bookshelf was removed and the books on the shelf were placed on the remaining 12 shelves. Because of this, the number of books on each remaining shelf increased by 8. What was the total number of books in the 13 bookshelves at first?

Do not write
in this space

Answer: _____

-
4. The breadth of a rectangle is b cm. The length of the rectangle is 3 times its breadth. What is the perimeter of the rectangle? Express your answer in terms of b .

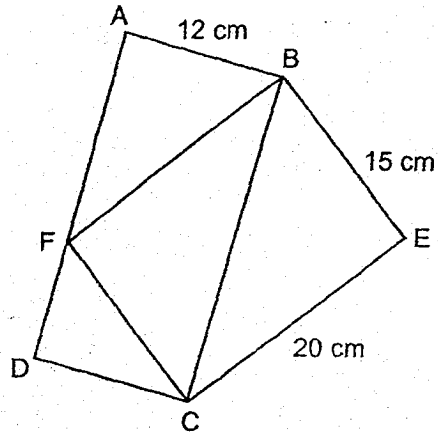
Answer: _____ cm

SCORE

--

5. In the figure below, ABCD and BECF are rectangles. The length of CE is 20 cm, the length of BE is 15 cm and the length of AB is 12 cm. What is the length of AD?

Do not
in this



Answer: _____ cm

SCORE

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)

Do not write
in this space

-
6. Zainal and Marc saved a total of \$193. Suresh and Marc saved a total of \$100. Zainal saved 4 times as much money as Suresh. How much did Marc save?

Answer: _____ [3]

-
7. The mass of a watermelon is 640 g more than the mass of a durian. The mass of a jackfruit is twice the mass of a watermelon. The total mass of the three fruits is 8.72 kg. What is the mass of the jackfruit?

Answer: _____ [3]

SCORE

8. In the square grid below, QR is a side of a trapezium.

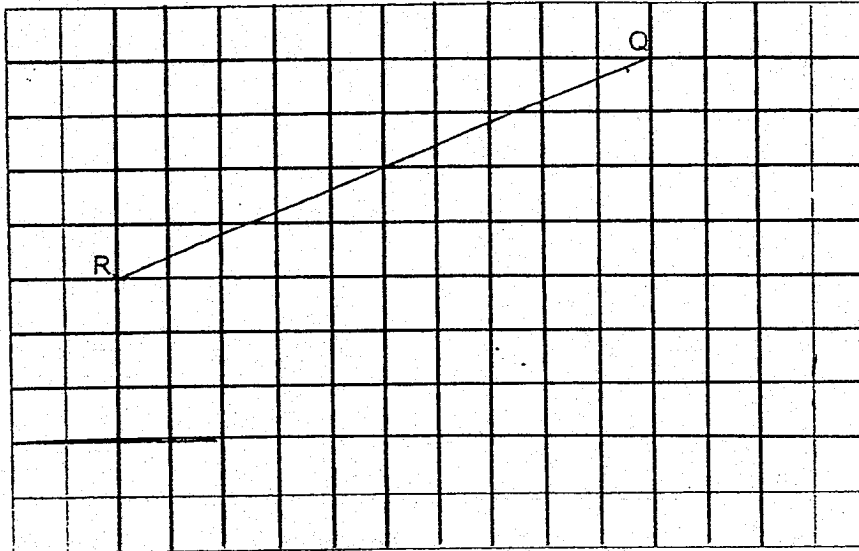
(a) Measure the length of QR.

(b) Draw a trapezium PQRS in the square grid such that:

(i) $\angle RQP$ is a right angle;

Do not write
in this space

8(b)



Answer: (a) _____ [1]

9. At first, the ratio of Leon's savings to Michael's savings was 9 : 7. After each of them donated \$680 to charity, the ratio of Leon's savings to Michael's savings became 5 : 2. What was Michael's savings at first?

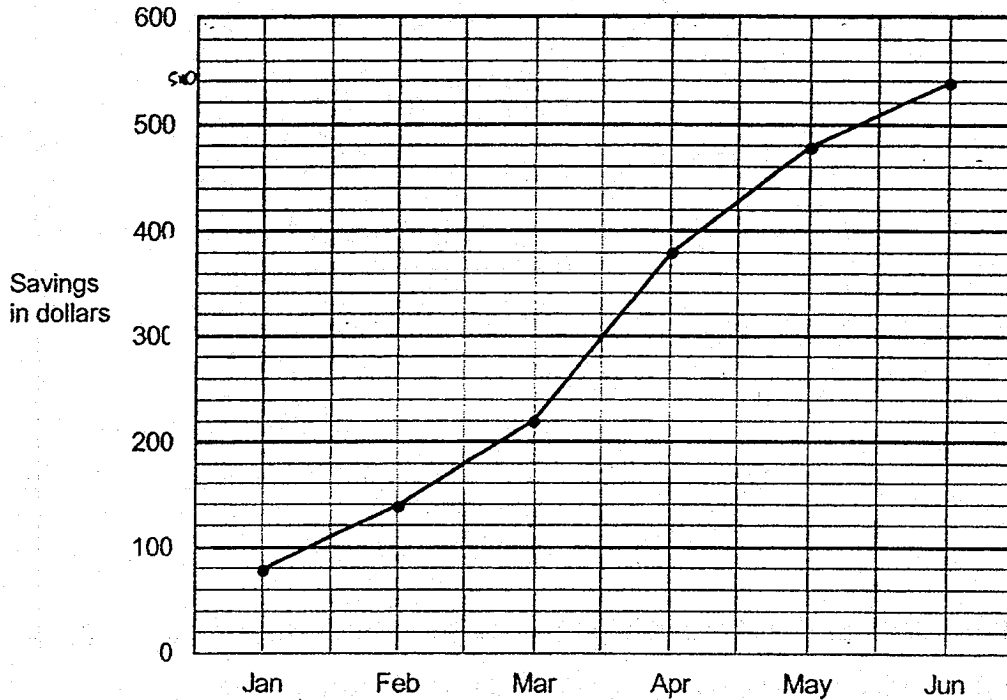
Answer _____ [3]

SCORE

--

10. Kai Ling wanted to buy a present for her parents with her savings. She started saving from the beginning of January. The line graph below shows her savings at the end of each month.

Do not write in this space



- (a) In which month did Kai Ling save the most? How much did she save that month?
- (b) At the end of June, Kai Ling realised she had not saved enough for the present. She only managed to save $\frac{3}{4}$ of the amount she needed. What was the amount she needed for the present?

Answer: (a) Month : _____ [1]

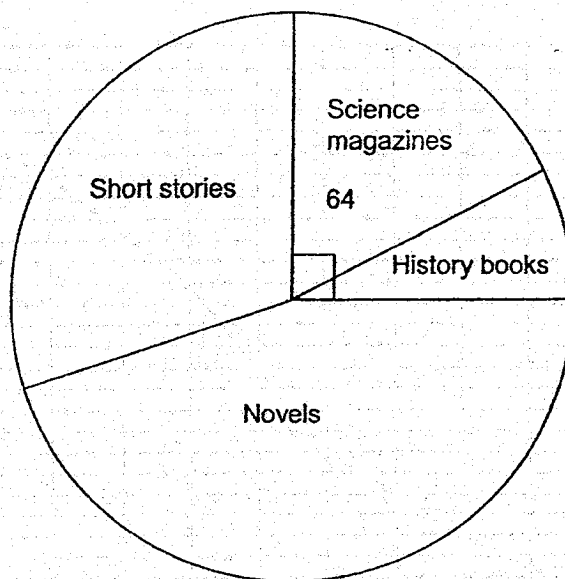
Amount : _____ [1]

(b) _____ [2]

SCORE

11. There are 360 Primary 6 pupils in a primary school. The pie chart shows the type of books the Primary 6 pupils like to read. 64 pupils like to read Science magazines.

Do not
in this s



- (a) What fraction of the pupils like to read short stories or novels?
- (b) What percentage of the pupils like to read Science magazines?
- (c) The ratio of the number of pupils who like to read short stories to the number of pupils who like to read novels is 2 : 3.
What percentage of the pupils like to read novels?

Answer: (a) _____ [1]

(b) _____ [1]

(c) _____ [2]

SCORE

12. At a shop, a mobile phone was sold at 40% the price of a television. Both items were sold at a 20% discount. Janet paid \$2016 for both items after the discount. What was the usual price of the television?

Do not write
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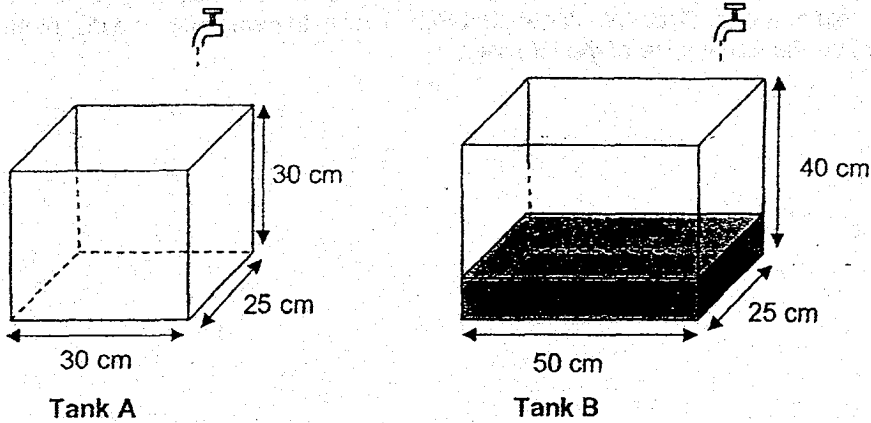
Answer: _____ [3]

SCORE

--

13. Two rectangular tanks are shown below.

Do not write
in this space



At first, Tank A was empty and $\frac{1}{4}$ of Tank B was filled with water. Both taps were turned on at the same time and water from both taps flowed at the same rate of 1.5 litres per minute.

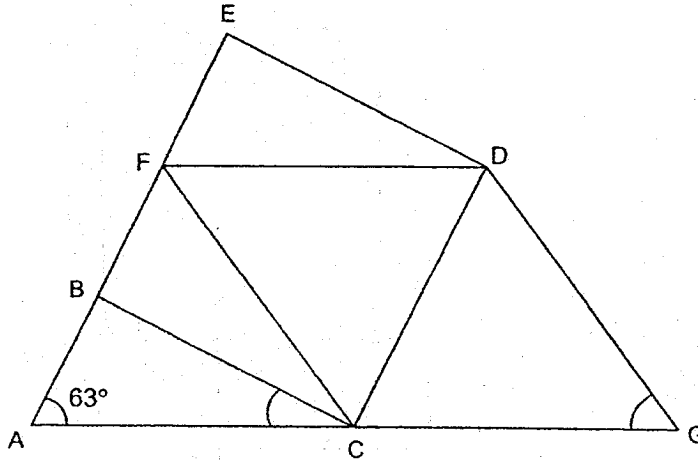
How long did it take for the height of water to be the same in both tanks?
(1 litres = 1000 cm³)

Ans _____ [3]

SCORE

14. The figure below is not drawn to scale. $ABFE$ and ACG are straight lines. $BCDE$ is a square and $CFDG$ is a rhombus. $\angle BAC = 63^\circ$.

- (a) Find $\angle ACB$.
 (b) Find $\angle CGD$.



Do not write in this space

Answer: (a) _____ [2]

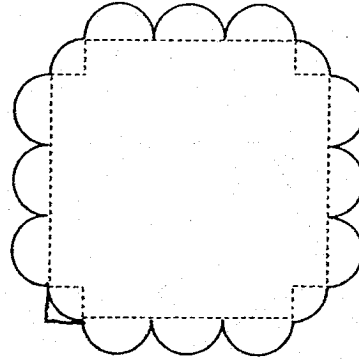
(b) _____ [3]

SCORE

15. The figure shows a table mat. The outside edge of the mat is formed by 12 semicircles and 4 quarter circles, each of radius 10 cm.

- (a) Find the perimeter of the mat.
(b) Find the area of the mat.

Take $\pi = 3.14$.



Do not write
in this space

Answer: (a) _____ [2]

(b) _____ [3]

SCORE

16. Raja and Greg took part in a walkathon which started at 7.20 a.m. Raja's average speed was 30 m/min faster than Greg. When Raja completed the walkathon in 40 minutes, Greg had only walked $\frac{5}{6}$ of the distance.

Do not write
in this space

- (a) What time was it when Greg completed the walkathon?
- (b) Find Raja's average speed for the walkathon in m/min.

Answer: (a) _____ [2]

(b) _____ [2]

SCORE

--

17. Lee Peng and Janice had some red and yellow ribbons. $\frac{4}{9}$ of Lee Peng's ribbons were red, while $\frac{1}{3}$ of Janice's ribbons were red. Lee Peng gave $\frac{3}{4}$ of her red ribbons to Janice.

In the end, Lee Peng had 126 ribbons left and $\frac{6}{11}$ of Janice's ribbons were red.

- (a) How many red ribbons did Lee Peng give Janice?
(b) How many ribbons did Janice have in the end?

Do not write
in this space

Answer: (a) _____ [2]

(b) _____ [3]

End of Paper

Set by : Mrs Agnes Chua, Mr Tan Keng Hock and Mr Stanley Soh

SCORE

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : PEI CHUN PUBLIC
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 22

Q17 27

Q18 $\frac{1}{21}$

Q19 13

Q20 729 cm^3

Q21 (a) 20700

(b) 0.403

Q22 30 cm

Q23 (a) North-west

(b) D

Q24 100

Q25 110 cm^2

Q26 (a) DA and CB

(b) 74°

Q27 Row : 74
Column : 8

Q28 3600

Q29 17 days

Q30 (a) False

(b) True

Paper 2

Q1 $\frac{1}{7} \rightarrow 4032 \div 7 = 576$

Females $\rightarrow 576 \times 2 \Rightarrow$ 1152

Q2 Total $\rightarrow 1.36 \times 4 = 5.44$

3 boys $\rightarrow 5.44 - 1.45 = 3.99$

Average $\rightarrow 399 \div 3 \Rightarrow$ 1.33 m

Q3 1 shelf $\rightarrow 8 \times 12 = 96$

13 shelves $\rightarrow 96 \times 13 \Rightarrow$ 1248 books

Q4 Length $\rightarrow b \times 3 = 3b$

Perimeter $\rightarrow 3b + 3b + b + b \Rightarrow$ 8b cm

Q5 Area $\rightarrow 20 \times 15 = 300$

$300 \div 2 = 150$

$150 \times 2 = 300$

AD $\rightarrow 300 \div 12 \Rightarrow$ 25 cm

Q6 $2 + M \rightarrow 193$

$S + M \rightarrow 100$

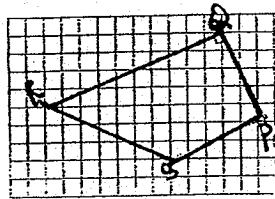
1 unit $\rightarrow 93 \div 3 = 31$

$100 - 31 \Rightarrow$ \$69

Q7 $8.72 + 0.64 = 9.36$
 $9.36 \div 4 = 2.34$
 $2.34 \times 2 \Rightarrow \underline{4.68 \text{ kg}}$

Q8 (a) 8.6 cm

(b)



Q9 L : M L : M
 9 : 7 5 : 2
 27 : 21 10 : 4
 $21 - 4 = 17$
 $17u = 680$
 $1u = 680 \div 17 = 40$
 $M \rightarrow 40 \times 21 \Rightarrow \underline{\$840}$

Q10 (a) Feb $\rightarrow 140 - 80 = 60$
 Mar $\rightarrow 220 - 140 = 80$
 Apr $\rightarrow 380 - 220 \Rightarrow \160
 Month : April
 Amount : \$160

(b) Total $\rightarrow 60 + 80 + 160 + 100 + 60 = 460$

$\frac{3}{4} \rightarrow 460 + 80 = 540$

$\frac{1}{4} \rightarrow 540 \div 3 = 180$

$\frac{4}{4} \rightarrow 180 \times 4 \Rightarrow \underline{\$720}$

Q11 (a) $1 - \frac{1}{4} \Rightarrow \frac{3}{4}$

(b) $\frac{64}{360} \times 100 \Rightarrow 17\frac{7}{9}\%$

(c) $360 - 90 = 270$
 $270 \div 5 = 54$
 $54 \times 3 = 162$

$\frac{162}{360} \times 100 \Rightarrow \underline{45\%}$

Q12 80% \rightarrow 2016

100% $\rightarrow 2016 \div 80 \times 100 = 2520$

140% $\rightarrow 2520$

100% $\rightarrow 2520 \div 140 \times 100 \Rightarrow \underline{\$1800}$

Q13 Tank A

Height $\rightarrow 1500 \div (30 \times 25) = 2$ cm

Diff $\rightarrow 2 - 1.2 = 0.8$

$10 \div 0.8 \Rightarrow \underline{12.5 \text{ min}}$

Tank B

Height $\rightarrow 1500 \div (50 \times 25) = 1.2$ cm

Q14 (a) $\angle ABC = 180^\circ - 90^\circ = 90^\circ$

$\angle ACB = 180^\circ - 90^\circ - 63^\circ \Rightarrow \underline{27^\circ}$

(b) $\angle DCG = 180^\circ - 90^\circ - 27^\circ = 63^\circ$

$\angle CGD = 180^\circ - 63^\circ - 63^\circ \Rightarrow \underline{54^\circ}$

Q15 (a) $D \rightarrow 10 \times 2 = 20$

Semi $\rightarrow \frac{1}{2} \times 3.14 \times 20 = 31.4$

12 semi $\rightarrow 31.4 \times 12 = 376.8$

Quar $\rightarrow \frac{1}{4} \times 3.14 \times 20 = 15.7$

4 quar $\rightarrow 15.7 \times 4 = 62.8$

Perimeter $\rightarrow 62.8 + 376.8 \Rightarrow \underline{439.6 \text{ cm}}$

(b) 2 small rectangles $\rightarrow 60 \times 10 \times 2 = 1200$

$80 \times 60 = 4800$

$31.4 \times 10 \times 10 \times 7 = 2198$

Total $\rightarrow 2198 + 1200 + 4800 \Rightarrow \underline{8198 \text{ cm}^2}$

Q16 (a) 8:08 am

(b) $150 + 30 \Rightarrow \underline{180 \text{ m/min}}$

Q17 (a) $6u \rightarrow 126$

$1u \rightarrow 126 \div 6 = 21$

$21 \times 3 \Rightarrow \underline{63 \text{ red ribbons}}$

(b)

<u>J Before</u>	<u>J After</u>
-----------------	----------------

R : Y	R : Y
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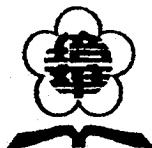
1 : 2	12 : 10
-------	---------

5 : 10

$7u = 63$

$22u = 63 \div 7 \times 22 \Rightarrow \underline{198 \text{ ribbons}}$





PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS PAPER 1
(BOOKLET A)

21 AUGUST 2018

Name: _____

Form Class / Register No. : 6R _____ / _____

Banded Class / Register No. : 6M _____ / _____

Total time for Booklets A and B: 1h

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.
6. The use of calculator is **NOT ALLOWED**.

This booklet consists of 6 printed pages, excluding the cover page.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYS 440

LECTURE NOTES

BY

PROFESSOR

JOHN H. COOPER

AND

ASSISTANT PROFESSOR

DAVID N. SARGENT

CHICAGO, ILLINOIS

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 Find the value of 72 hundreds and 16 ones.

(1) 7216

(2) 880

(3) 736

(4) 88

()

2 Which of the following is equal to $5\frac{1}{3}$?

(1) $5 \times \frac{1}{3}$

(2) $5 \div \frac{1}{3}$

(3) $16 \times \frac{1}{3}$

(4) $16 \div \frac{1}{3}$

()

3 Which one of the following numbers is nearest to 8?

(1) 8.1

(2) 8.09

(3) 8.03

(4) 8.004

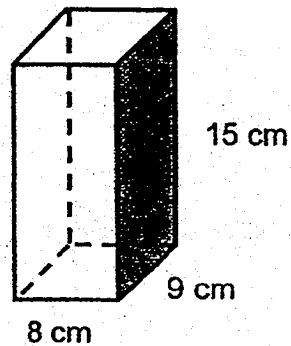
()

4 Express 1 036 millilitres in litres.

- (1) 1.036 litres
- (2) 1.36 litres
- (3) 10.36 litres
- (4) 101.36 litres

()

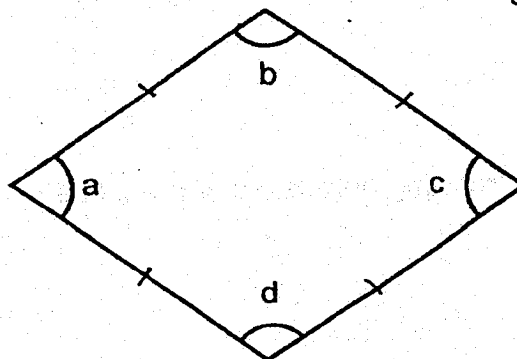
5 The empty cuboid below measures 8 cm by 9 cm by 15 cm. Find the area of the shaded face.



- (1) 1080 cm²
- (2) 135 cm²
- (3) 120 cm²
- (4) 72 cm²

()

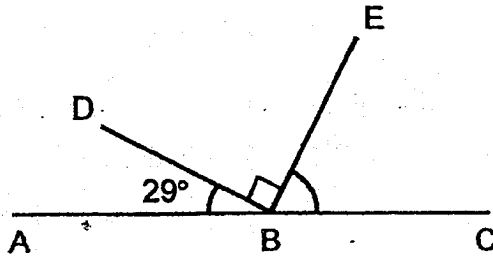
6 The figure below shows a rhombus. Which of the following is true?



- (1) $\angle a = 90^\circ$?
- (2) $\angle b = \angle c$ x
- (3) $\angle b + \angle d = 180^\circ$ x
- (4) $\angle a + \angle b = 180^\circ$ ✓

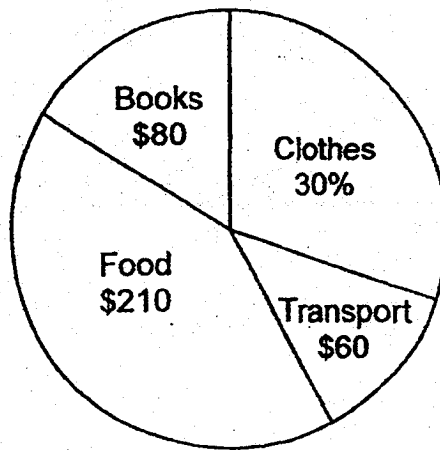
()

- 7 In the figure, ABC is a straight line. $\angle DBE = 90^\circ$ and $\angle DBA = 29^\circ$.
Find $\angle EBC$.



- (1) 21°
(2) 61°
(3) 90°
(4) 151° ()
- 8 Find 2% of \$2000.
- (1) \$4
(2) \$40
(3) \$400
(4) \$4000 ()
- 9 In a class, there are 38 students. 28 of them are girls and the rest are boys.
Find the ratio of the number of girls to the number of boys to the total number
of students in the class.
- (1) 5 : 14 : 19
(2) 5 : 19 : 14
(3) 14 : 5 : 19
(4) 14 : 19 : 5 ()

- 10 The pie chart shows how Doris spent her money. How much did Doris spend on clothes?



- (1) \$70
- (2) \$150
- (3) \$190
- (4) \$500

()

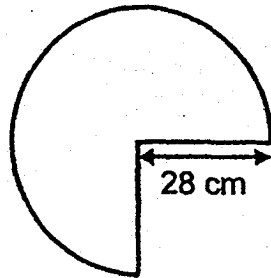
- 11 Roy uses the four letters, C, A, R, E, to form a pattern. The first 16 letters are shown below. Which letter is in the 59th position?

- C A R E C A R E C A R E C A R E ...
1 st 16th

- (1) C
- (2) A
- (3) R
- (4) E

()

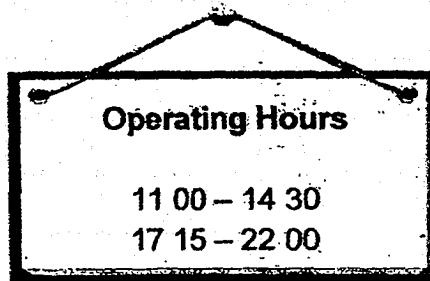
- 12 Find the perimeter of a $\frac{3}{4}$ circle of radius 28 cm. (Take $\pi = \frac{22}{7}$)



- (1) 132 cm
(2) 144 cm
(3) 188 cm
(4) 232 cm

()

- 13 A restaurant opens daily for the time shown in the table below.

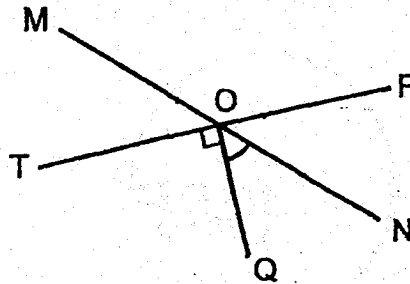


How many hours and minutes is the restaurant open each day?

- (1) 11 h 15 min
(2) 10 h 15 min
(3) 9 h 15 min
(4) 8 h 15 min

()

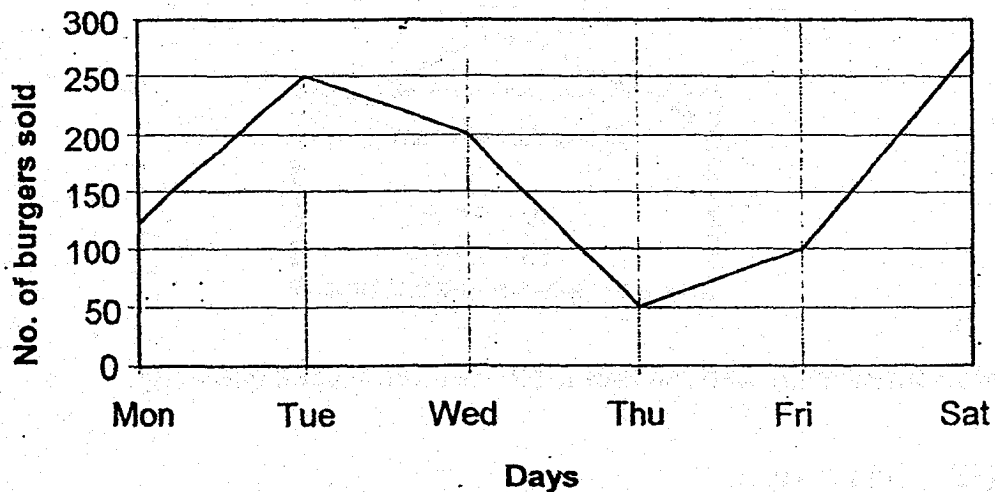
- 14 In the figure below, MN and TP are straight lines. $\angle MOP$ is twice the size of $\angle MOT$. Find $\angle NOQ$.



- (1) 30°
 (2) 45°
 (3) 54°
 (4) 60°

()

- 15 The line graph shows the number of burgers Mr Tan sold from Monday to Saturday.



Each burger was sold at \$4. How much more money did Mr Tan earn on Tuesday than on Thursday?

- (1) \$200
 (2) \$600
 (3) \$800
 (4) \$1000

()

-- End of Booklet A --



PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS PAPER 1
(BOOKLET B)

21 AUGUST 2018

Name: _____

Parent's signature

Form Class / Register No. : 6R _____ / _____

Banded Class / Register No. : 6M _____ / _____

Total time for Booklets A and B: 1h

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.
6. The use of calculator is **NOT ALLOWED**.

Marks (Booklet A) :	20
Marks (Booklet B) :	25
Total Marks (Booklets A and B) :	45

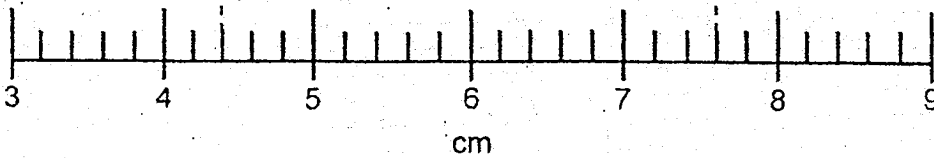
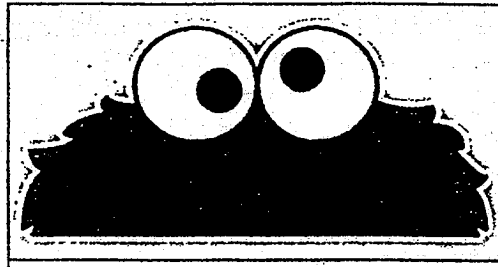
Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write in this space

16 Find the value of $12.3 - 0.99$.

Ans: _____

17 What is the length of the sticker as shown in the figure below?



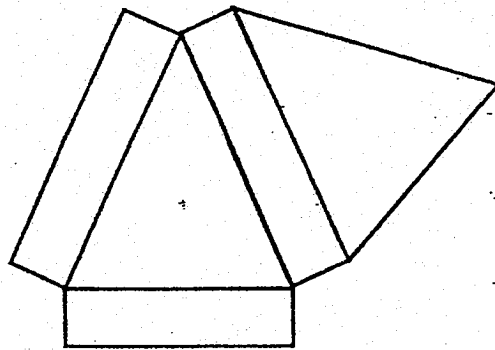
Ans: _____ cm

18 Express 0.035 as a percentage.

Ans: _____ %

19 Name the solid formed by the following net.

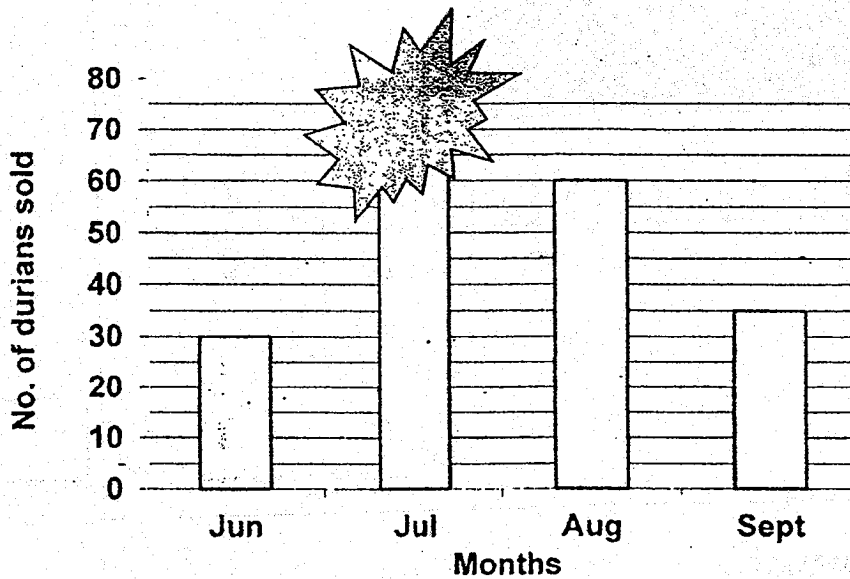
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Ans: _____

0

20 The bar graph below shows the number of durians Mr Tan sold from June to September.



The total number of durians sold by Mr Tan from June to September was 200. How many durians were sold in July?

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)

Do not write in this space

21 Express $2\frac{6}{7}$ as a decimal. Give your answer to 2 decimal places.

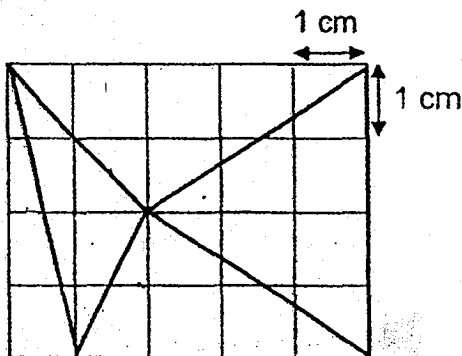
Ans: _____

22 The table below shows the postage rate for mail at a post office. How much does Jack have to pay if his parcel weighs 67 g?

Mass Step	Postage (\$)
First 30 g	\$2.00
Every additional 10 g	\$0.90

Ans: \$ _____

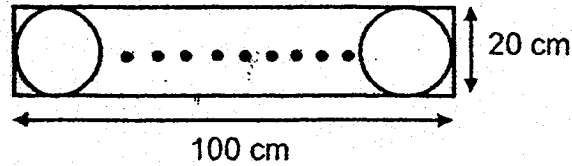
23 The figure below shows 2 shaded triangles. Find the total area of the shaded triangles.



Ans: _____ cm²

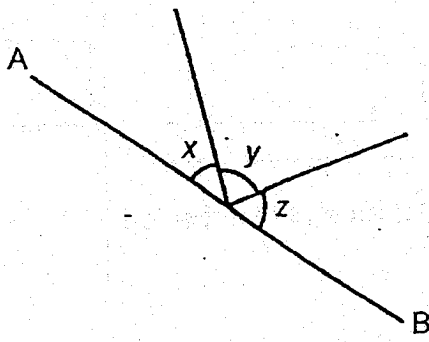
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in this space

- 24 Jenny wants to cut the maximum number of identical circles from a piece of rectangular cardboard measuring 100 cm by 20 cm as shown in the figure below. What is the total area of the circles cut out from the cardboard? (Take $\pi = 3.14$)



Ans: _____ cm²

- 25 In the figure below, AB is a straight line. The sum of $\angle x$ and $\angle y$ is 124° . The sum of $\angle x$ and $\angle z$ is 97° . Find $\angle x$.



Ans: _____ °

Do not write
in this space

- 26 Gwen is 6 times as old as her brother. In 12 years' time, she will be twice as old as her brother. How old is Gwen now?

Ans: _____

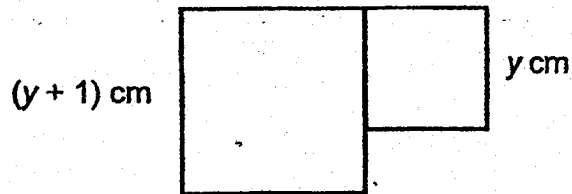
- 27 The table below shows the number of hamsters owned by a group of children. The total number of hamsters owned by the children is 88. How many children owned 2 hamsters?

Number of hamsters	0	1	2	3	4
Number of children	4	12	?	10	6

Ans: _____

Do not write
in this space

- 28 In the figure below, there are 2 squares. Each side of the smaller and larger square is y cm and $(y + 1)$ cm respectively. Find the perimeter of the figure.



Ans: _____ cm

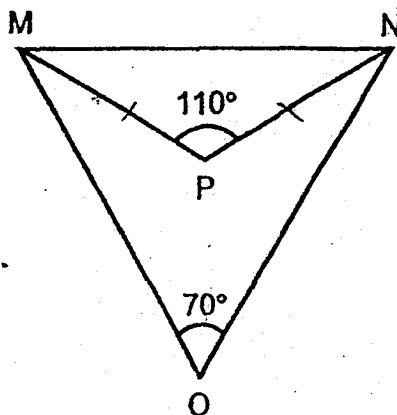
- 29 Muthu sold 147 marbles on Monday. He sold $\frac{3}{7}$ of the remainder on Tuesday and had half of his marbles left. Find the number of marbles he sold altogether.

Ans: _____

Do not write
in this space

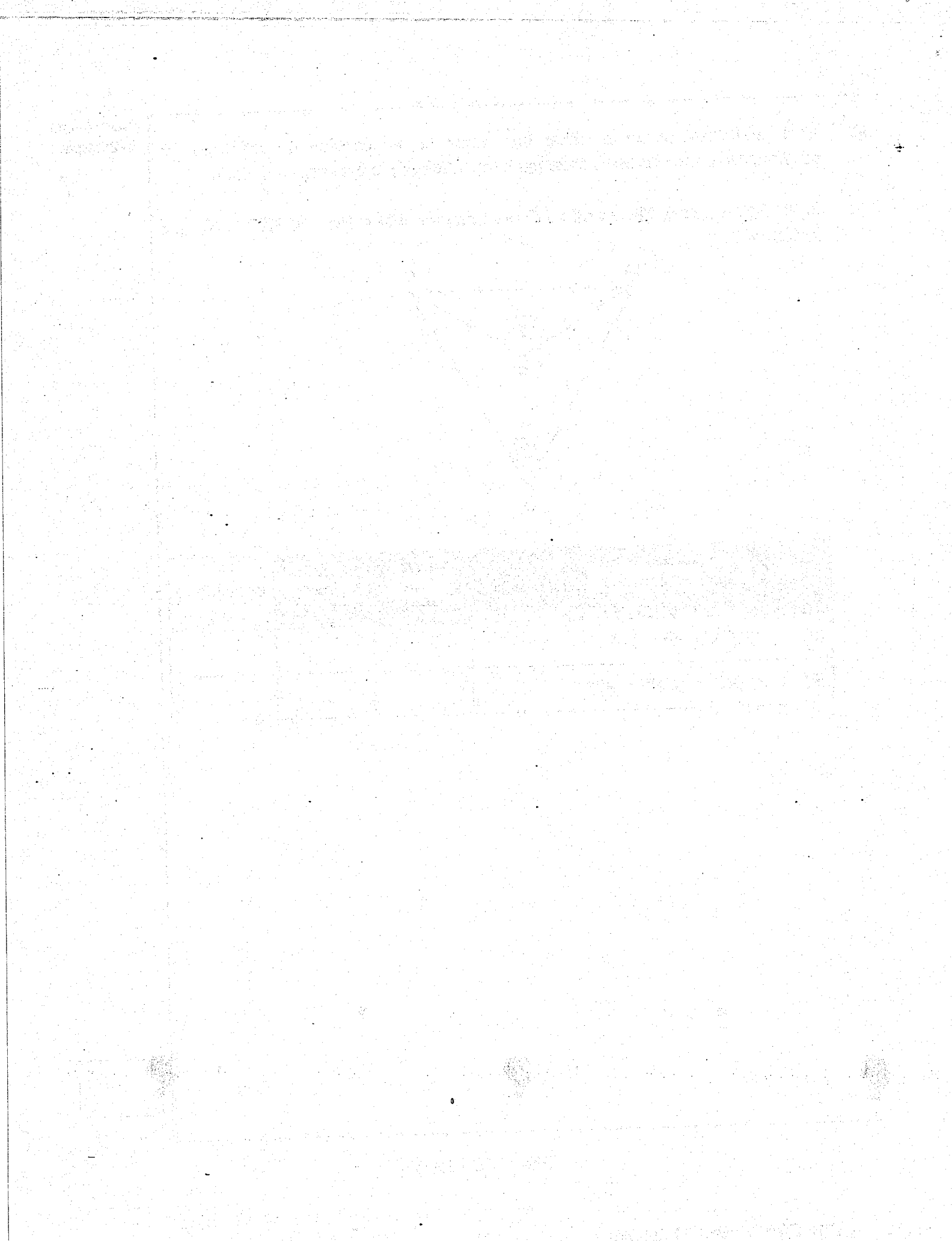
30 Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (\checkmark) in the correct column.

In the figure below, MNO and MNP are triangles. $PM = PN$, $\angle MPN = 110^\circ$ and $\angle MON = 70^\circ$.



Statement	True	False	Not possible to tell
(a) $\angle MNP$ is 35° .			
(b) $\angle OMP = \angle ONP = 20^\circ$			

-- End of Booklet B --





**PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION**

**PRIMARY 6
MATHEMATICS
PAPER 2**

21 AUGUST 2018

Parent's signature

Name: _____

Form Class / Register No. : 6R _____ / _____

Banded Class / Register No. : 6M _____ / _____

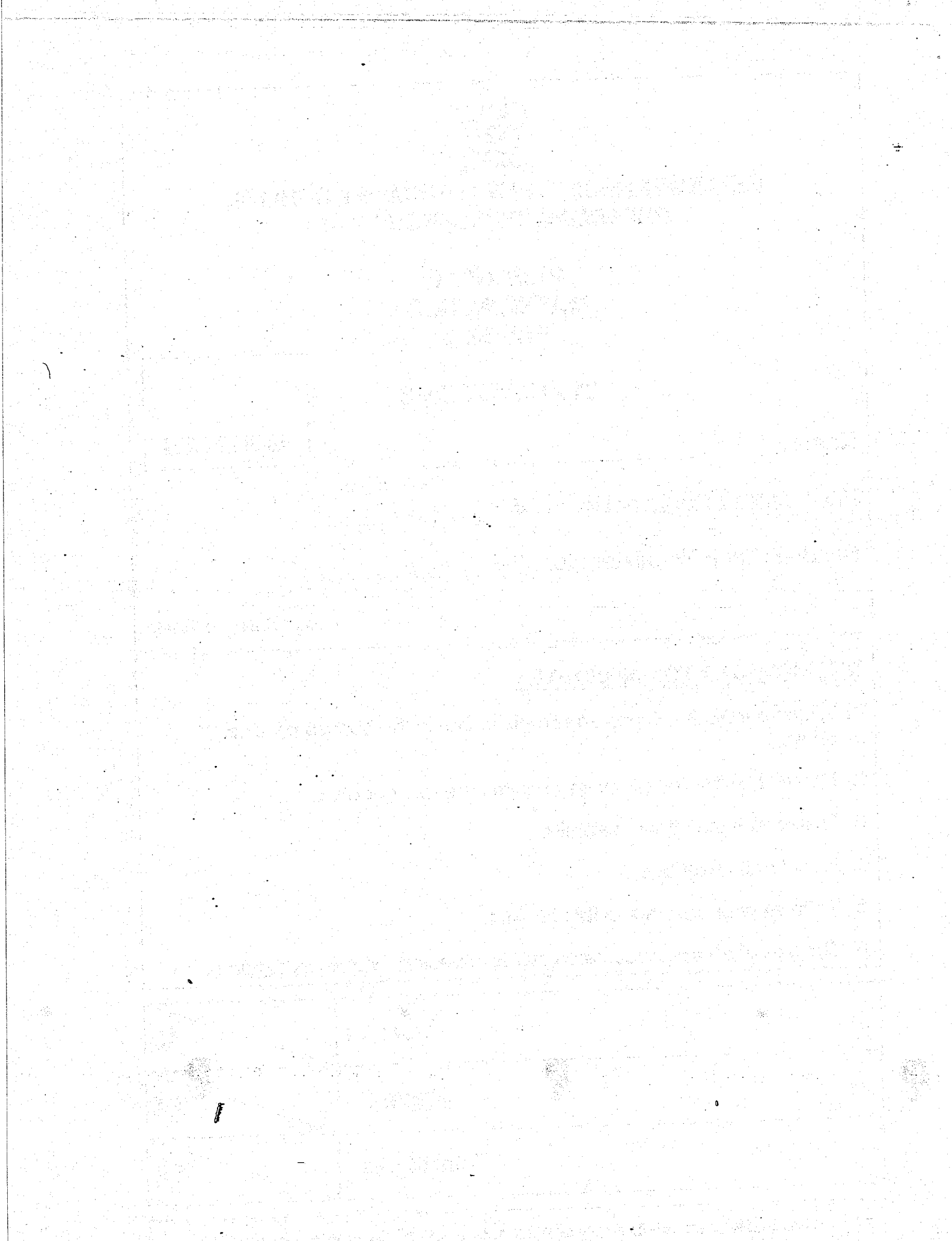
Total time: 1h 30min

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Register No. in the spaces provided above.
2. DO NOT turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write all your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

Paper 1 :	45
Paper 2 :	55
Total Marks :	100

This booklet consists of 13 printed pages, excluding the cover 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)

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- 1 A bottle is $\frac{3}{4}$ filled with water. This amount of water is equivalent to 5 identical cups of water. 2 cups of water from the bottle are then poured away. What fraction of the bottle is still filled with water?

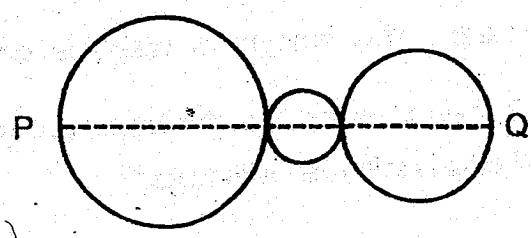
Ans: _____

- 2 Mrs Brooklyn had enough money to buy either 6 mops or 9 brooms. Each mop was \$3.85 more than each broom. How much money did she have?

Ans: \$ _____

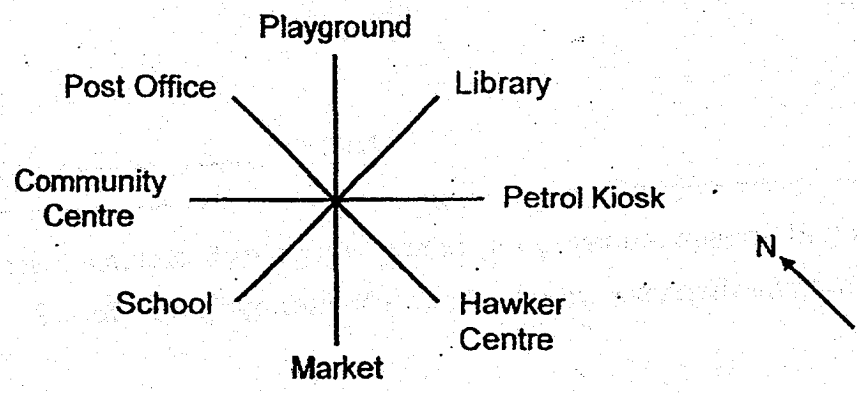
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3 Three circles are placed side-by-side as shown below. PQ is 7.5 cm and it cuts through the centres of all the circles. Find the circumference of the 3 circles. (Take $\pi = 3.14$)



Ans: _____ cm

4 The following diagram shows 8 different locations.

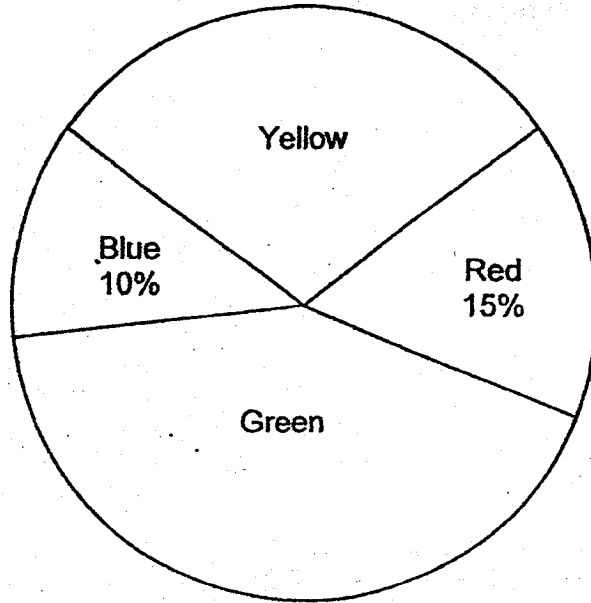


Jasmine is facing the south-west direction at first. Which location will she be facing after making a 135° anti-clockwise turn?

Ans: _____

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- 5 Roslina has some coloured beads as shown in the pie chart below.
The ratio of the number of yellow beads to the number of green beads is
2 : 3. What percentage of the beads is green?



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)

Do not write in this space.

- 6 A cubical container contained 2.25 l of water when $\frac{2}{3}$ filled. Find the length of one side of the container.

Ans: _____ [3]

- 7 At a bakery shop, a cupcake costs \$x and a brownie costs 80¢ more than the cupcake. Thomas wants to buy an equal number of cupcakes and brownies. What is the maximum sets of cupcakes and brownies Thomas can buy with \$50?

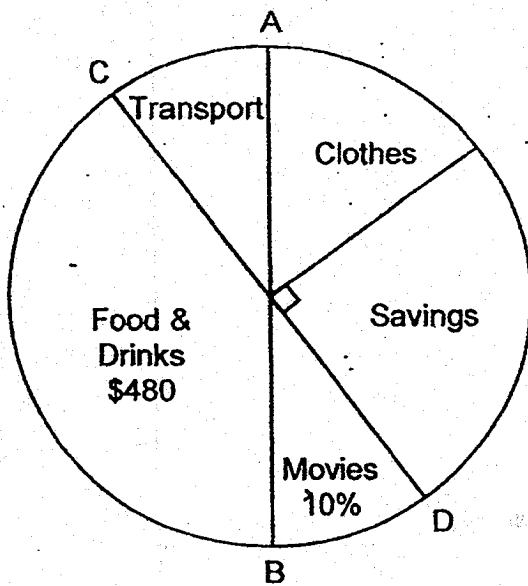
Ans: _____ [3]

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- 8 Mr Ong has 3 bags of rice, Bag A, Bag B and Bag C. Bag C weighs 600g. Bag A weighs 600g more than half of Bag B. The mass of Bag B is the total mass of Bag A and Bag C. What is the total mass of the 3 bags of rice?

Ans: _____ [3]

- 9 The pie chart below shows how Wilbur spent his salary last month. AB and CD are straight lines. Wilbur spent 10% of his money on watching movies. He spent the same amount of money on transport and watching movies. Find the amount of money he spent on clothes.

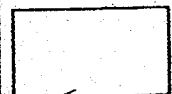


Ans: _____ [3]

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- 10 A car set off at 07 45 from Town A at an average speed of 80 km/h and reached Town B at 09 45. A truck set off from Town A 2 hours earlier and reached Town B at the same time as the car. If the truck were to increase its average speed by 10 km/h, how much time would it have taken to reach Town B?

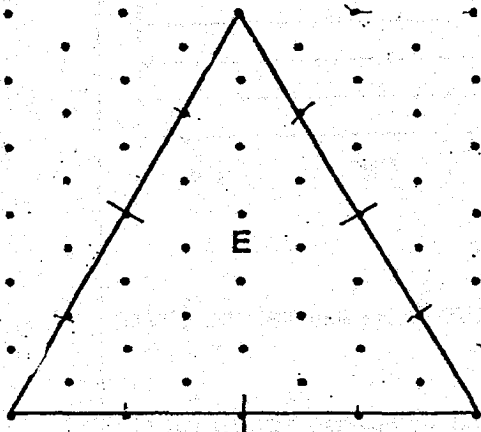
Ans: _____ [3]



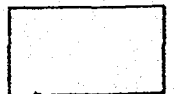
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in this space

11 An equilateral triangle E is drawn by joining dots on the grid below with three straight lines. In the same way,

- (a) draw an isosceles triangle with the same height as E. Label the triangle T. [1]
- (b) draw a rhombus with the same perimeter as E. Label the rhombus R. [2]
- (c) Find the sum of all the angles in E, T and R.

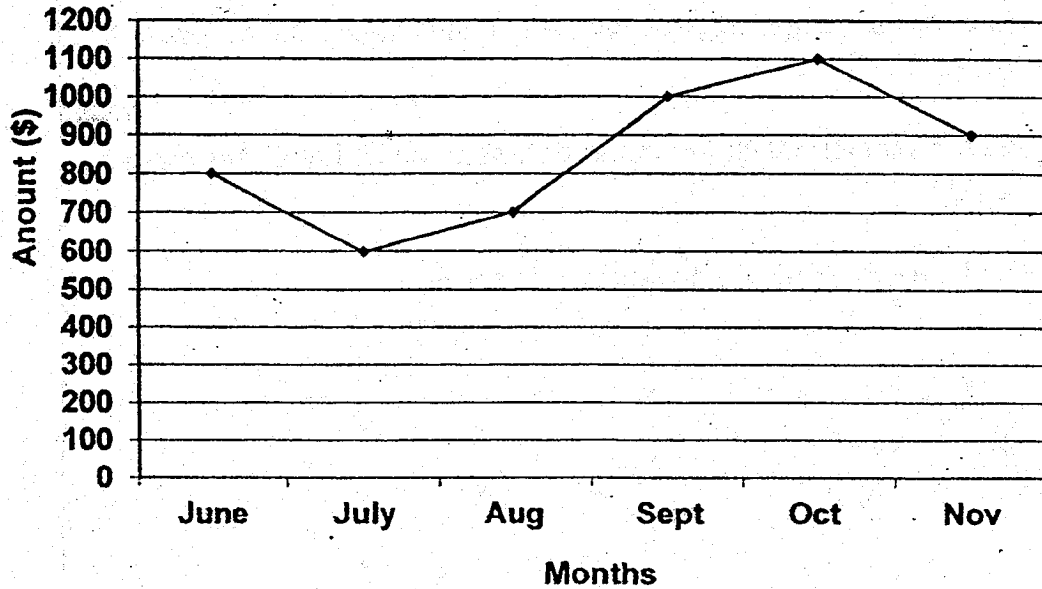


Ans: (c) _____ [1]



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- 12 The line graph below shows the amount of money Mrs Kim spent during the Great Singapore Sale from June to November.



- (a) What was the average amount of money Mrs Kim spent at the Great Singapore Sale over the six months?
- (b) Mrs Kim used the amount of money spent in November to buy a dress, a necklace and a watch in the ratio 4 : 5 : 3. How much did the necklace cost?

Ans: (a) _____ [2]

(b) _____ [2]



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- 13 Kate had 70 more Otah buns than Curry buns. She sold $\frac{3}{4}$ of the Otah buns and $\frac{3}{5}$ of the Curry buns. She sold 126 more Otah buns than Curry buns. What fraction of the remaining buns that Kate had were Curry buns?

Ans: _____ [4]

14 Hailey used 4 identical sticks to form a square as shown below.

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She then formed a pattern using more of the sticks.



- (a) How many sticks are used to form 13 squares?
- (b) How many squares are formed using 100 sticks?

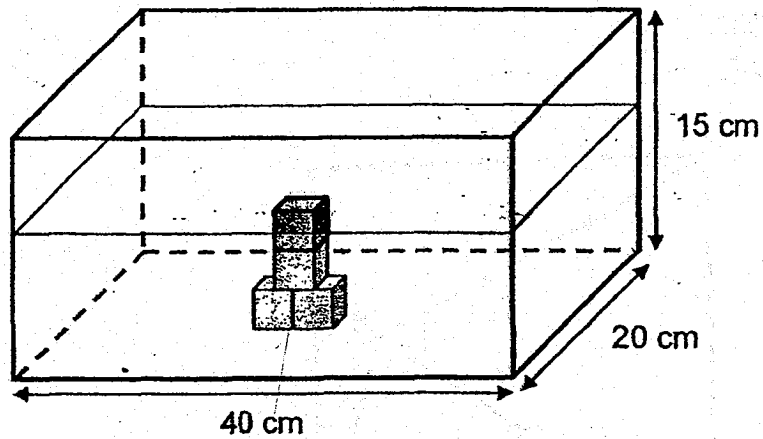
Ans: (a) _____ [2]

(b) _____ [2]



15 Study the figure below.

Do not write
in this space



Four 3-cm cubes were placed in a tank measuring 40 cm by 20 cm by 15 cm. 5747.3 cm^3 of water was then poured into the tank. Find the height of the water level in the tank.

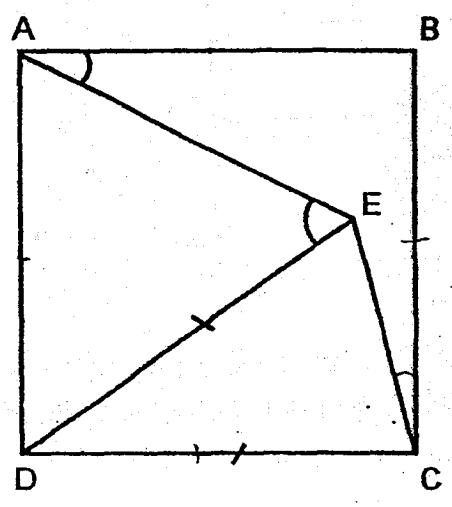
Ans: _____ [4]



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in this space

16 In the figure below, ABCD is a square. $DE = DC$ and $\angle ECB$ is $\frac{1}{4}$ of $\angle ECD$.

- (a) Find $\angle AED$.
- (b) Find $\angle BAE$.



Ans: (a) _____ [4]

(b) _____ [1]



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in this space →

- 17 Lynn baked some cookies. 20% of the cookies were eaten. The rest of the cookies were given to Ryan, Gerald and Tim in the ratio of 7 : 3 : 2. After Ryan gave 320 cookies to Tim, Tim then had 50% as many cookies as Ryan. How many cookies did Lynn bake at first?

Ans: _____ [5]

Faint, illegible text at the top of the page, possibly a header or title.

A small, dark mark or artifact located near the bottom center of the page.

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

PAPER 1 BOOKLET A

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

PAPER 1 BOOKLET B

Q16) 11.31

Q17) 3.2cm

Q18) 3.5%

Q19) Triangular prism

Q20) 75 durians

Q21) 2.86

Q22) \$3.60

Q23) 9cm^2

Q24) 1570cm^2

Q25) 41°

Q26) 18 years old

Q27) 11 children

Q28) $(6y + 4)\text{ cm}$

Q29) 588 marbles

Q30) a: true b: Not possible to tell

PAPER 2

Q1) 5 cups $\rightarrow \frac{3}{4}$

1 cup $\rightarrow \frac{3}{4} \div 5$

$= \frac{3}{20}$ bottle

$5 - 2 = 3$

3 cups $\rightarrow \frac{3}{20} \times 3$

Ans $= \frac{9}{20}$ bottle

Q2) $9 - 6 = 3$

3 brooms $\rightarrow 3.85 \times 6 = \23.10

1 broom $\rightarrow 23.10 \div 3 = \7.70

9 brooms $\rightarrow 7.70 \times 9 = \underline{\$69.30}$

Q3) $3.14 \times 7.5 = \underline{23.55\text{cm}}$

Q4) $90 \div 2 = 45$

$90 + 45 = 135$

$= \underline{\text{Library}}$

Q5) Y : G

$2 : 3$ (5u)

$5u \rightarrow 100 - 10 - 15 = 75\%$

$1u \rightarrow 75 \div 5 = 15\%$

$3u \rightarrow 15 \times 3 = \underline{45\%}$

$$Q6) \frac{2}{3} \rightarrow 2250$$

$$\frac{1}{3} \rightarrow 2250 \div 2 = 1125\text{cm}^3$$

$$\frac{3}{3} \rightarrow 1125 \times 3 = 3375\text{cm}^3$$

$$\sqrt[3]{3375} = \underline{15\text{cm}}$$

Q7) cupcake: x

brownie: $x + 0.8$

1 cupcake + 1 brownie: $2x + 0.8$

Total can buy: $\frac{50}{2x+0.8}$

$$\text{Ans: } \frac{50}{2x+0.8}$$

$$Q8) \frac{1}{2} B \rightarrow 600 \times 2 = 1200\text{g}$$

$$B \rightarrow 1200 \times 2 = 2400\text{g}$$

$$A \rightarrow 1200 + 600 = 1800\text{g}$$

$$A + B + C \rightarrow 1800 + 2400 + 600 = \underline{4800\text{g}}$$

Q9) Movies = Transport = 10%

$$\text{Clothes} \rightarrow (100\% \div 2) - 25 - 10 \\ = 15\%$$

$$\text{Food and drinks} \rightarrow (100\% \div 2) - 10 \\ = 40\%$$

$$40\% \rightarrow \$480$$

$$1\% \rightarrow 12$$

$$15\% \rightarrow 12 \times 15 = \underline{\$180}$$

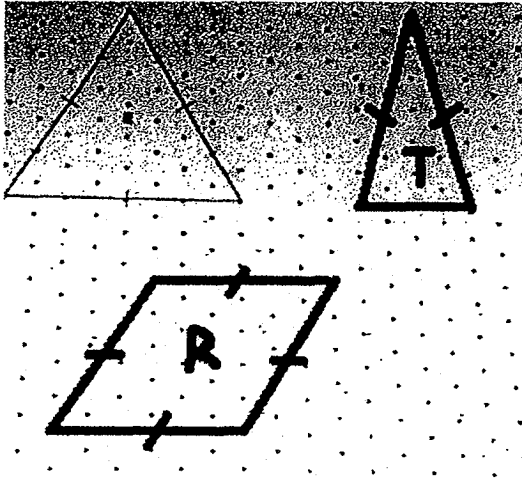
$$Q10) S \rightarrow 40 + 10 = 50\text{km/h}$$

$$D \rightarrow 160\text{km}$$

$$T \rightarrow 160 \div 50 = 3 \frac{1}{5} \text{ h}$$

$$\text{Ans: } 3 \frac{1}{5} \text{ h}$$

Q11)



$$\text{Q11c) } (180 \times 2) + 360 = \underline{720^\circ}$$

$$\text{Q12a) } 800 + 600 + 700 + 1000 + 1100 + 900 = 5100$$
$$5100 \div 6 = \underline{\$850}$$

Q12b) D : N : W

$$4 : 5 : 3 \text{ (12u)}$$

$$12\text{u} \rightarrow 900$$

$$1\text{u} \rightarrow 900 \div 12 = 75$$

$$5\text{u} \rightarrow 75 \times 5 = \underline{\$375}$$

$$\text{Q13) } \frac{3}{4} \text{ otah buns} = \frac{15}{20}$$

$$\frac{3}{5} \text{ curry buns} = \frac{12}{20}$$

Otah : curry

$$1\text{u} + 70 : 1\text{u}$$

$$20\text{u} + 70 : 20\text{u}$$

$$-15\text{u} - 52.5 : -12\text{u}$$

$$5\text{u} + 17.5 : 8\text{u}$$

$$\frac{3}{4} \times 70 = 52.5$$

$$70 - 52.5 = 17.5$$

$$15\text{u} - 12\text{u} = 3\text{u}$$

$$3\text{u} + 52.5 = 126$$

$$3\text{u} \rightarrow 126 - 52.5 = 73 \frac{1}{2}$$

$$1u \rightarrow 73\frac{1}{2} \div 3 = 24\frac{1}{2}$$

$$\text{Olah buns } 5u \rightarrow 122\frac{1}{2}$$

$$122\frac{1}{2} + 17.5 = 140$$

$$\text{Curry buns } 8u \rightarrow 196$$

$$\text{Ans: } \frac{196}{140+196} = \frac{7}{12}$$

$$\text{Q14a) sticks } \rightarrow (13 \times 3) + 1 = \underline{40 \text{ sticks}}$$

$$\text{Q14b) squares } \rightarrow (100 - 1) \div 3 = \underline{33 \text{ squares}}$$

$$\text{Q15) Base area of tank: } 40 \times 20 = 800$$

$$\text{Base area of 2 cubes: } 6 \times 3 = 18$$

$$\text{Layer 1: } (800 - 18) \times 3 = 2346\text{cm}^3$$

$$\text{Base area of 1 cube: } 3 \times 3 = 9$$

$$800 - 9 = 791$$

$$\text{Amount of water at layer 2: } 5747.3 - 2346 = 3401.3\text{cm}^3$$

$$3401.3 \div 791 = 4.3$$

$$4.3 + 3 = \underline{7.3\text{cm}}$$

$$\text{Q16a) } 90 \div 5 = 18$$

$$\angle \text{DCE} \rightarrow 18 \times 4 = 72$$

$$\angle \text{EDC} \rightarrow 180 - (72 \times 2) = 36$$

$$\angle \text{ADE} \rightarrow 90 - 36 = 54$$

$$\angle \text{AED} \rightarrow (180 - 54) \div 2 = \underline{63^\circ}$$

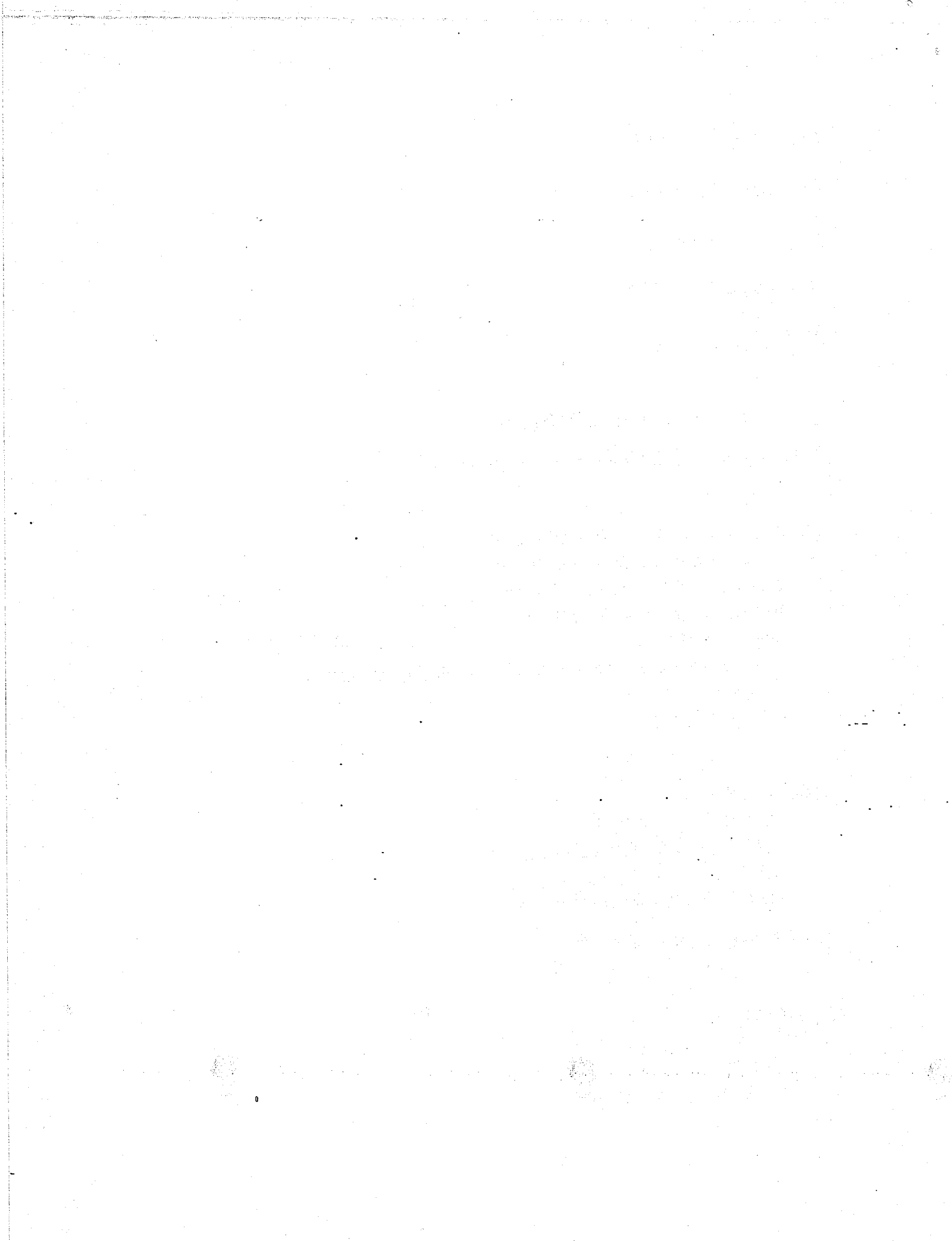
$$\text{Q16b) } \angle \text{BAE} \rightarrow 90 - 63 = \underline{27^\circ}$$

$$\text{Q17) } R : G : T$$

$$7 : 3 : 2 \quad (12u)$$

$$1u \rightarrow 320$$

$$15u \rightarrow 320 \times 15 = \underline{4800}$$



**RIVER VALLEY PRIMARY SCHOOL
PRELIMINARY EXAMINATION**

2018

MATHEMATICS

PRIMARY SIX

Date : 21 August 2018

Duration : 60 min (Total time for Booklets A and B)

PAPER 1

(BOOKLET A)

INSTRUCTIONSTO CANDIDATES

1. Write your Name, Register No. and Class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers on the Optical Answer Sheet (OAS) provided.
6. You are not allowed to use a calculator.

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES

PHYSICS DEPARTMENT
5712 S. DICKINSON DRIVE
CHICAGO, ILLINOIS 60637

RECEIVED

NOV 1964

TO THE DIRECTOR OF THE DIVISION OF THE PHYSICAL SCIENCES
FROM THE PHYSICS DEPARTMENT
RE: [Illegible]

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. Which of the following is **not** a common factor of 18 and 30?

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

2. 6 ones, 5 tenths and 9 thousandths is _____.

- (1) 0.659
- (2) 6.059
- (3) 6.509
- (4) 6.59

3. Arrange the following numbers from the smallest to the largest.

8.001 , 8.1 , 8.01 , 81.01

- (1) 81.01 , 8.1 , 8.01 , 8.001
- (2) 8.01 , 8.1 , 8.001 , 81.01
- (3) 8.001 , 8.01 , 8.1 , 81.01
- (4) 8.001 , 8.1 , 8.01 , 81.01

4. Which of the following fractions is the greatest?

(1) $\frac{3}{7}$

(2) $\frac{5}{9}$

(3) $\frac{5}{11}$

(4) $\frac{6}{13}$

5. The table below shows the charges for parking at a shopping centre.

PARKING CHARGES	
For the first hour	\$3.00
For every subsequent $\frac{1}{2}$ hour or part thereof	\$1.20

Rex parked his car in the car park from 10.30 a.m. to 12.40 p.m. on the same day. How much did he pay altogether for the parking fee?

(1) \$5.40

(2) \$4.20

(3) \$6.60

(4) \$7.80

6. Simplify $10c + 8 - 5c + 2c - 2$.

(1) $7c + 10$

(2) $7c + 6$

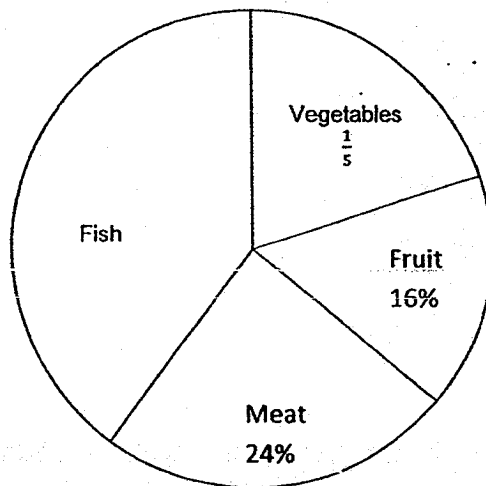
(3) $3c + 10$

(4) $3c + 6$

7. Mrs Lim exchanged a \$10 note for 20 coins. All the coins had the same value. What was the value of each coin?

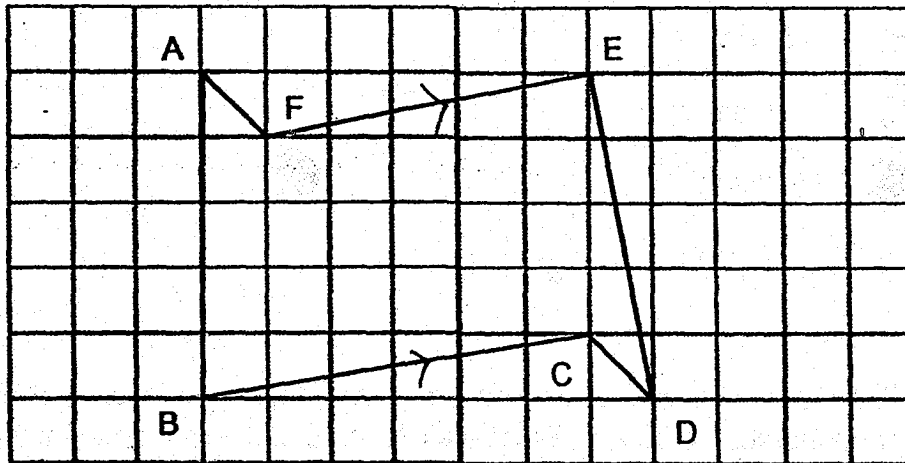
- (1) 5 cents
- (2) 10 cents
- (3) 20 cents
- (4) 50 cents

8. The pie chart below shows how Mrs Gomez spent her money at the supermarket last month. What was the ratio of the amount of money Mrs Gomez spent on meat to the amount of money she spent on fish?



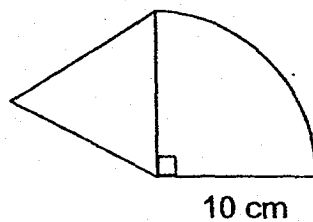
- (1) 5 : 3
- (2) 3 : 5
- (3) 2 : 3
- (4) 2 : 1

9. Which two lines in the figure below are parallel to each other?



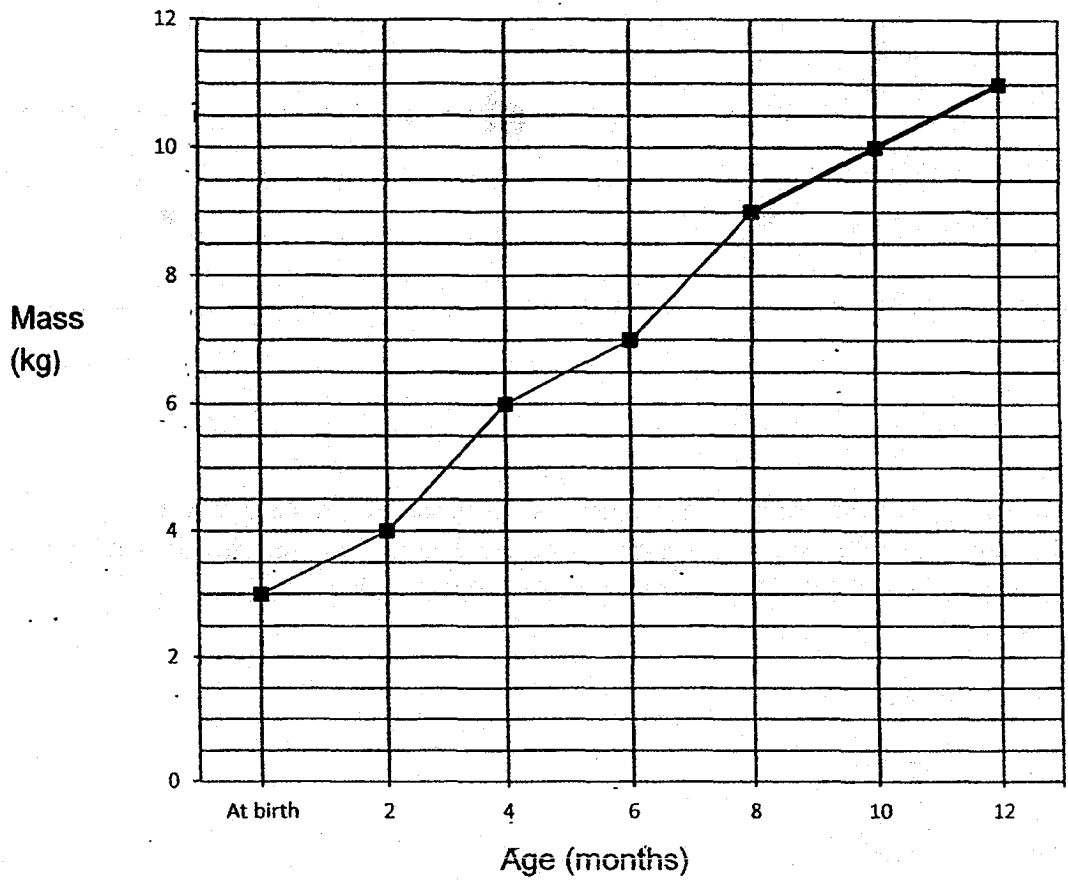
- (1) FE and BC
- (2) AB and ED
- (3) AF and ED
- (4) AF and CD

10. The figure below is made up of an equilateral triangle and a quadrant. The radius of the quadrant is 10 cm. Find the perimeter of the figure. Leave your answer in terms of π .



- (1) $(2.5\pi + 30)$ cm
- (2) $(5\pi + 30)$ cm
- (3) $(20\pi + 30)$ cm
- (4) $(25\pi + 30)$ cm

11. The line graph below shows Peter's mass from birth to his first birthday.



At what age was Peter's mass three times his mass at birth?

- (1) 10 months
- (2) 8 months
- (3) 6 months
- (4) 4 months

12. The average mass of Alice, Bella and Carol is 36 kg. Alice is 11 kg heavier than Bella and 7 kg heavier than Carol. What is the mass of Carol?

(1) 31 kg

(2) 35 kg

(3) 37 kg

(4) 42 kg

13. In April, Samy spent \$60 of his monthly allowance and saved the rest. In May, he increased his spending by 30% and as a result, his savings decreased by 20%. How much was his monthly allowance?

(1) \$90

(2) \$150

(3) \$168

(4) \$210

14. A bus can carry either 40 adults or 85 children. If there are already 24 adults and 13 children in the bus, how many more children can board the bus?

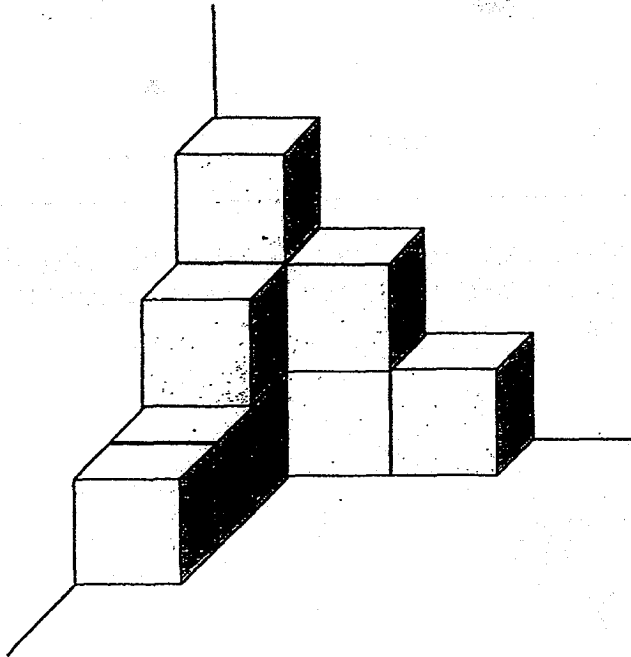
(1) 21

(2) 34

(3) 48

(4) 72

15. The solid below is made up of identical cubes that are glued together. What is the least number of such cubes that must be added to make the solid into a bigger cube?



- (1) 10
(2) 17
(3) 54
(4) 57

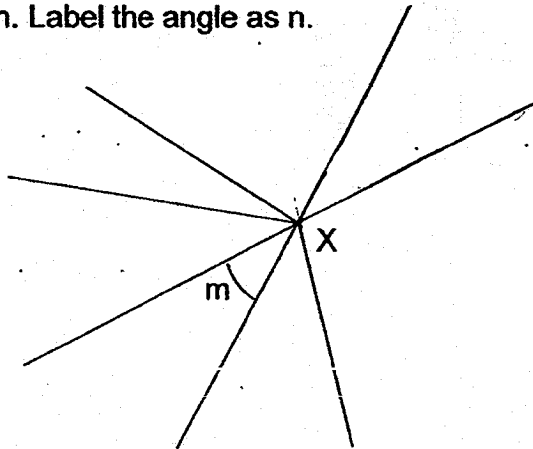
Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write
In this space

16. Find the value of $\frac{6}{7} \div 42$.

Ans : _____

17. The figure below shows angles at point X. Without using a protractor, draw another angle at X which is the same size as m . Label the angle as n .

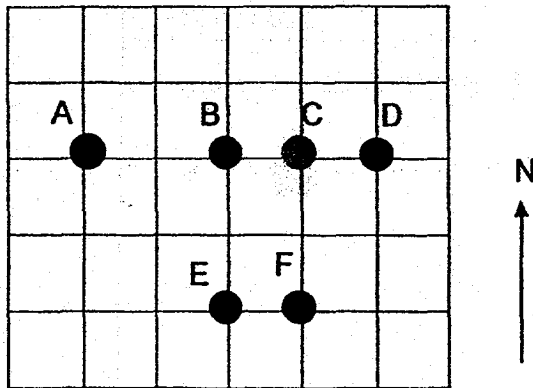


18. The opening hours of CSC Library are shown below. How long is the library open each day? Give your answer in hours and minutes.

CSC Library
Opens Daily
10.15 a.m. to 9.30 p.m.
(Closes for lunch from 12.30 p.m. to 1.30 p.m.)

Ans : _____ h _____ min

19. Study the square grid below.

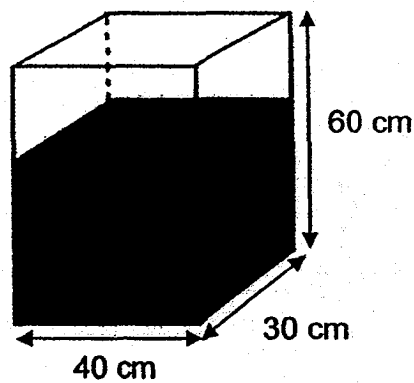


Point _____ is northeast of Point _____.

Ans : _____ , _____

Do not write
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20. The rectangular tank below measures 40 cm by 30 cm by 60 cm. It is two-third filled with water. How much water is in the tank? (1 ℓ = 1000 cm³)



Ans : _____ ℓ

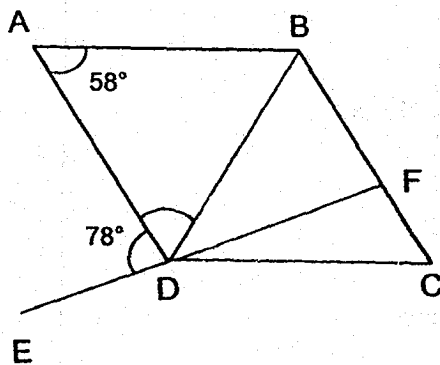
Questions 21 to 30 carry 2 marks each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

Do not write
In this space

21. Find the value of $3y + \frac{5y}{8} - 8$ when $y = 4$. Give your answer as a mixed number in the simplest form.

Ans : _____

22. In the figure, ABCD is a rhombus. EDF is a straight line. $\angle BAD = 58^\circ$ and $\angle ADE = 78^\circ$. Find $\angle FDC$.

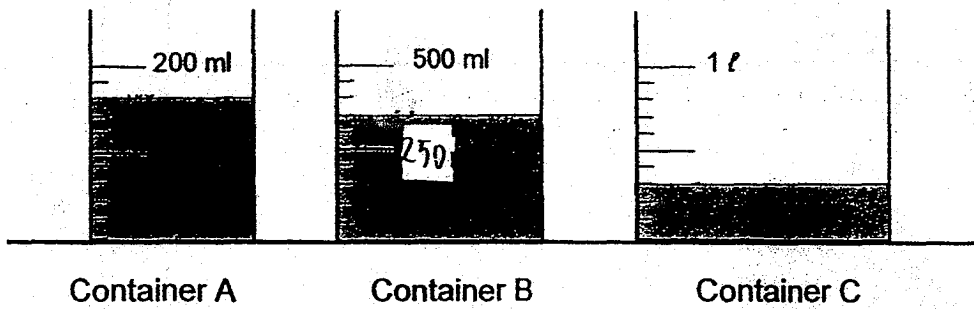


Ans : _____ °

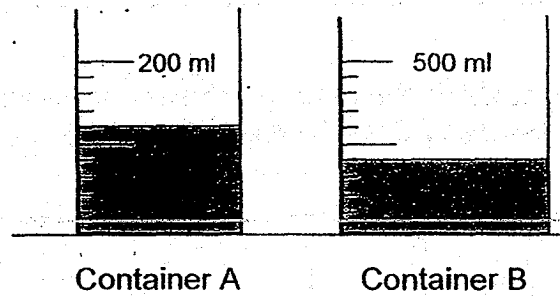
23.

At first, Containers A, B and C contained some water as shown below.

Do not write
In this space



Then, Ali poured some water from Containers A and B into Container C without any spilling over. The amount of water left in Containers A and B is shown below.

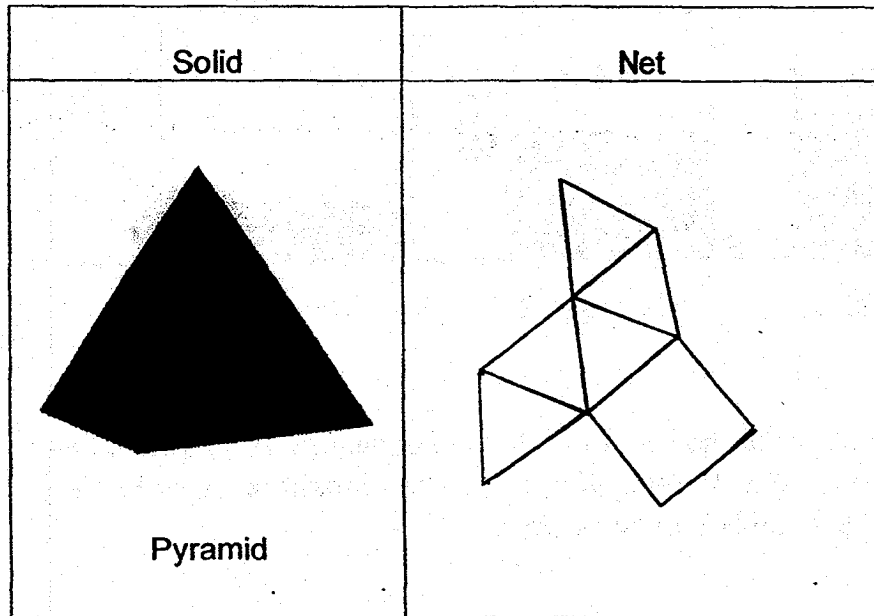


What would be the amount of water in Container C in the end?

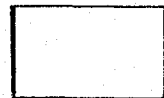
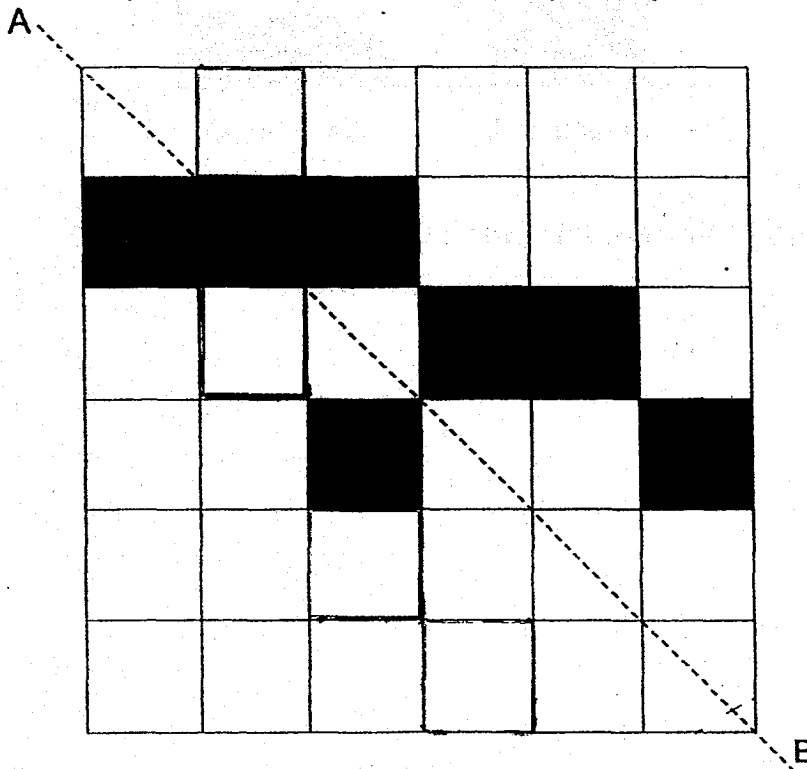
Ans : _____ ml

24a. The net drawn for the solid below is **incorrect**. Shade the face that **does not fit**.

Do not write
in this space

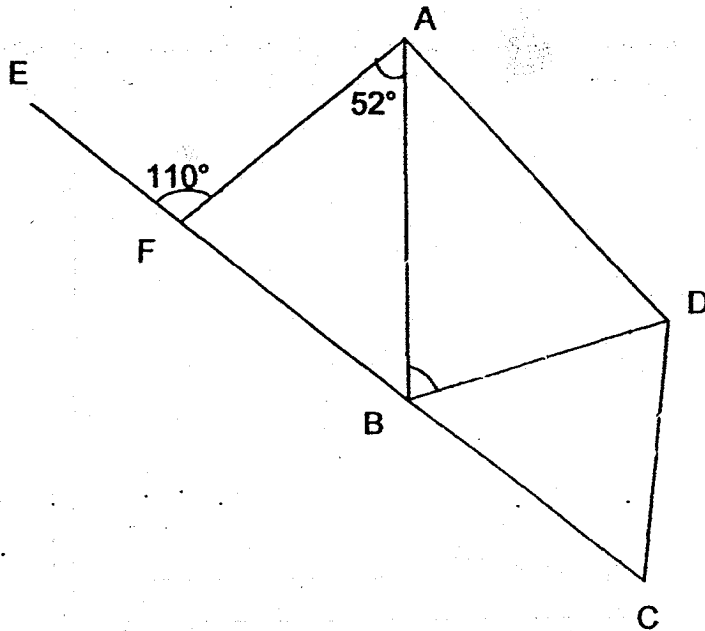


24b. In the figure below, shade the **least** number of squares to form a symmetrical pattern with AB as the line of symmetry.



25. In the figure, ABCD is a trapezium and BCD is an isosceles triangle. $DB = DC$, $\angle BAF = 52^\circ$ and $\angle AFE = 110^\circ$. Find $\angle BDC$.

Do not write
In this space



Ans : _____ °

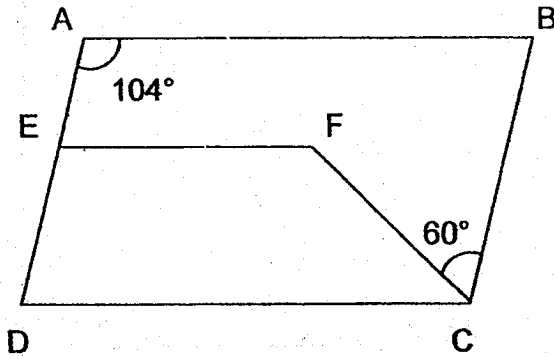


26. A group of boys shared some stamps among themselves. They tried taking 12 stamps each, but found that the last boy had only 7 stamps. When they tried taking 10 stamps each, they found that there were 25 stamps left over. How many stamps were there altogether?

Do not write
in this space

Ans : _____

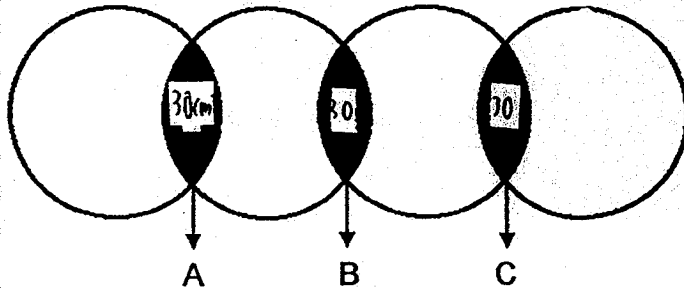
27. In the figure, ABCD is a parallelogram. $AB \parallel EF \parallel DC$.
 $\angle BAE = 104^\circ$ and $\angle BCF = 60^\circ$. Find $\angle EFC$.



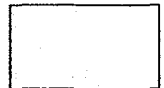
Ans : _____ °

28. The figure below is made up of 4 identical circles, each with a radius of 7 cm. The circles overlap at the shaded parts A, B and C. The area of each shaded part is 30 cm^2 . Find the total area of the unshaded parts. (Take $\pi = \frac{22}{7}$)

Do not write
In this space

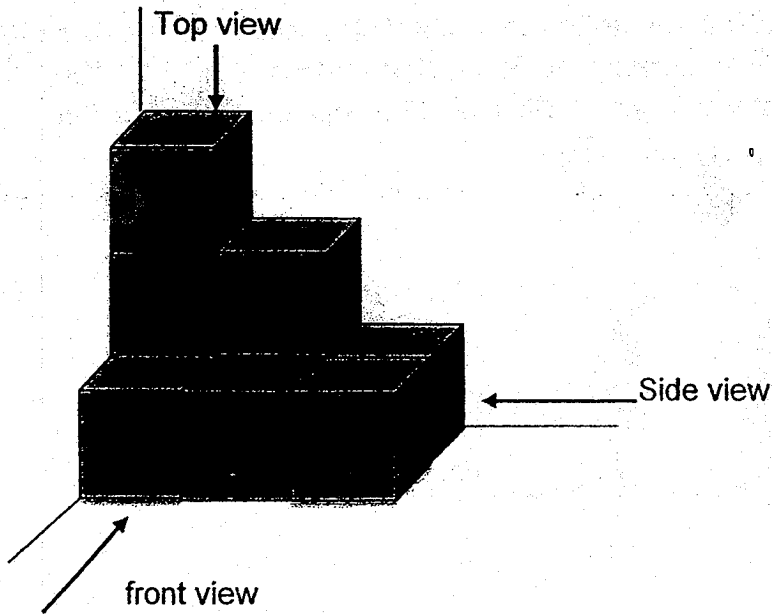


Ans : _____ cm^2

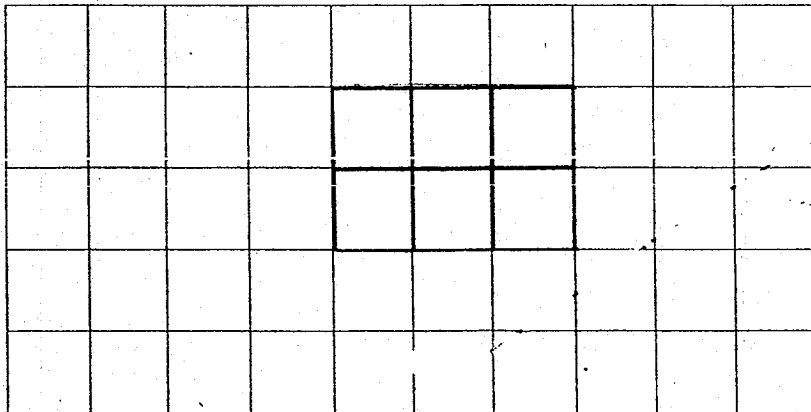


29. The solid below is made up of identical cubes. Draw the top view and front view of the solid in the square grids below.

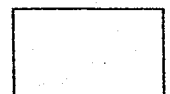
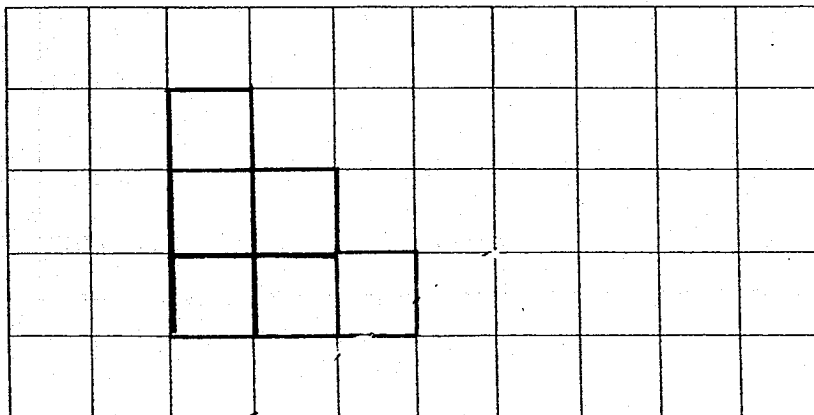
Do not write
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Top view



Front view



30. The average savings of a group of boys and girls is \$245. There is an equal number of boys and girls. The average savings of the boys is \$300.

Do not write
in this space

Each statement below is either true, false or not possible to tell from the information given above. For each statement, put one tick (✓) in the correct column.

Statement	True	False	Not possible to tell
Each boy saves more than each girl.			
The average savings of the girls is more than \$300.			



- End of Booklet B -

100-100000

RIVER VALLEY PRIMARY SCHOOL

PRELIMINARY EXAMINATION

2018

MATHEMATICS

PRIMARY SIX

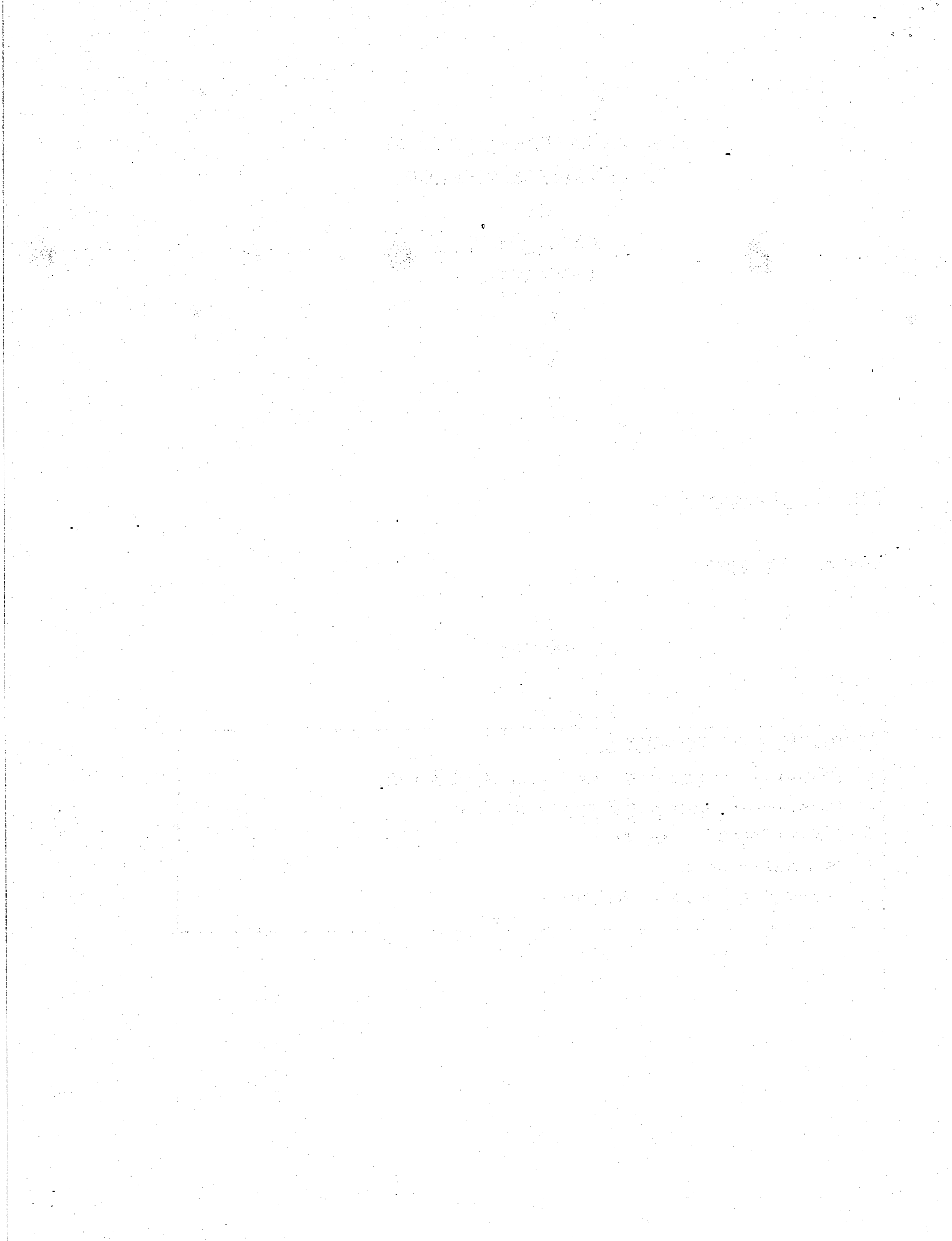
Date : 21 August 2018

Duration : 1 h 30 min

PAPER 2

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Register No. and Class in the space above.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. You are **allowed** to use a calculator.



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 answer in the units stated. (10 marks)

Do not write in this space

1. Shah spent $\frac{2}{5}$ of his money while Harrison spent $\frac{3}{8}$ of his money. Then they each had \$120 left. How much did the two boys have altogether at first?

Ans : \$ _____

2. The table below shows the number of tickets sold by 3 girls. Lisa sold half as many tickets as the total number of tickets sold by Jane and Kerry. Jane sold 38 tickets. How many tickets did Lisa sell?

Girls	Number of tickets sold
Jane	$3p + 8$
Kerry	$2p - 4$
Lisa	

Ans : _____

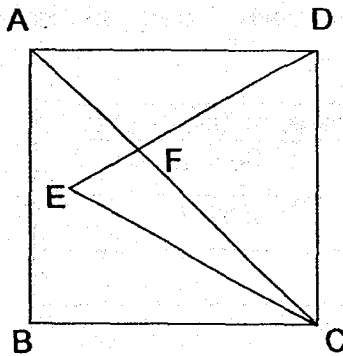
3. The average of 6 two-digit numbers shown below is 60. A digit from each of the last two numbers is missing. What are the last two numbers?

Do not write in this space

58	46	77	62	6	7
----	----	----	----	---	---

Ans : _____ and _____

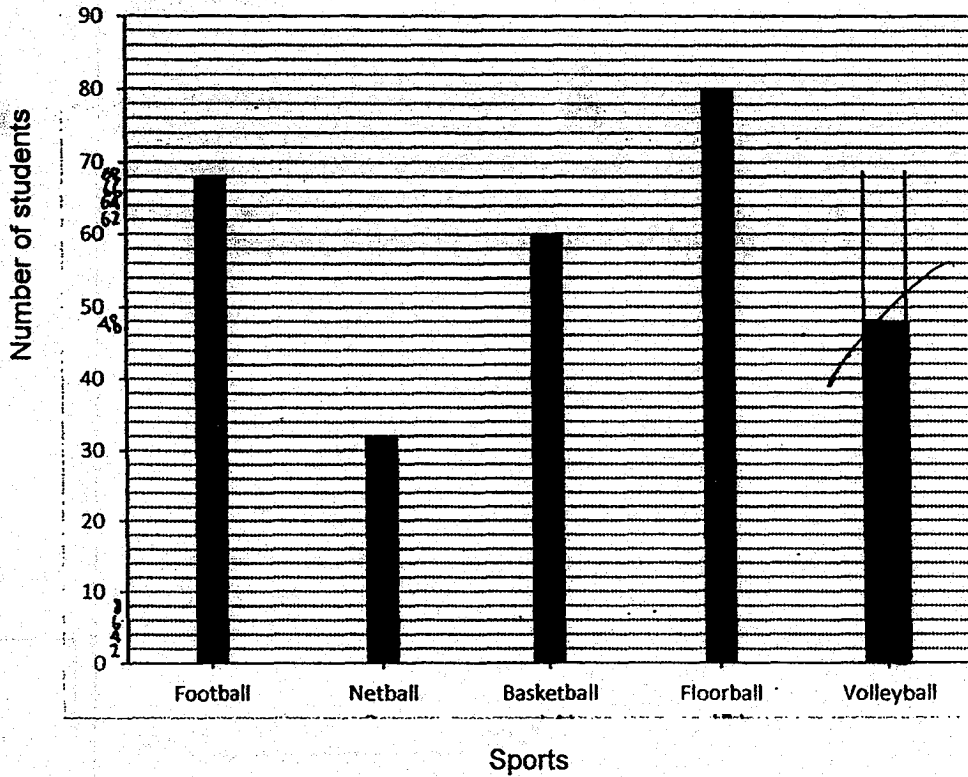
4. In the figure below, ABCD is a square. CED is an equilateral triangle and AFC is a straight line. Find $\angle AFD$.



Ans : _____ °

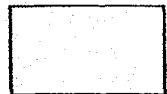
5. The graph below shows the results of a survey on the favourite sports of a group of students.

Do not write in this space



$\frac{1}{6}$ of the students chose volleyball as their favourite sport.

Draw the bar in the graph to show the number of students who chose volleyball as their favourite sport.



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)

Do not write
in this space

6. Jane packs all her books into a suitcase and the total mass of her books and the suitcase is 59.4 kg. Rahim packs all his books into an identical suitcase and the total mass of his books and the suitcase is 20.1 kg. The mass of Jane's books is four times as heavy as that of Rahim's books. What is the mass of the empty suitcase?

Ans: _____ (3m)

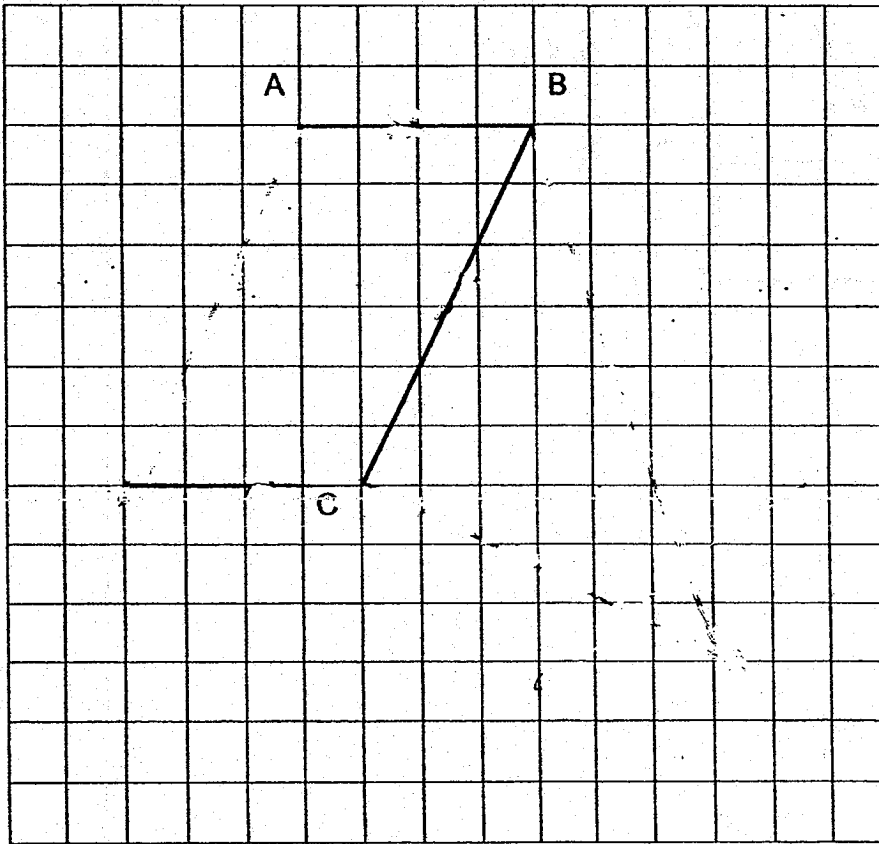
7. Alice and Peggy went shopping together with a total sum of \$105.50. The ratio of the amount of money Peggy spent to the amount Alice spent was 2 : 3. The amount of money Peggy had left was \$9 more than what she had spent. Alice had $\frac{1}{2}$ as much money left as Peggy. How much money did Peggy have left?

Ans: _____ (3m)

8. In the square grid below, two sides of a parallelogram ABCD have been drawn.

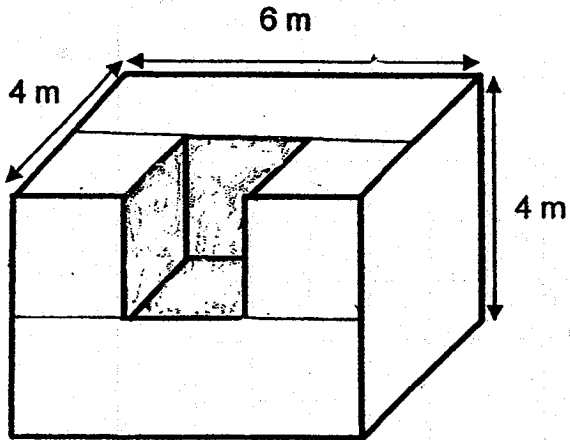
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- (a) Complete the drawing of the parallelogram ABCD. Label your drawing. (1 mark)
- (b) BC also forms one side of a triangle BCE in which $\angle BCE$ is a right angle and $BC = CE$. Complete the drawing of the triangle BCE within the grid. (2 marks)



9. A solid measures 6 m by 4 m by 4 m. A 2-m cube was cut out from the centre of the solid. The remaining solid is then completely dipped into a pail of red paint. What is the total area of the surfaces that are red?

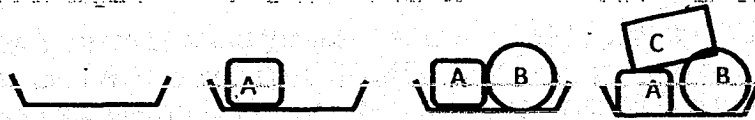
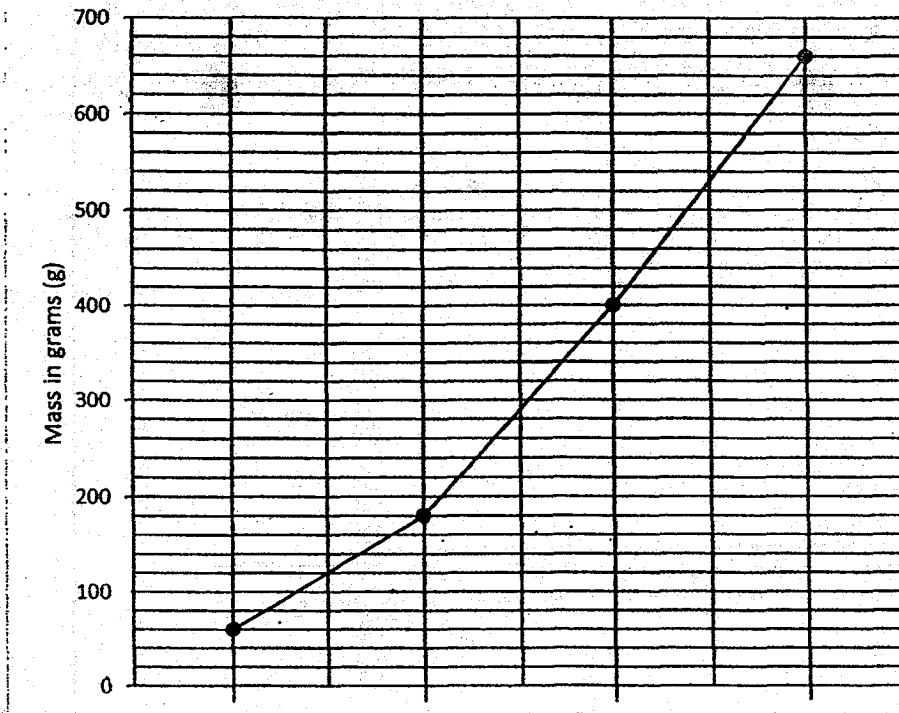
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Ans: _____ (3m)

10. Three objects A, B and C were placed on a container, one after another. The line graph below shows the mass of the container when empty and the mass when different objects were placed on it.

Do not write in this space



- (a) What is the mass of Object A?
 (b) Find the average mass of the three objects.

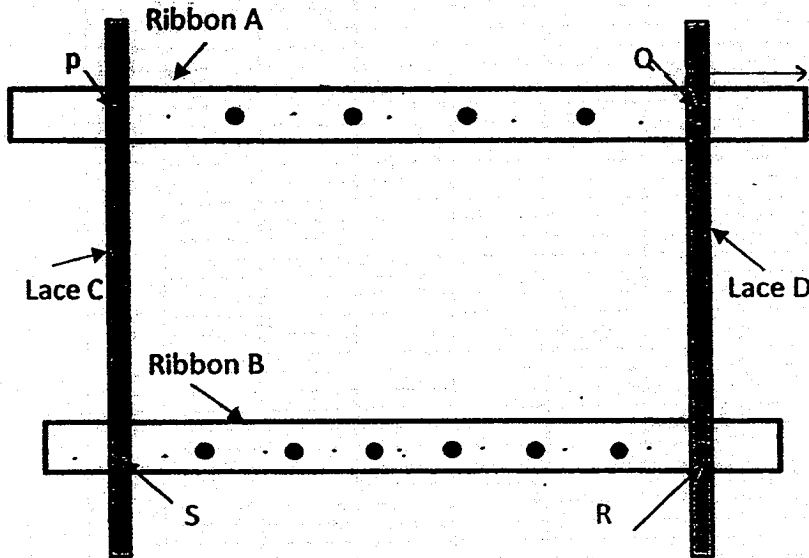
Ans: (a) _____ (1m)

(b) _____ (2m)



11. Two similar ribbons, A and B, of different lengths, and two similar laces C and D are sewn together to make a frame as shown below. There are 6 buttons on Ribbon A which divide the ribbon into 7 equal parts. There are 8 buttons on Ribbon B which divide it into 9 equal parts. In the frame, P, Q, R and S are buttons that are sewn on the four corners of a rectangle.

Do not write in this space



Ribbon A is 294 cm long. Marisa wants to buy ribbons to make 3 such frames to give to the Senior's Home. The ribbons are sold in rolls of 9 m each. What is the minimum number of rolls of ribbon Marisa needs to buy?

Ans : _____ (3m)



12. Ben bought some large-sized, medium-sized and small-sized T-shirts to be sold in his shop. 40% of the T-shirts he bought were large-sized T-shirts. 60% of the remaining T-shirts were medium-sized and the rest were small-sized T-shirts.

Do not write
in this space

The price of each type of T-shirt is shown in the table below.

Types of T-shirts	Price per T-shirt
Large-sized	\$18
Medium-sized	\$10
Small-sized	\$8

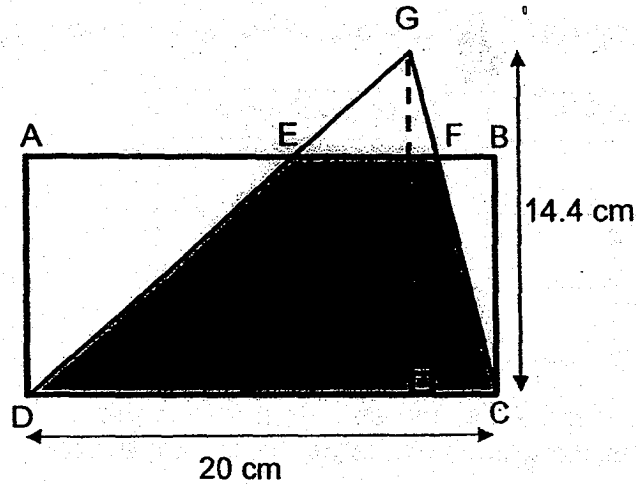
He paid \$672 more for the medium-size T-shirts than the small-sized T-shirts. How much did he pay for the large-sized T-shirts?

Ans : _____ (4m)



13. In the figure, ABCD is a rectangle. DC = 20 cm and the height of the triangle GDC is 14.4 cm. The area of the shaded part EFCD is $\frac{5}{6}$ of the area of triangle GDC. The ratio of the shaded part to the area of the rectangle is 3 : 5.

Do not write
in this space



- (a) What is the area of the shaded part?
(b) What is the length of AD?

Ans : (a) _____ (2m)

(b) _____ (2m)



14. Alan and Benny took part in a charity race which started at 8.00 a.m. Alan's speed was 60 m/min slower than Benny's speed. Both boys did not change their speeds throughout the race. When Benny completed the race at 8.40 a.m., Alan only covered $\frac{3}{5}$ of the distance.

Do not write
in this space

(a) What was the total distance of the race?

(b) What was Alan's speed in m/min?

Ans : (a) _____ (2m)

(b) _____ (2m)



15. Jason bought some bookmarks and gave half of them to Kelvin. Kelvin bought some stickers and gave half of them to Jason.

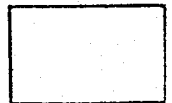
Do not write
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Then Jason gave 7 bookmarks to his sister and found that he had $\frac{1}{9}$ as many bookmarks as stickers left. Kelvin gave 12 stickers to his younger brother and found that he had $\frac{1}{6}$ as many bookmarks as stickers left.

- (a) How many stickers did Kelvin have in the end?
- (b) How many bookmarks did Jason buy?

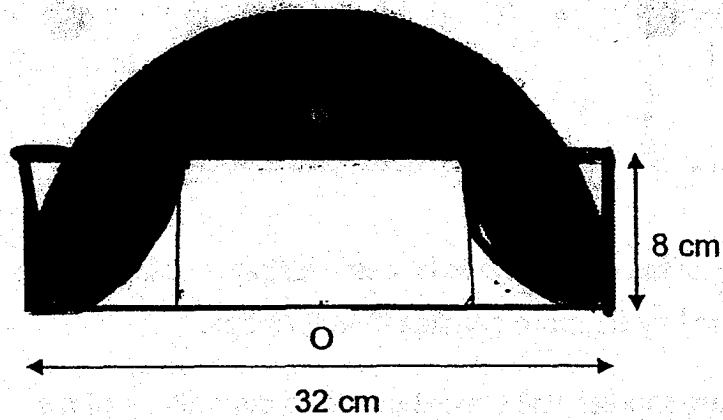
Ans : (a) _____ (3m)

(b) _____ (2m)



16. The figure below is made up of a semi-circle, 2 small quadrants and a rectangle. O is the centre of the semi-circle. The diameter of the semi-circle is 32 cm and the radius of each quadrant is 8 cm. Find the area of the shaded parts. (Take $\pi = 3.14$)

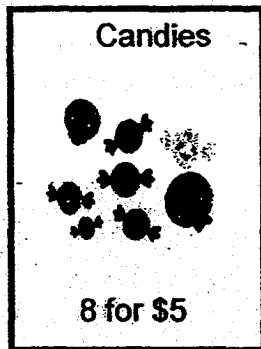
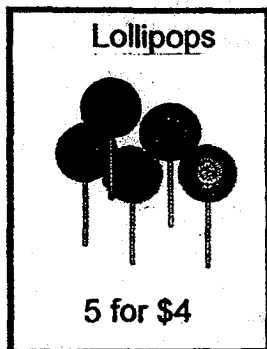
Do not write
in this space



Ans : _____ (5m)



17. At a supermarket, the prices of lollipops and candies are shown below.



Do not write
in this space

If Govin uses $\frac{2}{5}$ of his allowance to buy only lollipops or candies, he will be able to buy 98 more candies than lollipops.

- (a) How many candies will Govin be able to buy with $\frac{2}{5}$ of his allowance?
- (b) How much is Govin's allowance?

Ans : (a) _____ (3m)

(b) _____ (2m)



- End of Paper 2 -

EXAM PAPER 2018

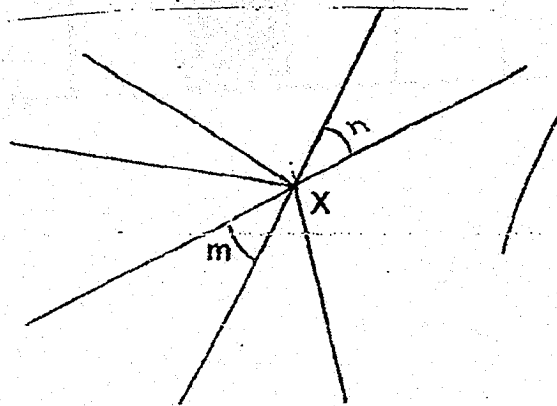
LEVEL : PRIMARY 6
SCHOOL : RIVER VALLEY PRIMARY SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIM

BOOKLET A

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

Q16. $\frac{1}{49}$

Q17.



Q18. 10h 15min

Q19. D, E

Q20. 48l

Q21. $6\frac{1}{2}$

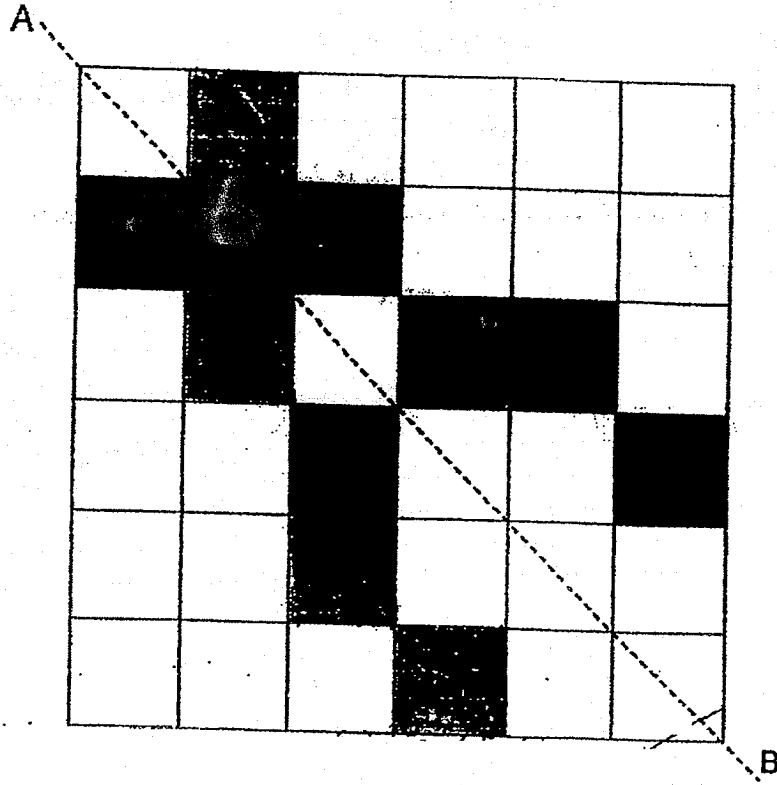
Q22. 20°

Q23. 490ml

Q24. (a)

Solid	Net
<p>Pyramid</p>	<p>(9)</p>

(b)



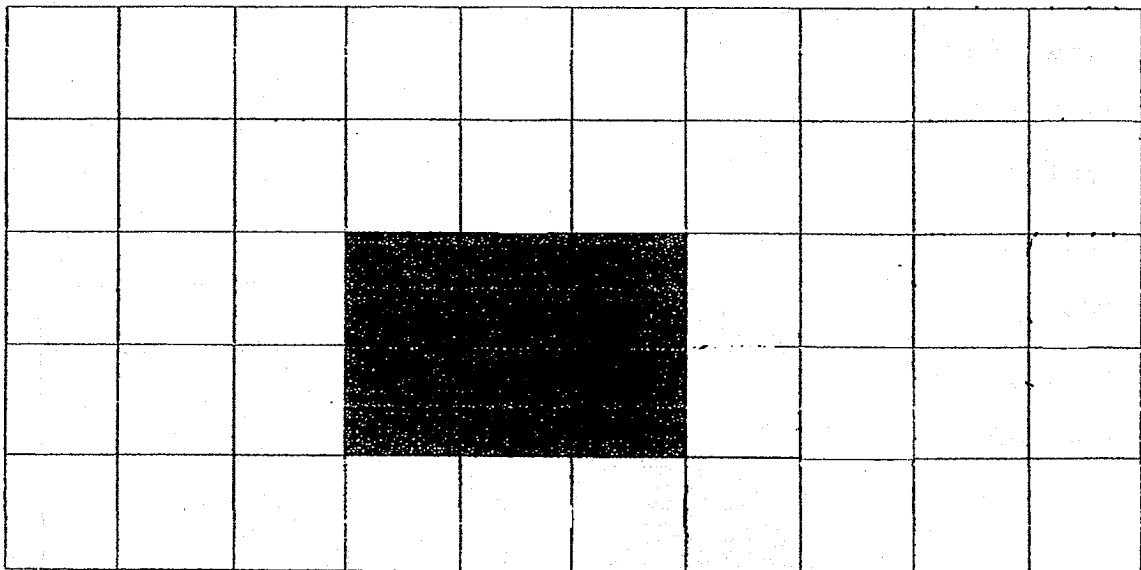
Q25. 64°

Q26. 175

Q27. 136°

Q28. 436cm^2

Q29.



Q30.

Statement	True	False	Not possible to tell
Each boy saves more than each girl			v
The average savings of the girls is more than \$300		v	

$$\begin{aligned} \text{Q1. Amt. of money Shah has} &= \$120 \times \frac{5}{3} \\ &= \$200 \end{aligned}$$

$$\begin{aligned} \text{Amt. of money Harrison has} &= \$120 \times \frac{8}{5} \\ &= \$192 \end{aligned}$$

$$\begin{aligned} \text{Total} &= 200 + 192 \\ &= \$392 \end{aligned}$$

$$\text{Q1. } 3p + 8 = 38$$

$$3p = 30$$

$$p = 10$$

$$\begin{aligned} \text{Kerry} &= (10 \times 2) - 4 \\ &= 16 \end{aligned}$$

$$\begin{aligned} \text{Lisa} &= (16 + 38) \div 2 \\ &= 27 \text{ tickets} \end{aligned}$$

$$\begin{aligned} \text{Q3. Total} &= 6 \times 60 \\ &= 360 \end{aligned}$$

$$360 - 58 - 46 - 77 - 62 = 117$$

$$117 - 60 = 57$$

Ans: 60 and 57

$$\text{Q4. Angle CAD} = 90^\circ \div 2$$

$$= 45^\circ$$

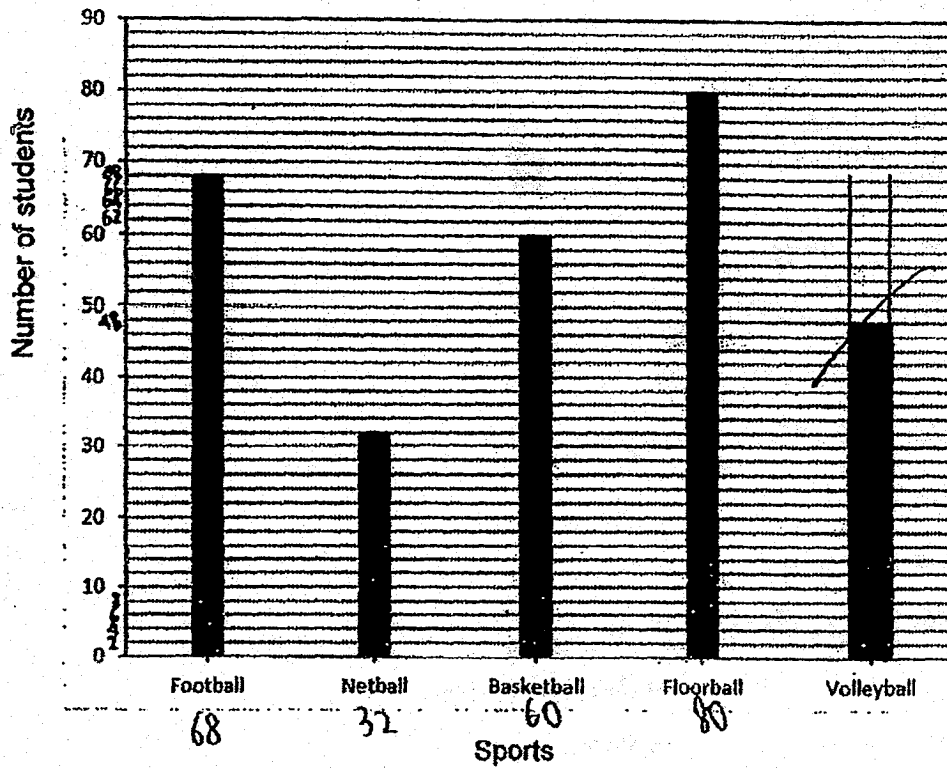
$$\text{Angle ADF} = 90^\circ - 60^\circ$$

$$= 30^\circ$$

$$\text{Angle AFD} = 180^\circ - 45^\circ - 30^\circ$$

$$= 105^\circ$$

Q5.



Q6. Let the mass of Rahim's books and the suitcase be p and s respectively,

$$4p + s = 59.4$$

$$p + s = 20.1$$

$$4p + 4s = 80.4$$

$$(4p + 4s) - (4p + s) = 80.4 - 59.4$$

$$3s = 21$$

$$s = 7\text{kg}$$

Q7. Spent:

Peggy : Alice

$$2u : 3u$$

Left:

Peggy : Alice

$$2u+9 : 1u+4.50$$

$$\text{Total} = 8u + 13.50$$

$$8u + 13.50 = 105.50$$

$$8u = 92$$

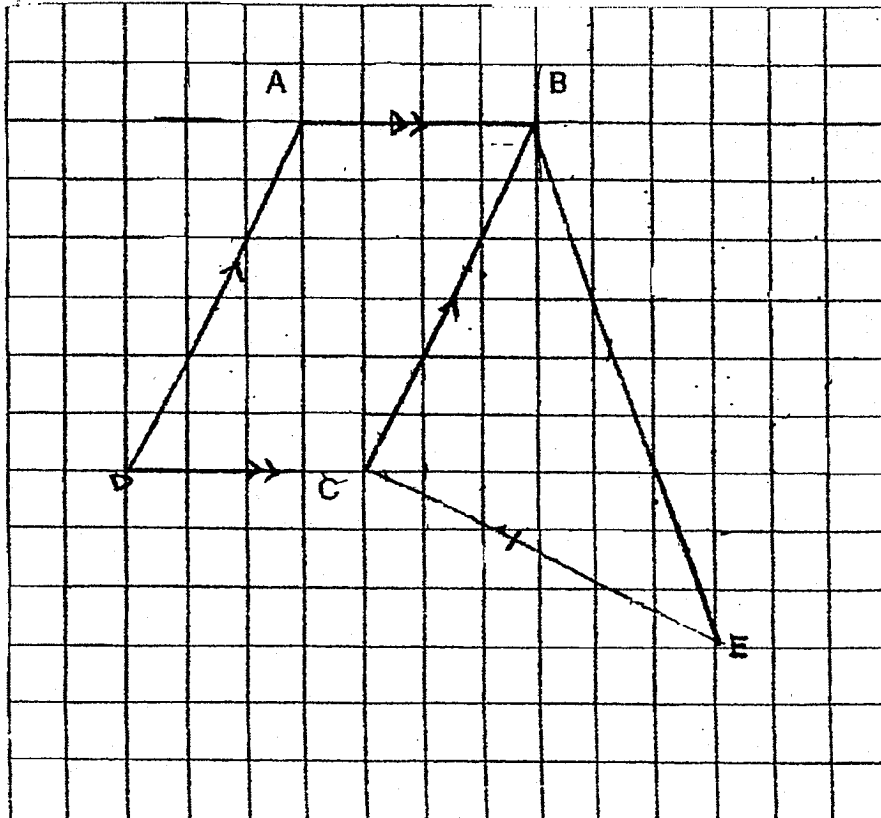
$$1u = 11.50$$

$$\text{Amt. Peggy had left} = 2u + 9$$

$$= 2(11.50) + 9$$

$$= \$32$$

Q8.



**Q9. Total area = $(8 \times 2 \times 2) + (2 \times 6 \times 2) + (2 \times 4 \times 4) + (2 \times 6 \times 4)$
= 136m^2**

Q10. (a) $180 - 60 = 120\text{g}$

**(b) Mass of B = $400 - 120 - 60$
= 220g**

**Mass of C = $660 - 120 - 220 - 60$
= 260g**

**Average mass = $(120 + 220 + 260) \div 3$
= 200g**

Q11. $294 \div 7 = 42$

$42 \times 5 = 210$

**Length of B = $210 \div 7 \times 9$
= 270cm**

**Total length required = $3 \times (270 + 294)$
= 1692cm**

$1692 \div 900 = 1 \text{ roll} + 792\text{cm}$

Ans: 2 rolls

Q12. L : M : S

40:36:24

10:9:6

	Amount	Value	Total
L	10u	18	180u
M	9u	10	90u
S	6u	8	48u

$$90u - 48u = 42u$$

$$42u = 672$$

$$1u = 16$$

$$180 \times \$16 = \$2880$$

Q13. (a) Area of GDC = $14.4 \times 20 \times \frac{1}{2}$
 $= 144\text{cm}^2$

$$\begin{aligned}\text{Area of shaded part} &= 144 \times \frac{5}{6} \\ &= 120\text{cm}^2\end{aligned}$$

(b) Area of rectangle = $120 \div 3 \times 5$
 $= 200\text{cm}^2$

$$\begin{aligned}\text{AD} &= 200 \div 20 \\ &= 10\text{cm}^2\end{aligned}$$

Q14. (a) $\frac{2}{5}$ of total distance = 40×60
= 2400m

Total distance = $2400 \div 2 \times 5$
= 6000m

(b) Benny's speed = $6000 \div 40$
= 150m/min

Alan's speed = $150 - 60$
= 90m/min

Q15. Let the number of bookmarks Jason has and the number of stickers Kelvin had at first be B and S respectively,

<u>Jason</u>	<u>Kelvin</u>
B	S
$(-\frac{1}{2}B)$	$(+\frac{1}{2}B)$
$\frac{1}{2}B$	$S + \frac{1}{2}B$
$(+\frac{1}{2}S)$	$(-\frac{1}{2}S)$
$\frac{1}{2}B + \frac{1}{2}S$	$\frac{1}{2}B + \frac{1}{2}S$
-7 bookmarks	-12 stickers
$\frac{1}{2}B + \frac{1}{2}S - 7$	$\frac{1}{2}B + \frac{1}{2}S - 12$

(a) $\frac{1}{2}S \times \frac{1}{9} = \frac{1}{2}B - 7$

$$\frac{1}{18}S = \frac{1}{2}B - 7 \rightarrow \text{Equation 1}$$

$$\left(\frac{1}{2}S - 12\right) \times \frac{1}{6} = \frac{1}{2}B$$

$$\frac{1}{12}S - 2 = \frac{1}{2}B \rightarrow \text{Equation 2}$$

Subtracting equation 1 from equation 2,

$$\frac{1}{36}S - 2 = 7$$

$$\frac{1}{36}S = 9$$

$$S = 324$$

(b) Substitute $S = 324$ into equation 2,

$$\frac{1}{2}B = 25$$

$$B = 50$$

Q16. Area of rectangle = 8×16

$$= 128\text{cm}^2$$

Area of semi-circle = $\frac{1}{2} \times 16 \times 16 \times 3.14$

$$= 401.92\text{cm}^2$$

Area of quadrant = $\frac{1}{2} \times 8 \times 8 \times 3.14$

$$= 50.24\text{cm}^2$$

$$8 \times 8 = 64\text{cm}^2$$

$$64 - 50.24 = 13.76\text{cm}^2$$

Area of shaded area = $401.92 - 13.76 - 13.76 - 128$

$$= 246.4\text{cm}^2$$

Q17. (a) Lollipops = $20 \div 4 \times 5$

$$= 25$$

Candies = $20 \div 5 \times 8$

$$= 32$$

Difference = $32 - 25$

$$= 7$$

$$98 \div 7 = 14 \text{ sets}$$

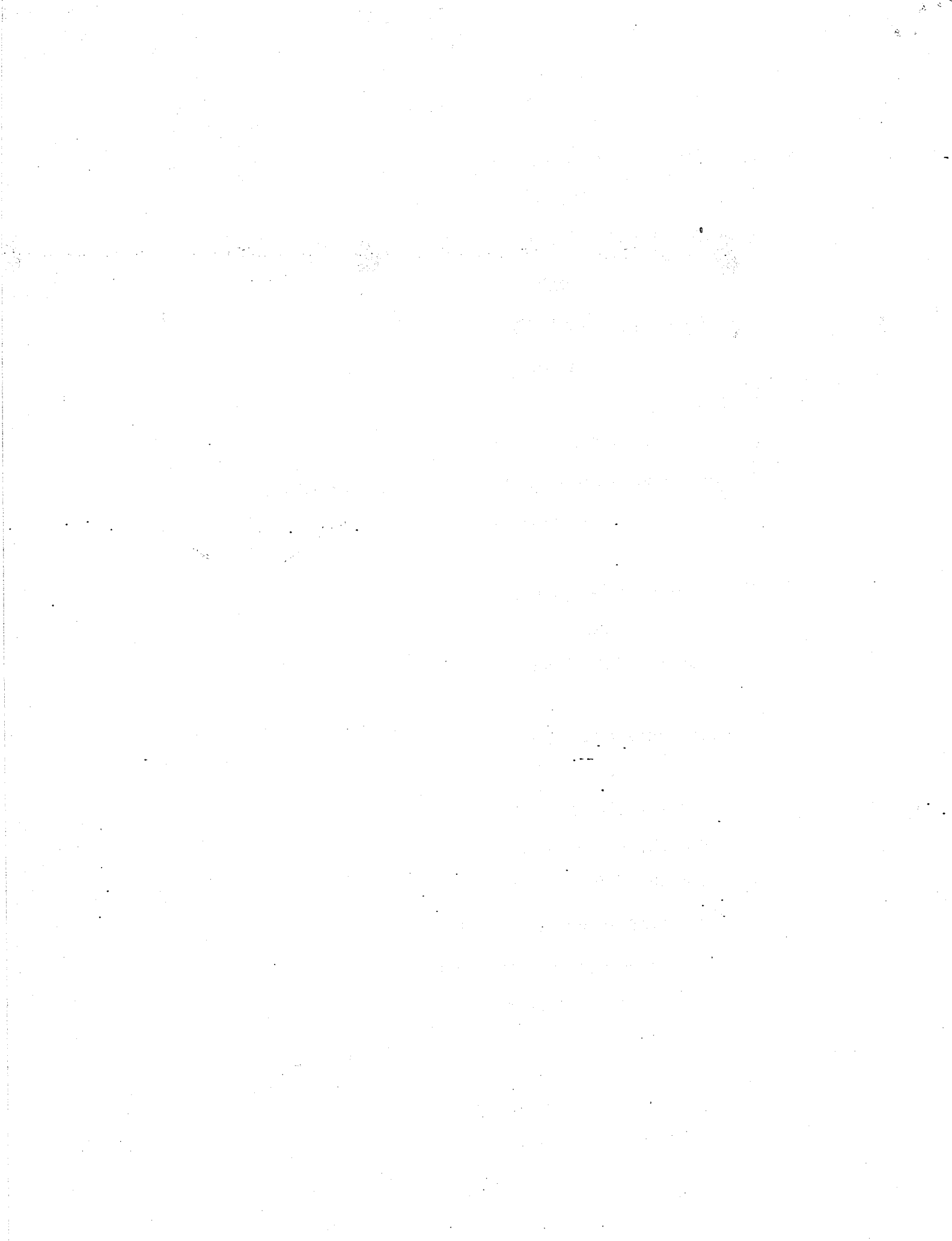
$$14 \times 32 = 448 \text{ candies}$$

(b) $14 \times 20 = 280$

$$\frac{2}{5} \text{ of Govin's allowance} = \$280$$

$$\text{Govin's allowance} = 280 \div 2 \times 5$$

$$= \$700$$





ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1
PRIMARY 6

Name: _____

Register No. _____

Class: Pr 6 - _____

Date: 20 August 2018

Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

Booklet A

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Shade your answers in the Optical Answer Sheet (OAS) provided.
4. You are not allowed to use a calculator.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of 8 pages (including this cover page).

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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). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

All diagrams in this paper are not drawn to scale unless stated otherwise.

(20 marks)

1. Round off 41 856 to the nearest thousands.

- (1) 41 000
- (2) 41 860
- (3) 41 900
- (4) 42 000

2. Arrange these distances from the longest to the shortest:

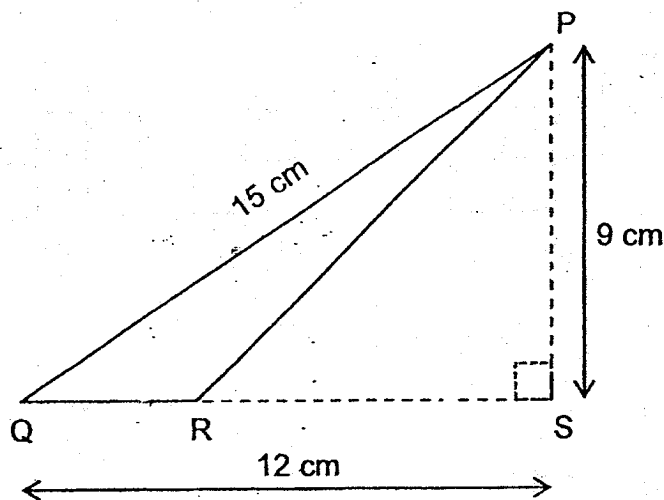
5.01 m,	0.55 km,	505 cm
---------	----------	--------

- | | <u>Longest</u> | | <u>Shortest</u> |
|-----|----------------|----------|-----------------|
| (1) | 0.55 km | , 505 cm | , 5.01 m |
| (2) | 0.55 km | , 5.01 m | , 505 cm |
| (3) | 505 cm | , 5.01 m | , 0.55 km |
| (4) | 5.01 m | , 505 cm | , 0.55 km |

3. Express $14m - 12 - 6m + 7m$ in its simplest form.

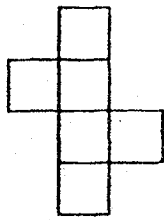
- (1) $3m$
- (2) $m + 2$
- (3) $m - 12$
- (4) $15m - 12$

4. In the figure below, $PS = RS$. Find the area of triangle PQR.

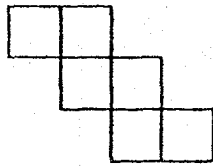


- (1) 13.5 cm^2
(2) 22.5 cm^2
(3) 54 cm^2
(4) 67.5 cm^2
5. Ali travelled at an average speed of 60 km/h from home to his work place. He took 20 min for the journey. What was the distance travelled?
- (1) 12 km
(2) 20 km
(3) 3 km
(4) 1200 km

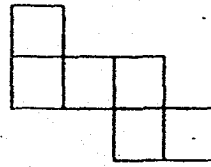
6. Which of the following nets can be folded to form a cube?



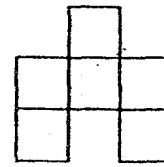
(A)



(B)



(C)



(D)

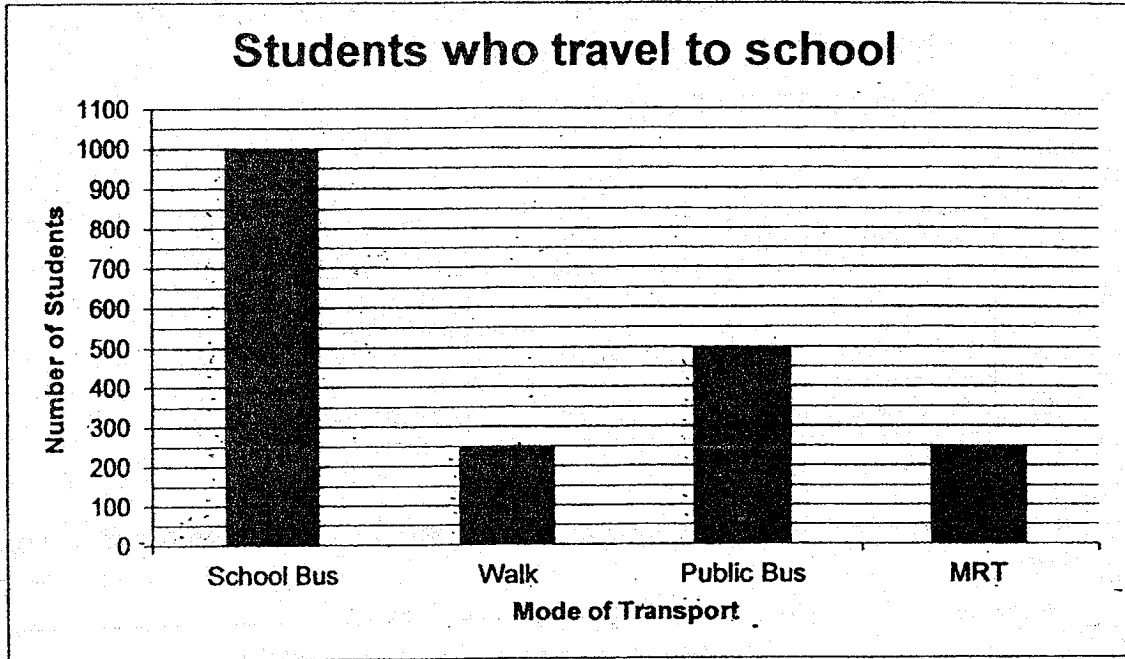
- (1) A and B only
- (2) A, B and C only
- (3) A, C and D only
- (4) All of the above

7. The opening hours of Chan's Clinic are shown below.
How long is the clinic open each day?

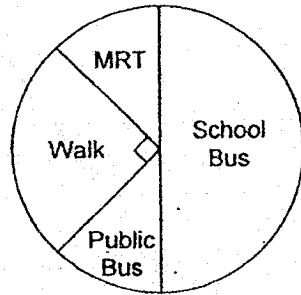
- (1) 6 h 15 min
- (2) 6 h 45 min
- (3) 7 h 15 min
- (4) 7 h 45 min

Chan's Clinic
Opening Hours
9 a.m. to 1 p.m.
6.45 p.m. to 10 p.m.

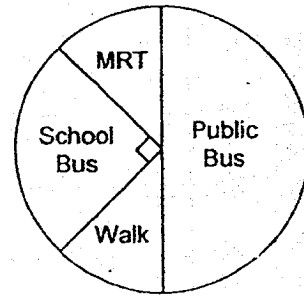
8. The table shows the number of students who travels to school using different modes of transport during school days. Which pie chart represents the data correctly?



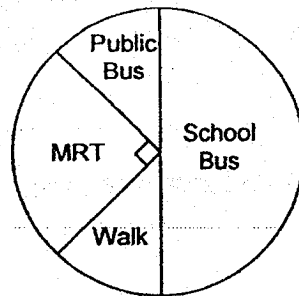
(1)



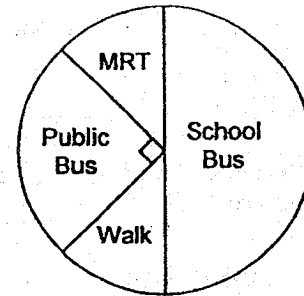
(2)



(3)



(4)

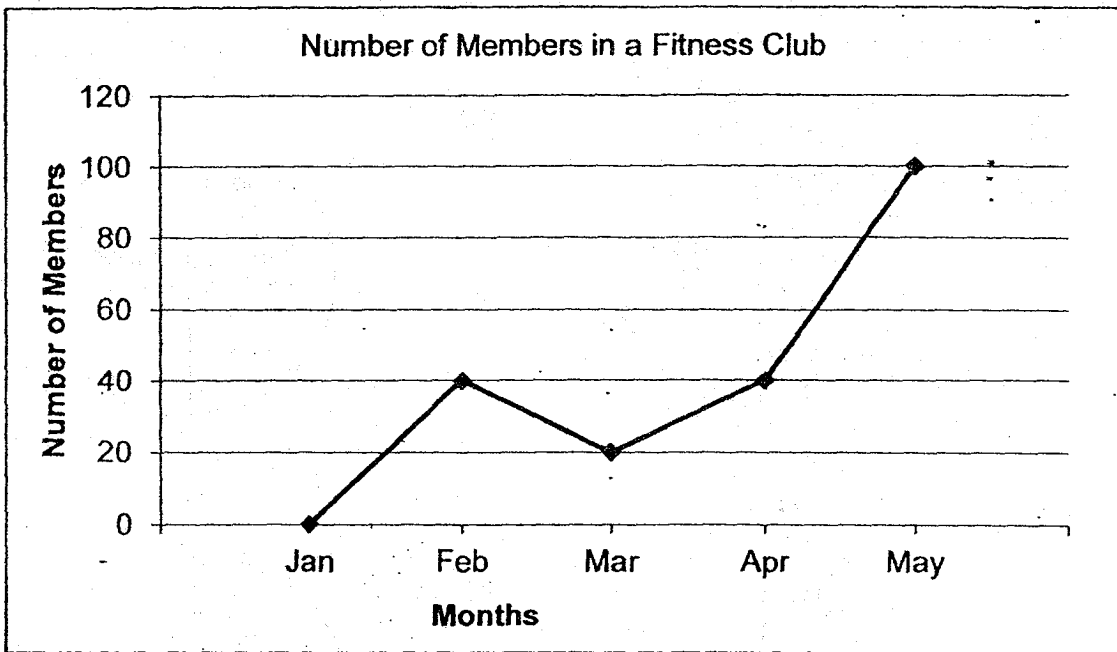


9. Read the following statements and decide whether the statement(s) is/are Not always True, True or False.

- A. All four-sided shapes can always be divided into 2 triangles.
- B. There are no parallel lines in a trapezium.
- C. Every square is a parallelogram.

	A	B	C
(1)	Not always true	True	False
(2)	True	False	Not always true
(3)	True	False	True
(4)	Not always true	False	Not always true

10. The graph below shows the number of members in a fitness club over a period of time.



Which month did the fitness club have the greatest increase in the number of members?

- (1) Jan to Feb
- (2) Feb to Mar
- (3) Mar to Apr
- (4) Apr to May

11. Mrs Tan had 15 kg of flour. She packed the flour equally into bags, each weighing $\frac{4}{5}$ kg. How much flour was left unpacked?

(1) $\frac{1}{5}$ kg

(2) $\frac{1}{4}$ kg

(3) $\frac{3}{5}$ kg

(4) $\frac{3}{4}$ kg

12. Thomas had a total of 600 red, blue and black pens. $\frac{2}{5}$ of the pens were red. $\frac{1}{5}$ of the remaining pens were blue. How many black pens were there?

(1) 72

(2) 192

(3) 240

(4) 288

13. In the equation below, find the number in the box.

$$0.5 \times 240 = \boxed{?} \times 1200$$

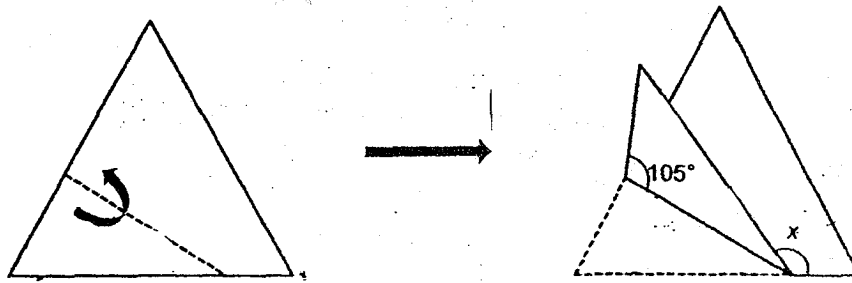
(1) 0.01

(2) 0.1

(3) 2.5

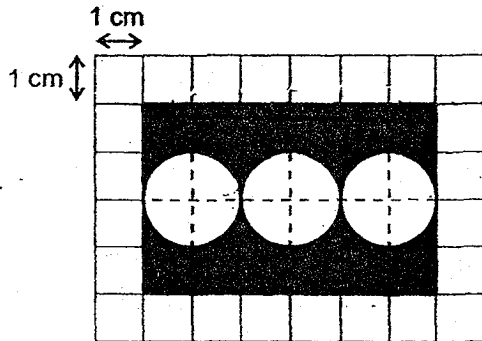
(4) 5

14. A piece of paper in the shape of an equilateral triangle is folded along the dotted line as shown below. Find $\angle x$.



- (1) 15°
- (2) 30°
- (3) 105°
- (4) 150°

15. The figure below is made up of a rectangle and 3 identical circles. Find the area of the shaded part. Leave your answer in terms of π .



- (1) $(24 - 3\pi) \text{ cm}^2$
- (2) $(24 - \pi) \text{ cm}^2$
- (3) $(6 - 3\pi) \text{ cm}^2$
- (4) $(6 - \pi) \text{ cm}^2$

Go on to Booklet B



ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1
PRIMARY 6

Name: _____

Register No. _____

Class: Pr 6 - _____ Group: _____

Date: 20 August 2018

Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

Booklet B

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. You are not allowed to use a calculator.
4. Write your answers in the booklet.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	25	

* This booklet consists of 10 pages (including this cover page).

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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.

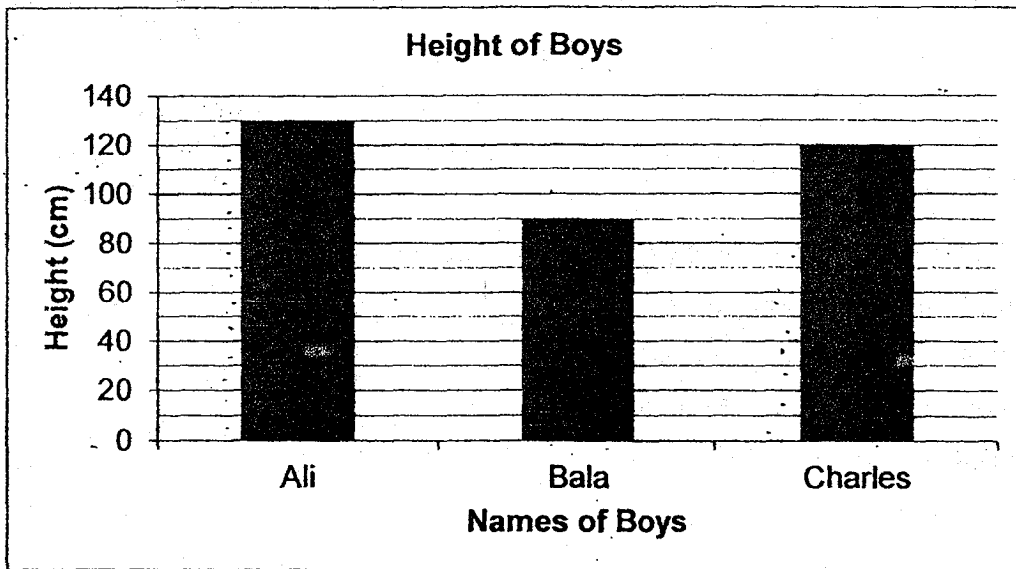
All diagrams in this paper are not drawn to scale unless stated otherwise.
(5 marks)

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16. Find the sum of 3 tens, 33 hundredths and 300 thousandths.

Answer : _____

17. The graph below shows the height of 3 boys Ali, Bala and Charles. Find the total height of Ali and Charles.



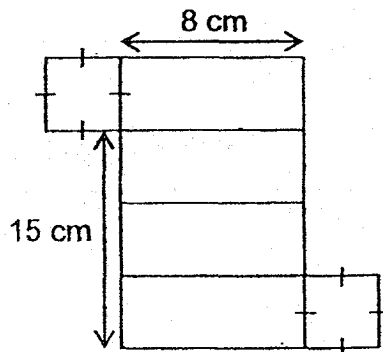
Answer : _____ cm

18. Find 0.5% of 500.

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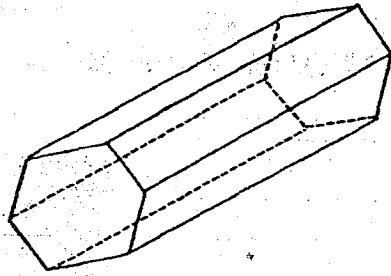
Answer : _____

19. The net shown below can be folded to form a cuboid.
What is the volume of the cuboid?



Answer : _____ cm^3

20. How many faces does the following solid have?



Do not write
in this space

Answer : _____

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

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in this space

All diagrams in this paper are not drawn to scale unless stated otherwise.

(20 marks)

21. Find the value of $(87 - 23) \times 2 \div 4 - (36 - 24)$.

Answer : _____

22. The table below shows the parking charges of a carpark.

First hour	\$1.20
Every additional 10 minutes or part thereof	\$0.80

How much does it cost to park from 3 p.m. to 5.06 p.m.?

Answer : _____

23. In a class, every group of 4 boys was given 6 stickers and every group of 3 girls was given 8 stickers. The class teacher gave the stickers to an equal number of boys and girls. What was the minimum number of stickers needed?

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in this space.

Answer : _____

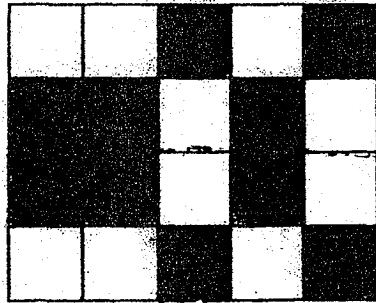
24. A packet of sausages is shown below. Mrs Lee bought 1kg 400g of sausages. How many sausages did she buy?

7 identical
sausages
280g



Answer : _____

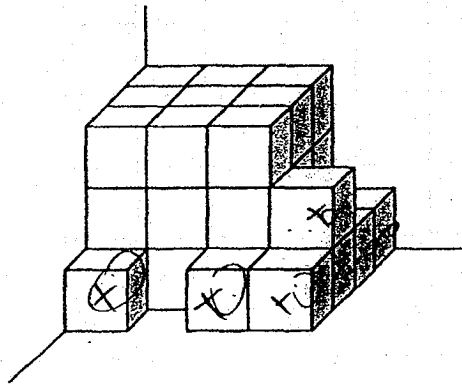
25. The figure below is made up of squares.
Shade two more squares so that the figure has a line of symmetry.



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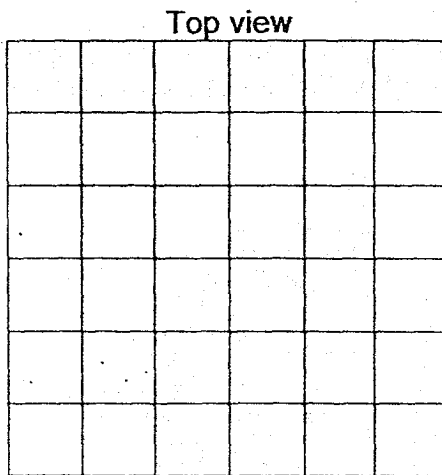
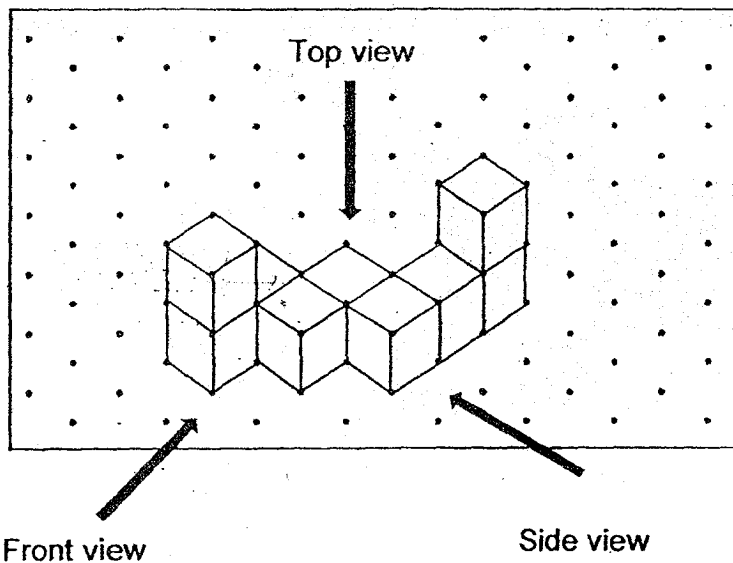
26. The figure below shows 1-cm unit cubes stacked against a corner. What is the least number of unit cubes that must be removed to form a cube?



Answer : _____



27. Draw the top view of the solid in the grid below.



Do not write
in this space



28. The total cost of 3 apples and 2 pears is $\$(5y + 3)$. The cost of 2 apples is \$2 more than the cost of 2 pears. What is the total cost of an apple and a pear? Express the answer in terms of y .

Answer : \$ _____



29. Figure A is made up of 8 identical squares. There are 3 squares removed from Figure A to form Figure B. The perimeter of Figure B is 120 cm. What is the perimeter of Figure A?

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in this space

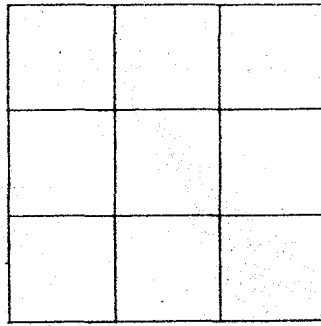


Figure A

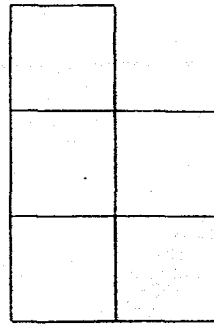


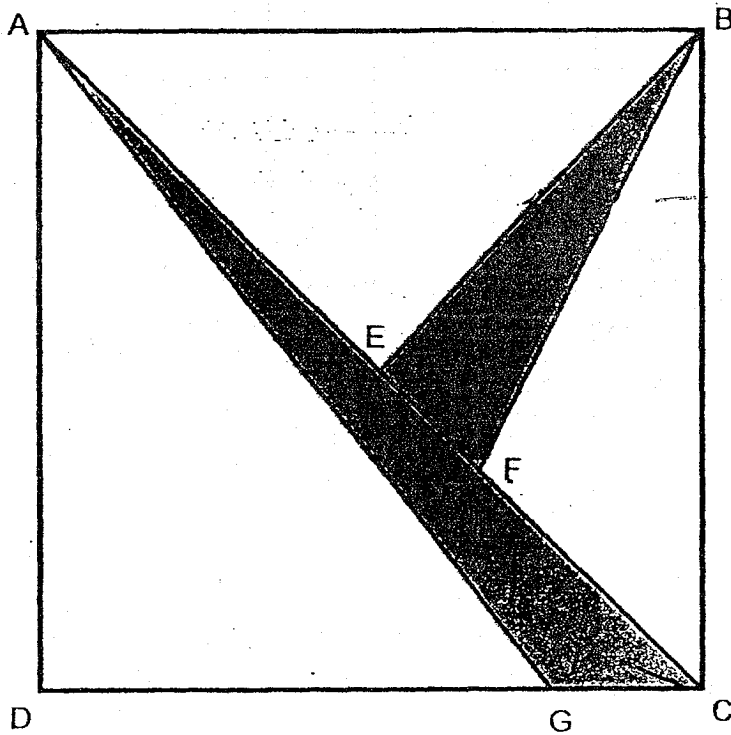
Figure B

Answer : _____ cm



30. The square ABCD was cut into 5 parts. Given that the ratio of BE : EC is 1 : 1, the ratio of EF : FC is 1 : 2 and the ratio of DG : GC is 3 : 1. What fraction of the square is shaded?

Do not write in this space



Answer : _____



End of paper
Have you checked your work?



ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 2
PRIMARY 6

Name: _____

Register No. _____

Class: Pr 6 - _____

Date: 20 August 2018

Parent's Signature: _____

Time: 1 h 30 min

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. **Show your workings clearly** as marks are awarded for correct working.
4. Write your answers in this booklet.
5. You are allowed to use a calculator.
6. Answer all questions.

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 17	45	

Section	Maximum Mark	Marks Obtained
Paper 1	45	
Paper 2	55	
Total	100	

* This booklet consists of 16 pages (including this cover page).

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

Do not write
in this space

(10 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

1. Tricia had 70 chocolates. She gave $3w$ chocolates to her brother. Then she gave the rest equally to her 5 cousins. How many chocolates did each cousin receive? Leave your answer in terms of w .

Answer : _____

2. Mrs Pradeep bought some flour. She used $2\frac{1}{5}$ kg of the flour and gave $\frac{3}{7}$ of the remaining flour to her sister. In the end, she was left with $1\frac{3}{5}$ kg of the flour. How much flour did she buy at first?

Answer : _____ kg

3. Ariel was at a fun-fair. The table below shows the number of points which can be exchanged for tickets. Ariel wanted to win a soft-toy which required 80 tickets. How many points must Ariel get in order to exchange for her soft-toy?

Points	Tickets
885	300

Answer : _____

Do not write
in this space

4. Miss Lee gave away an almond on Day 1. She increased the number of almonds given away every day by 100%. Find the ratio of the number of almonds given on Day 7 to the number of almonds given on Day 3. Give your answer in the simplest form.

Answer : _____

5. The average of the odd numbers below is 7. What odd number must be added so that the average of all the numbers becomes 10?

1, 3, 5, 7, 9, 11, 13

Do not write in this space

Answer : _____

For Questions 6 to 17, show your working clearly in the space provided for each question 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. For questions which require units, give your answers in the units stated.

(45 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

Do not write
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6. A crate was filled with an equal number of apples and oranges. The apples were sold for \$315 and the oranges were sold for \$225. Each apple cost \$0.20 more than each orange. How many oranges were sold?

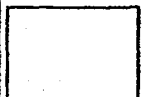
Answer : _____ [3]



7. The ratio of the number of Dawn's stickers to the number of Evelyn's stickers was $1 : 4$. After Dawn and Evelyn gave away $\frac{1}{3}$ and $\frac{3}{4}$ of their stickers respectively, they were left with 90 stickers altogether. How many stickers did they have at first?

Do not write
in this space

Answer : _____ [3]



8. The average mass of 8 baskets of fruits at a zoo feeding station was 23 kg. Some baskets of fruits with an average mass of 20.4 kg were added. The average mass of all the baskets of fruits became 22 kg. How many baskets of fruits were added?

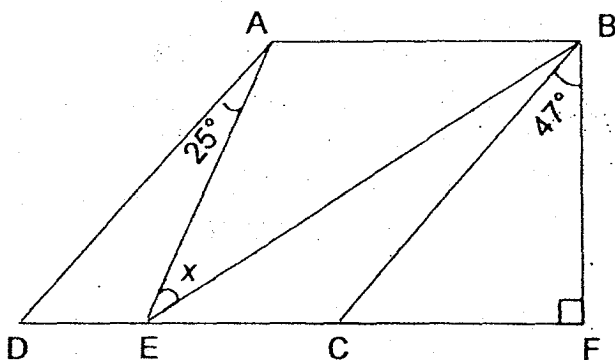
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Answer : _____ [3]

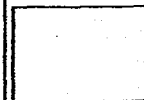


9. In the figure below, ABCD is a parallelogram and $AE = AB$. $\angle BFC$ is a right angle. $\angle FBC = 47^\circ$ and $\angle EAD = 25^\circ$. Find $\angle x$.

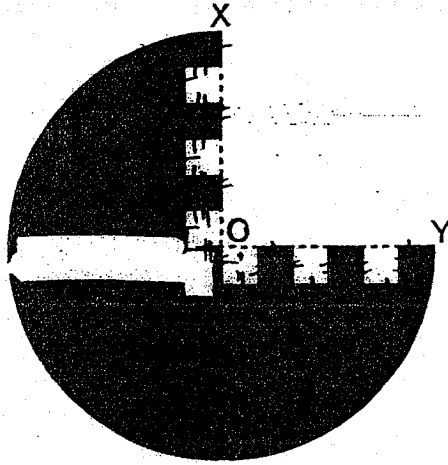
Do not write in this space



Answer: _____ [3]

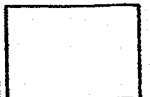


10. The figure below is made up of three quadrants and six identical squares. Each side of the squares is 1 cm. The length of OX is 6 cm. Find the perimeter of the shaded part. Take the calculator value of π and give your answer correct to 2 decimal places.



Do not write
in this space

Ans: _____ [3]



11. Amos and his sister shared \$1674. Amos spent 25% of his money and his sister spent 70% of her money. After that, Amos had twice as much money left as his sister.

- (a) How much did Amos have in the end?
- (b) What was the percentage decrease in the total sum of money?

Do not write
in this space

Ans: a) _____ [3]

b) _____ [2]



12. A bakery sold durian, chocolate and strawberry puffs in the ratio of 3 : 4 : 2. Each durian, chocolate and strawberry puff was sold for \$5, \$3 and \$4. A total of \$560 was collected on a Sunday afternoon. Find the amount of money collected from the sale of durian puffs.

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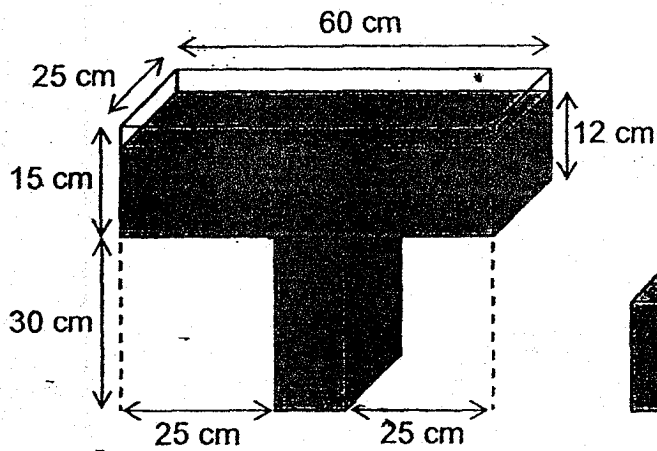
Ans : _____ [4]



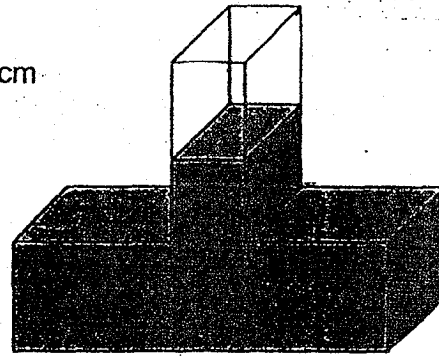
13. Two identical T-shaped containers, P and Q, are shown below. Both of them have the same amount of water in it.

Do not write in this space

- (a) Find the volume of the water in container P.
- (b) Find the height of the water in container Q.



Container P



Container Q

Answer : a) _____ [2]

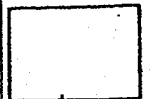
b) _____ [3]



14. In a donation drive, a class of 40 boys and girls helped to distribute some food items. Each boy distributed 4 bags while each girl distributed 3 bags. The boys distributed 62 more bags than the girls. How many boys were there?

Do not write
in this space

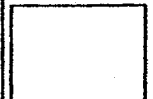
Answer: _____ [4]



15. Sam and Ben started swimming at the same time from the opposite ends of a 30-m swimming pool. Each boy would turn in the opposite direction and continue swimming upon reaching the end of the pool. The average speed of Sam was 1 m/s and the average speed of Ben was 0.6 m/s. How many times did they meet each other if they swam for 10 min? (Assuming that the turning time is neglected.)

Do not write
in this space

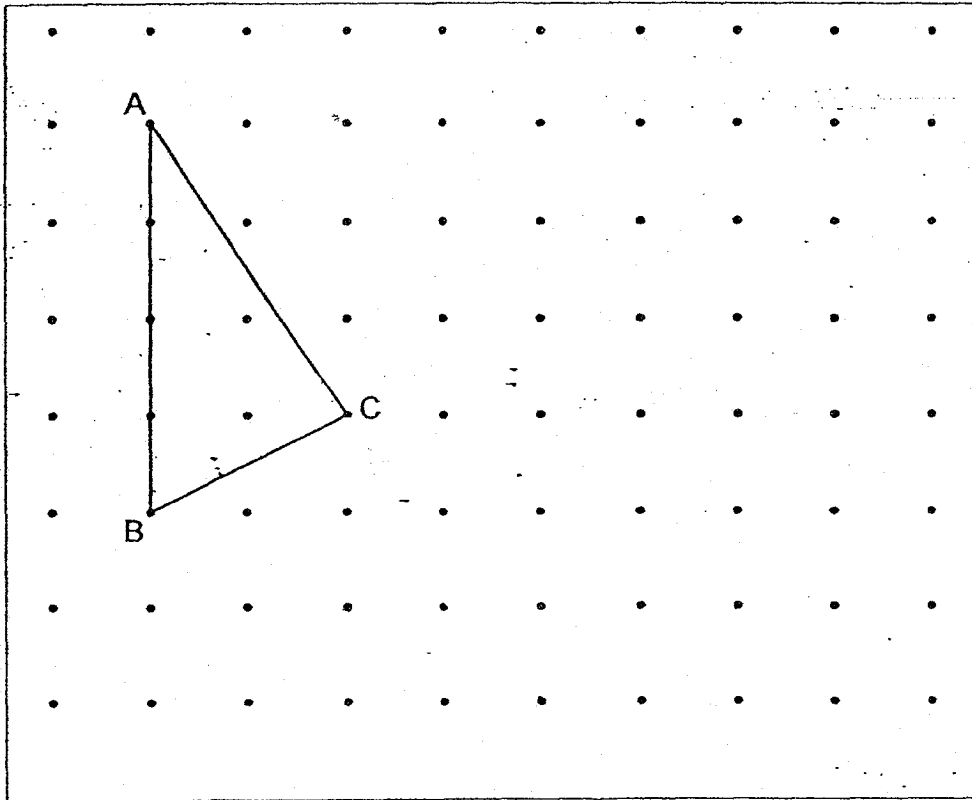
Answer : _____ [4]



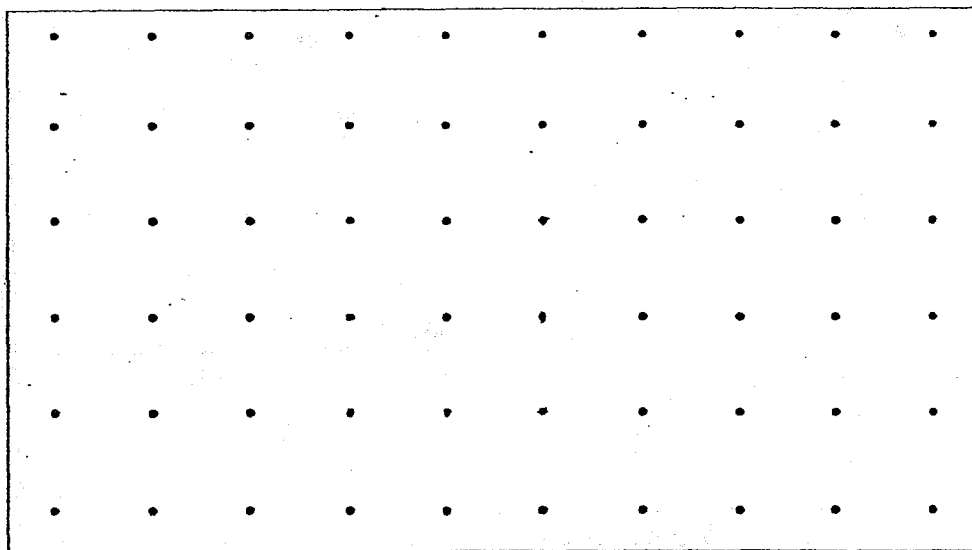
16. The figure below shows a triangle ABC drawn on a grid.

Do not write
in this space

- a) BCD is another triangle with the same area as triangle ABC.
Draw BCD on the grid below such that BCD does not overlap with
ABC. [2m]



- (b) Draw a 4-sided figure with the same area as triangle ABC in part
(a). [2m]



17. 25% of Elle's money was spent on 5 files and 10 erasers. The cost of each file was twice the cost of each eraser. Elle bought some more erasers with 40% of her remaining money. How many erasers did she buy altogether?

Do not write
in this space

Ans : _____ [4]



End of paper
Have you checked your work?

ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : ROSYTH SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

PAPER 1 BOOKLET A

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

PAPER 1 BOOKLET B

Q16) 30.63

Q17) 250cm

Q18) 2.5

Q19) 200cm^3

Q20) 8 faces

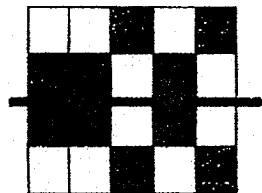
Q21) 20

Q22) \$6.80

Q23) 50 stickers

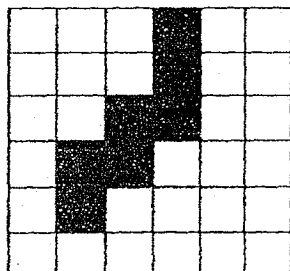
Q24) 35 sausages

Q25)



Q26) 7 cubes

Q27)



Q28) $(2y + 1)$

Q29) 168cm

Q30) $\frac{5}{24}$

PAPER 2

Q1) $(\frac{70-3w}{5})$

Q2) 5kg

Q3) 236 points

Q4) 16 : 1

Q5) 31

Q6) Equal no of fruits: n

na \rightarrow \$315

no \rightarrow \$225

$315 - 225 = \$90$

a \rightarrow 20cents + o

na \rightarrow 20n cents + no

20n cents = \$90

$0.20 n = \$90$

n = 450

Q7) D : E

$$1 : 4$$

$$= 3 : 12$$

$$- 1u - 9u$$

$$= 2u : 3u$$

$$5u \rightarrow 90$$

$$1u \rightarrow 18$$

$$3 : 12 = 15u \text{ total}$$

$$15 \times 18 = \underline{270 \text{ stickers}}$$

Q8) Total of 8 b $\rightarrow 23 \times 8$

$$= 184\text{kg}$$

$$20.4 \times n = 20.4n \text{ kg}$$

$$\text{In the end } \rightarrow (n + 8) \times 22$$

$$= (22n + 176)\text{kg}$$

$$184 + 20.4n = 22n + 176$$

$$184 = 1.6n + 176$$

$$8\text{kg} = 1.6n$$

$$n \text{ kg} = 5\text{kg}$$

$$n = \underline{5 \text{ baskets}}$$

Q9) $\angle BCF \rightarrow 180 - 90 - 47$

$$= 43^\circ$$

$$\angle BCE \rightarrow 90 + 47$$

$$= 137^\circ$$

$$\angle EAB \rightarrow 137 - 25$$

$$= 112^\circ$$

$$\angle x \rightarrow \frac{180 - 112}{2}$$

$$= \underline{34^\circ}$$

Q10) (r)adius $\rightarrow 6\text{cm}$

(d)iameter $\rightarrow 12\text{cm}$

(c)ircumference $\rightarrow d \times \pi$

$$12\pi \times \frac{3}{4} = 9\pi \text{ cm}$$

$$6 \times 2 = 12$$

$$12 + 12 = 24\text{cm}$$

$$(9\pi + 24)\text{cm} = 52.2743\dots$$

$$\approx \underline{52.27\text{cm}}$$

Q11a) A : S

$$4u : 10p$$

$$- 1u : -7p$$

$$= 3u : 3p$$

$$3u = 6p$$

$$1u = 2p$$

$$\text{Total: } 18p$$

$$1p \rightarrow 1674 \div 18$$

$$= 93$$

$$93 \times 6 = \underline{\$558} \quad \square$$

$$\text{Q11b) } \frac{9}{18} \times 100\% = \underline{50\%}$$

Q12) 3 : 4 : 2

$$3d = 5 \times 3$$

$$= 15$$

$$4c = 3 \times 4$$

$$= 12$$

$$2s = 4 \times 2$$

$$= 8$$

$$15 + 12 + 8 = 35$$

$$560 \div 35 = 16$$

$$16 \times 3 = 48$$

$$48 \times \$5 = \underline{\$240}$$

$$\text{Q13a) } 60 - (25 \times 2) = 10\text{cm}$$

$$30 \times 10 \times 25 = 7500\text{cm}^3$$

$$12 \times 60 \times 25 = 18\,000\text{cm}^3$$

$$18\,000 + 7500 = \underline{25\,500\text{cm}^3}$$

$$\text{Q13b) Air in P} \rightarrow 3 \times 60 \times 25$$

$$= 4500\text{cm}^3$$

$$4500 \div 25 \div 10 = 18\text{cm}$$

$$30 - 18 + 25 = \underline{27\text{cm}}$$

Q14) Assume all girls: $40 \times 3 = 120$

$$120 + 62 = 182$$

$$4 + 3 = 7$$

$$182 \div 7 = \underline{26 \text{ boys}}$$

Q15) $10\text{min} = 600\text{s}$

$$\text{Sam} \rightarrow 1 \times 600$$

$$= 600$$

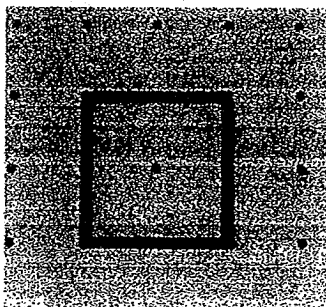
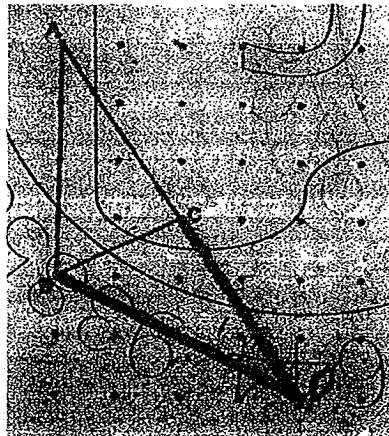
$$\text{Ben} \rightarrow 0.6 \times 600$$

$$= 360$$

$$\text{Met} \rightarrow 600 \div 30$$

$$= \underline{20}$$

Q16)



Q17) 5 files \rightarrow 10u

10 erasers \rightarrow 10u

Total \rightarrow 20u equals $\frac{5}{20}$ money

$$40\% \text{ of } \frac{15}{20} = \frac{6}{20}$$

$$\frac{1}{20} = 4u$$

$$4 \times 6 = 24$$

$$24 + 10 = \underline{34 \text{ erasers}}$$

END

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



Primary 6 Mathematics

2018 Preliminary Examination

Paper 1

Booklet A

21 August 2018

**15 questions
20 marks**

Total Time for Booklets A and B: 1 hour

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 this booklet.
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). Shade the correct oval (1, 2, 3, or 4) on the Optical Answer Sheet.

(20 marks)

1. 3 ones, 9 tenths and 5 thousandths is _____.

- (1) 0.395
- (2) 3.095
- (3) 3.905
- (4) 3.95

2. Which of the following numbers has no remainder when it is divided by 4?

- (1) 5402
- (2) 5204
- (3) 4502
- (4) 4250

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

- (1) $\frac{1}{2}$
- (2) $\frac{2}{3}$
- (3) $\frac{4}{9}$
- (4) $\frac{7}{12}$

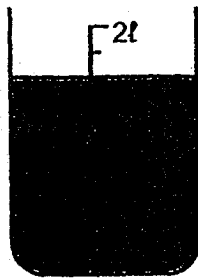
4. At a fruit stall, the ratio of the number of apples to the number of oranges is 3 : 4. The ratio of the number of apples to the number of pears is 5 : 2. What is the ratio of the number of pears to the number of oranges?

- (1) 1 : 2
- (2) 1 : 3
- (3) 2 : 5
- (4) 3 : 10

5. Simplify $12 \times m + 3 - 8m \div 2 - 1$.

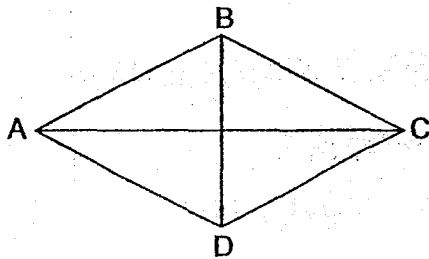
- (1) $2m + 2$
- (2) $2m - 4$
- (3) $8m + 2$
- (4) $8m - 4$

6. How much water is in the container shown below?



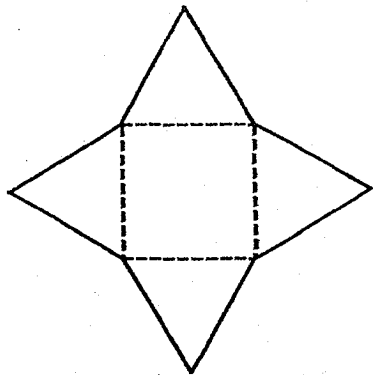
- (1) 800 ml
- (2) 1000 ml
- (3) 1300 ml
- (4) 1600 ml

7. ABCD is a rhombus. Which line is parallel to AB?



- (1) AC
- (2) AD
- (3) BC
- (4) CD

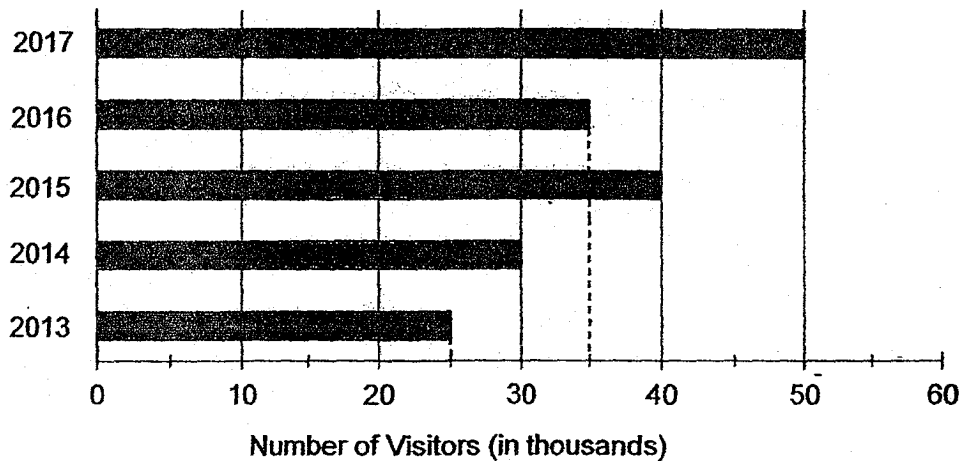
8. Which of the following solids does this net belong to?



- (1) Cube
- (2) Prism
- (3) Pyramid
- (4) Cylinder

Use the information below to answer questions 9 and 10.

The bar graph shows the number of visitors to a zoo from 2013 to 2017.



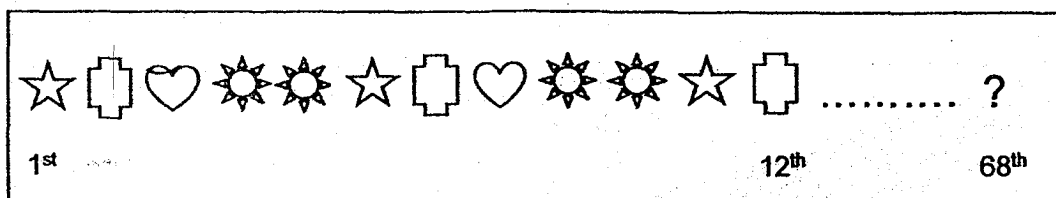
9. During which one-year period was the increase in the number of visitors the greatest?

- (1) Between 2013 and 2014
- (2) Between 2014 and 2015
- (3) Between 2015 and 2016
- (4) Between 2016 and 2017





10. From 2013 to 2017, for how many years did the zoo receive more than 30 000 visitors?

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

11. David uses some shapes to form a pattern. The first 12 shapes are shown below.

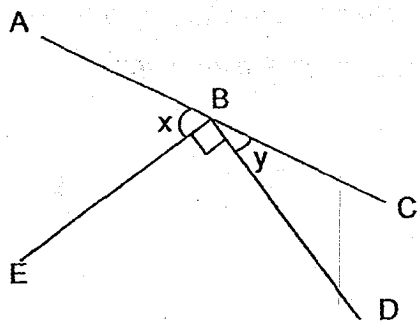


Which shape is in the 68th position?

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

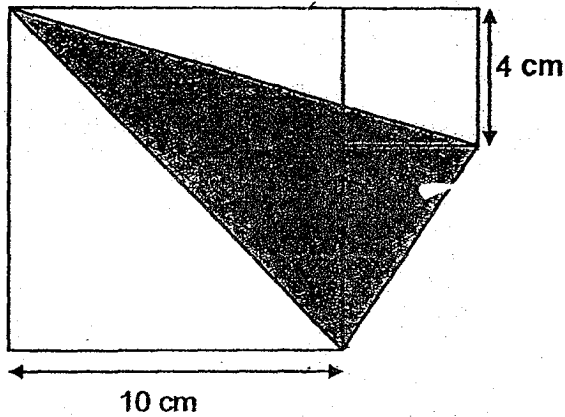
12. In the figure below, ABC is a straight line. $\angle y$ is 24° smaller than $\angle x$.

Find $\angle x$.



- (1) 33°
- (2) 52°
- (3) 57°
- (4) 76°

13. The figure below is made up of two squares and a triangle. Find the area of the shaded part.



- (1) 26 cm^2
(2) 50 cm^2
(3) 78 cm^2
(4) 98 cm^2
14. Debbie was given a fixed monthly allowance. In January, she spent \$50 of her allowance and saved the rest. In February, she reduced her spending by 20% and her savings increased by 50%. How much was her monthly allowance?

- (1) \$60
(2) \$70
(3) \$80
(4) \$90

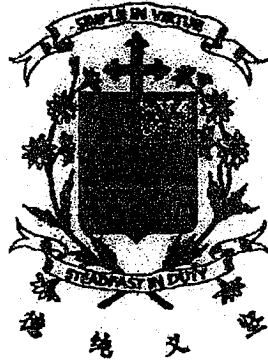
15. A group of friends shared some chocolates among themselves. They tried taking 10 chocolates each, but found that the last person had only 2 chocolates. When each person took 8 chocolates, there were 20 left over. How many friends shared the chocolates?

- (1) 14
- (2) 11
- (3) 8
- (4) 6

Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



**Primary 6 Mathematics
2018 Preliminary Examination**

Paper 1

Booklet B

21 August 2018

**15 questions
25 marks**

Booklet A	20
Booklet B	25
Total (Paper 1)	45

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

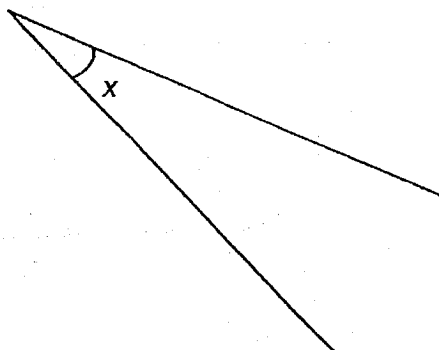
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of calculators is **NOT** allowed.

This booklet consists of 10 printed pages.

Questions 16 to 20 carry 1 mark 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. (5 marks)

Do not write in this space

16. Measure and write down the size of $\angle x$ in the figure.



Ans : _____°

17. Find the value of $\frac{5n}{6} + n$ when $n = 9$.

Give your answer as a mixed number in its simplest form.

Ans : _____

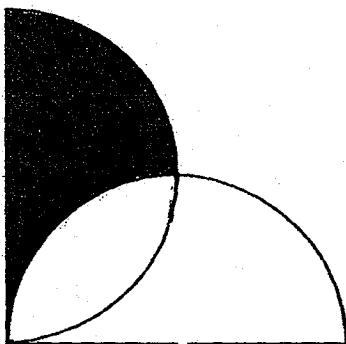


18. A movie started at 11.45 p.m. and ended at 1.35 a.m.
How long was the movie?

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space

Ans: _____ min

19. The figure below shows two identical semicircles with radius 8 cm each.
Find the perimeter of the shaded part.
Leave your answer in terms of π .



Ans : _____ cm



20. Dave participated in 5 quizzes. His scores are shown in the table below.

Quiz	1 st	2 nd	3 rd	4 th	5 th
Score	12	15	16	18	14

Find his average score.

Ans : _____

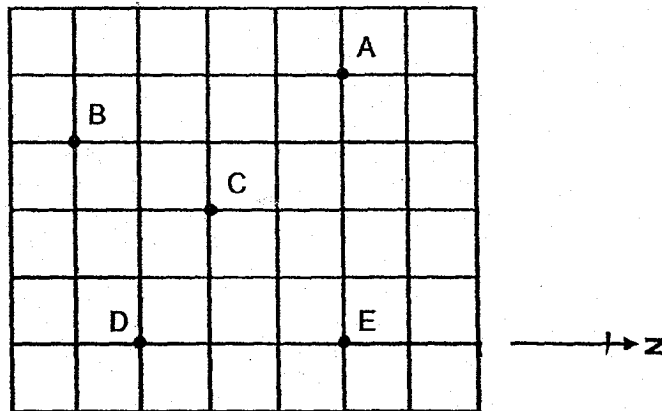
Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

Do not write in this space

21. Cherries are sold at \$1.50 per 200 g at the supermarket. What is the price of 4 kg of cherries?

Ans : \$ _____

22.

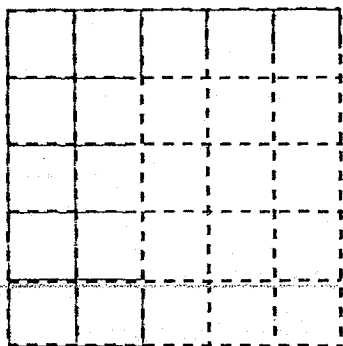
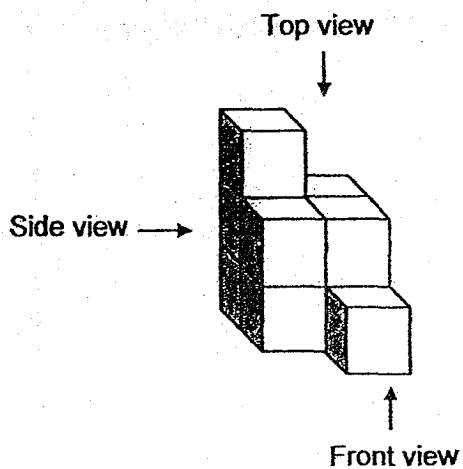


Refer to the square grid above and fill in the blanks with A, B, C, D or E.

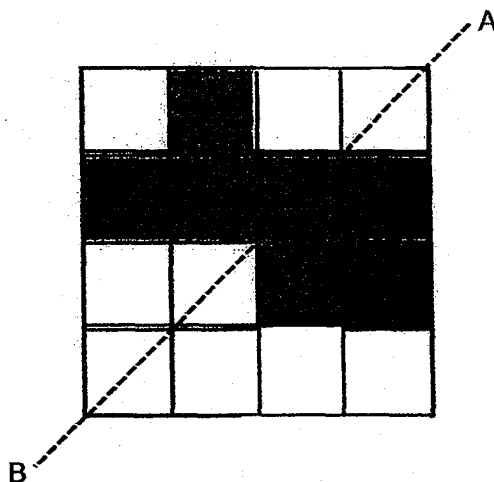
- (a) Point _____ is west of Point _____ [1]
- (b) Point _____ is north-east of Point _____ [1]



23. Draw the top view of the following solid in the square grid provided.



24. Shade 2 more squares in the figure below so that the dotted line AB is the line of symmetry.



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25. Raja bought a string of 130 decorative red and green light bulbs. There were at least 2 red light bulbs in between every 2 green light bulbs. What was the smallest possible number of red light bulbs in the string of decorative light bulbs?

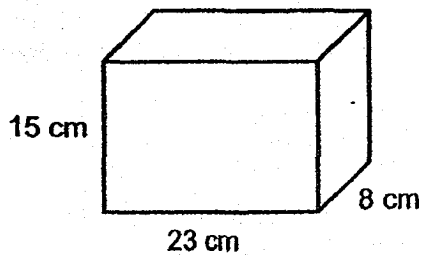
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Ans : _____

26. Printer X and Printer Y print a total of 666 pages in 4 minutes. Every minute, Printer X prints 20 pages fewer than Printer Y. At this rate, how many pages does Printer X print in 1 minute?

Ans : _____

27. Find the greatest number of 2-cm cubes that can be put into the box below.



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Ans : _____

28. Last year, Mr Lee sold an average of 7.5 mobile phones per month from January to October. He did not sell any mobile phone from November to December.

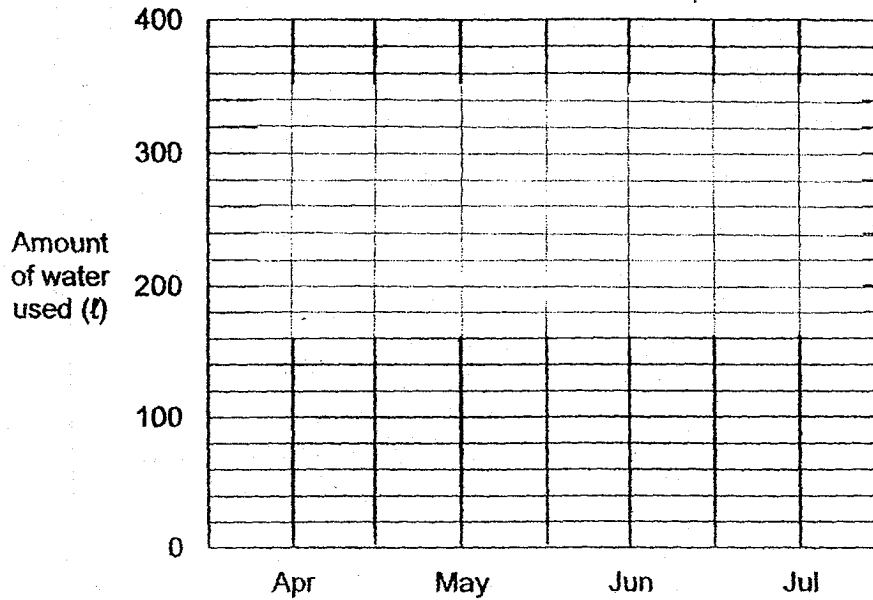
Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

Statement	True	False	Not possible to tell
Mr Lee sold a total of 90 mobile phones last year.			
On the average, the number of mobile phones Mr Lee sold from January to October was higher than the number of mobile phones he sold from January to December.			



29. The line graph below shows the amount of water used by a stall for the months of April to July.

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In the month of March, the stall used 520 l of water. Which two months from April to July was the total amount of water used the same as the month of March?

Ans : _____ and _____

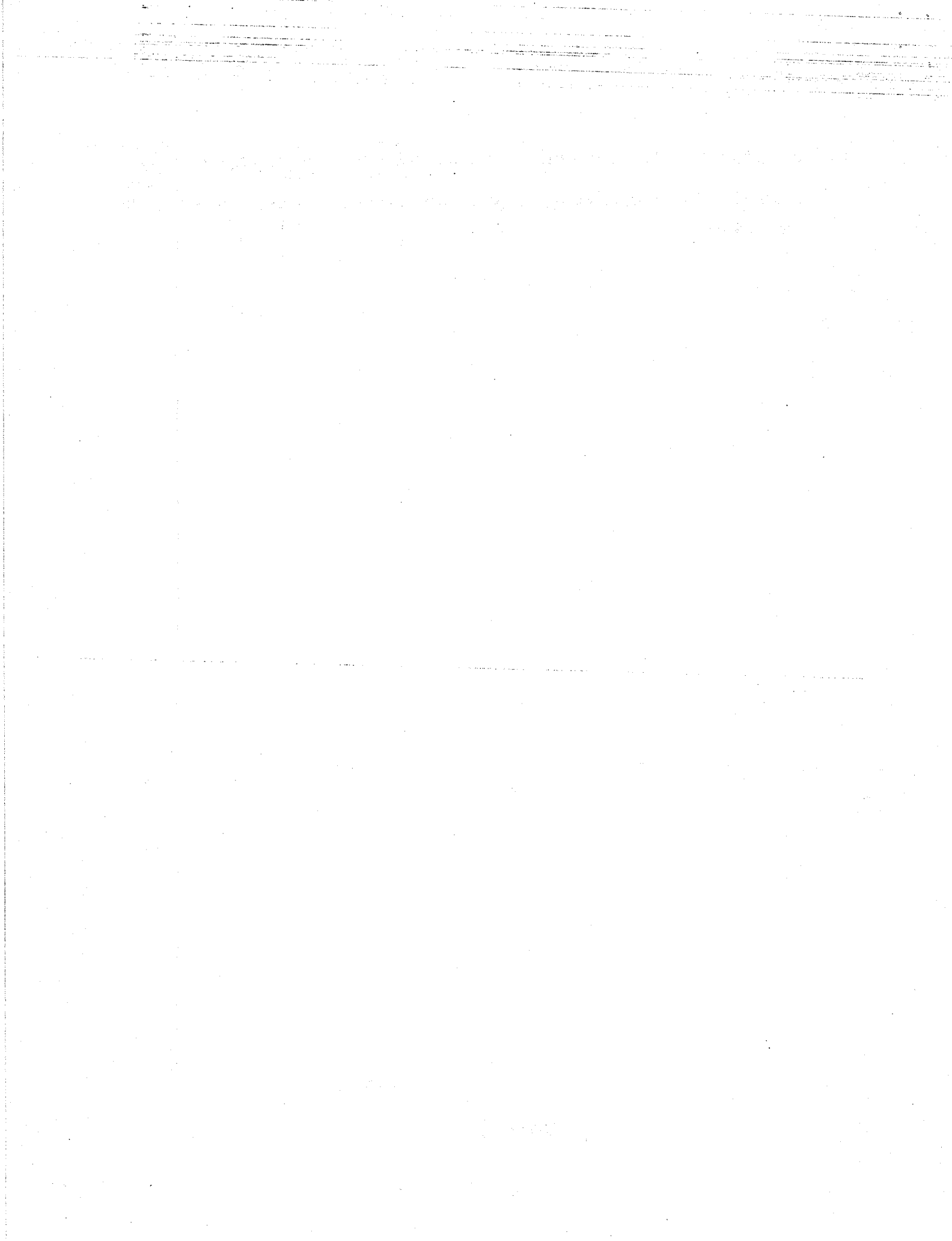
30. 90 adults took part in a competition. $\frac{1}{2}$ of the men and $\frac{1}{4}$ of the women won the competition. There were 25 winners altogether. How many women took part in the competition?

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Ans : _____



End of Paper



Name: _____ ()

Class: Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



Primary 6 Mathematics

2018 Preliminary Examination

Paper 2

21 August 2018

Paper 1	45
Paper 2	55
Total	100

Parent's / Guardian's Signature

17 questions
55 marks

Total Time for Paper 2: 1 hour 30 minutes

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 this booklet.
The use of an approved calculator is expected, where appropriate.

This booklet consists of 15 printed pages.

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)

Do not write in this space

1. A baker bought 15 kg of flour. He packed the flour into smaller bags of 1.2 kg each and had some flour left. How much flour was left?

Ans : _____ g

2. Alice has 69 more candies than Bonnie. Cathy has 27 more candies than Bonnie. Alice has 40 fewer candies than the total number of candies Bonnie and Cathy have. How many candies does Bonnie have?

Ans : _____



3. A block of wood was dipped into a pail of paint. The block was then cut into 3 identical cubes along the lines as shown below and taken apart. The total painted area of the 3 cubes was 686 cm^2 . Find the edge of each cube.

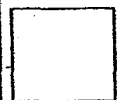


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Ans : _____ cm

4. Gracelyn and Hilda saved the same amount of money. $\frac{1}{3}$ of Gracelyn's savings was \$32.50 more than $\frac{1}{4}$ of Hilda's savings. How much did each girl save?

Ans : \$ _____



5. The table below shows the number of books a group of pupils borrowed from the school library in a week.

Number of books	Number of pupils
0	?
1	34
2	36
3	63
4 or more	81

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60% of the pupils borrowed 3 books or more. How many pupils did not borrow any book?

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)

Do not write in this space

6. Springfresh Laundry charges the washing of blankets and curtains as shown in the table below.

Item	Price per kg
Blankets	\$9.00
Curtains	\$10.50

Nancy sent 12 kg of blankets and some curtains for washing. Being a member, Nancy got a \$10 discount when her bill was above \$100. She paid \$266 in total. Find the mass of curtains Nancy sent for washing.

Ans : _____ [3]

7. Hafizah took part in a run. She completed 4.2 km in 20 minutes. She then completed the remaining 70% of the run in another hour. Find the average speed, in m/min, at which Hafizah took to complete the run.

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Ans : _____ [3]

8. Lydia is k years old now. Mariam is 2 times as old as Lydia. Naya is 3 years younger than Mariam.

(a) What is Naya's age now?

Express your answer in terms of k in the simplest form.

(b) Lydia will be 16 years old five years later. How old is Naya now?

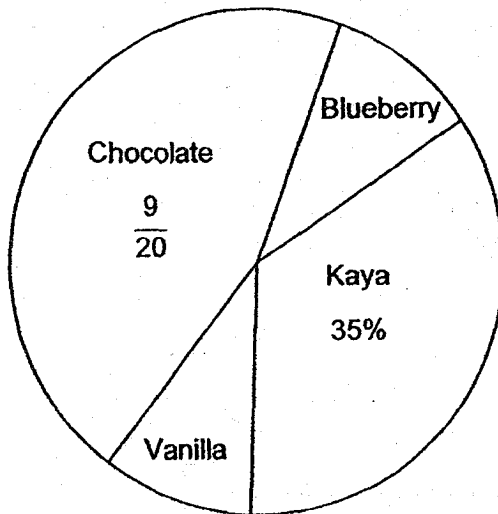
Ans: (a) _____ [1]

(b) _____ [2]

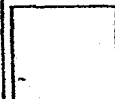


9. The pie chart below shows the number of buns sold. In total, 88 blueberry and vanilla buns were sold. How many buns were sold altogether?

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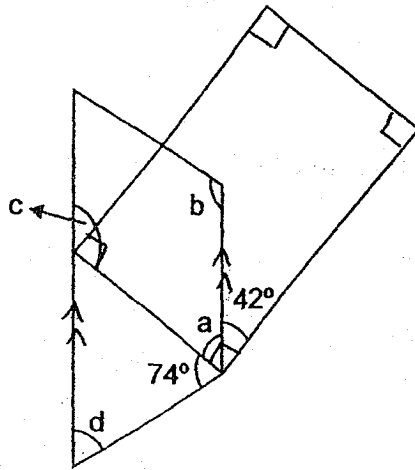


Ans : _____ [3]



10. The figure below shows a trapezium and a rectangle.

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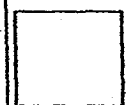
(a) Which of the following are obtuse angles in the figure?

For each correct answer, put a tick (✓) in the box. [1]

$\angle a$	$\angle b$	$\angle c$	$\angle d$

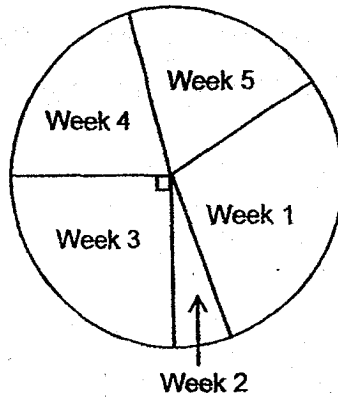
(b) Find $\angle d$.

Ans : (b) _____ [2]

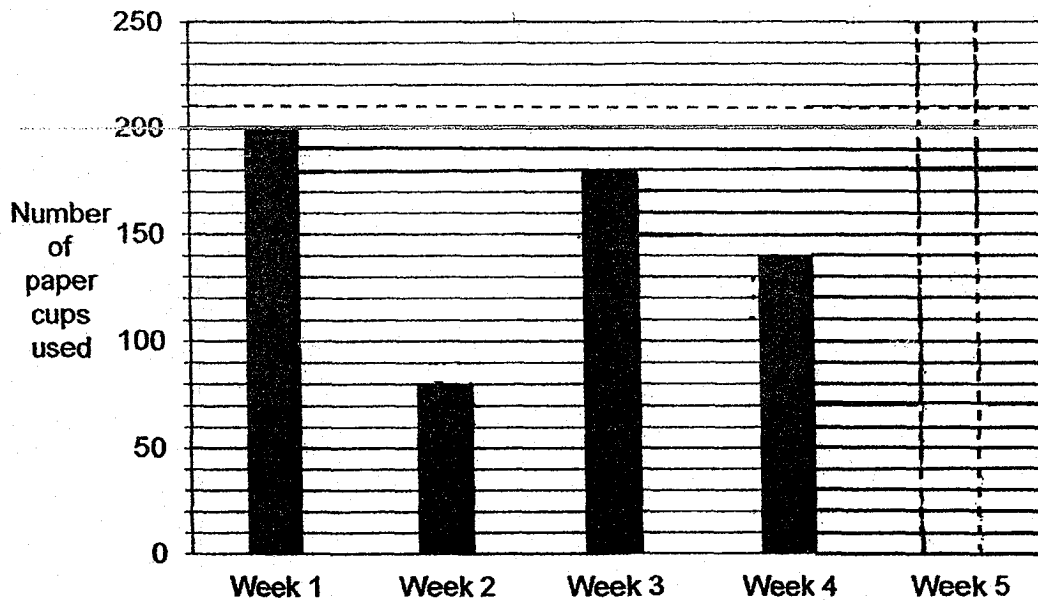


11. The pie chart below represents the number of paper cups used by a canteen vendor in 5 weeks.

Do not write in this space



- (a) The number of paper cups used in the 5 weeks is also represented by the bar graph below. The bar that shows the number of paper cups used in Week 5 has not been drawn. Draw this bar in the bar graph below. [2]



- (b) What percentage of the paper cups was used in Week 1? Give your answer correct to 2 decimal places.

Ans : _____ [1]



12. For a scrapbook-making course, each participant was given some buttons. Each adult received 10 buttons. Each girl received 5 buttons and each boy received 4 buttons. The ratio of the number of girls to the number of boys was 7 : 4. Half of the total number of participants was adults. The participants received a total of 3381 buttons. How many participants were there at the course?

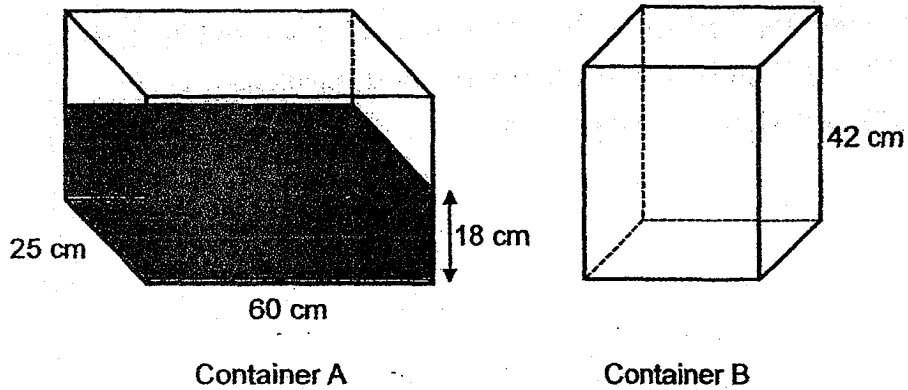
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Ans : _____ [4]



13. A and B are two rectangular containers. The base area of Container A is twice the base area of Container B. Container A was filled with water to a height of 18 cm and Container B was empty.

Do not write in this space



- (a) What was the volume of the water in Container A?
- (b) All the water from Container A was poured into Container B. How much more water was needed to fill Container B to the brim?

Ans : (a) _____ [1]

(b) _____ [3]



14. Lisa, Meng and Nin shared some stickers. Lisa had 20% of the stickers.

Meng had 66 stickers and Lisa had 12 more stickers than Nin.

(a) What was the total number of stickers shared among the three children?

(b) Lisa bought some more stickers. The total number of stickers increased by 10%. What was the ratio of the number of Lisa's stickers to the total number of stickers that the three children had in the end?

Leave your answer in the simplest form.

Do not
write
in this
space

Ans : (a) _____ [2]

(b) _____ [2]

15. Kamal, Larry and Muthu were given some concert tickets to sell. Kamal sold $\frac{1}{3}$ of the tickets. Larry sold $\frac{2}{5}$ of the remaining tickets and Muthu sold the rest.

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write
in this
space

Price of Concert Tickets (per ticket)	
Category 1	\$13
Category 2	\$8

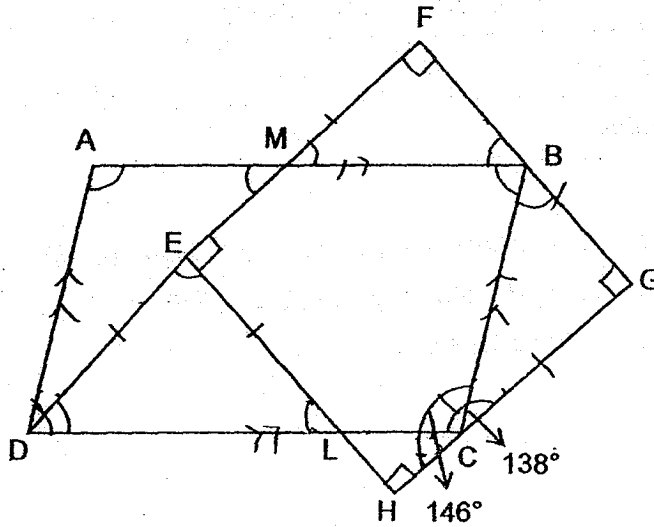
Kamal sold all the Category 1 tickets while Larry and Muthu sold all the Category 2 tickets. Muthu collected \$208 more than Larry. How much money was collected from the sale of the tickets altogether?

Ans : _____ [5]

16. In the figure below, ABCD is a parallelogram. EFGH is a square. $DE = EL$, $\angle DCG = 138^\circ$ and $\angle BCH = 146^\circ$.

- (a) Find $\angle ABC$.
- (b) Find $\angle DEL$.

Do not write in this space

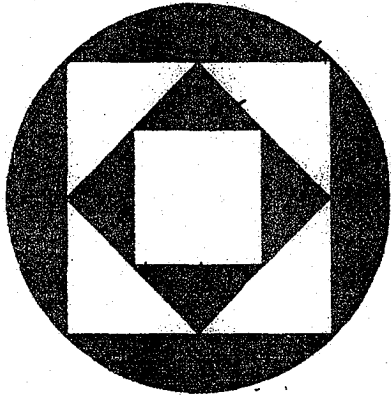


Ans: (a) _____ [3]

(b) _____ [2]

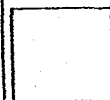


17. The figure below is made up of 3 different squares and a circle with diameter 10 cm. What is the total shaded area?
Take $\pi = 3.14$

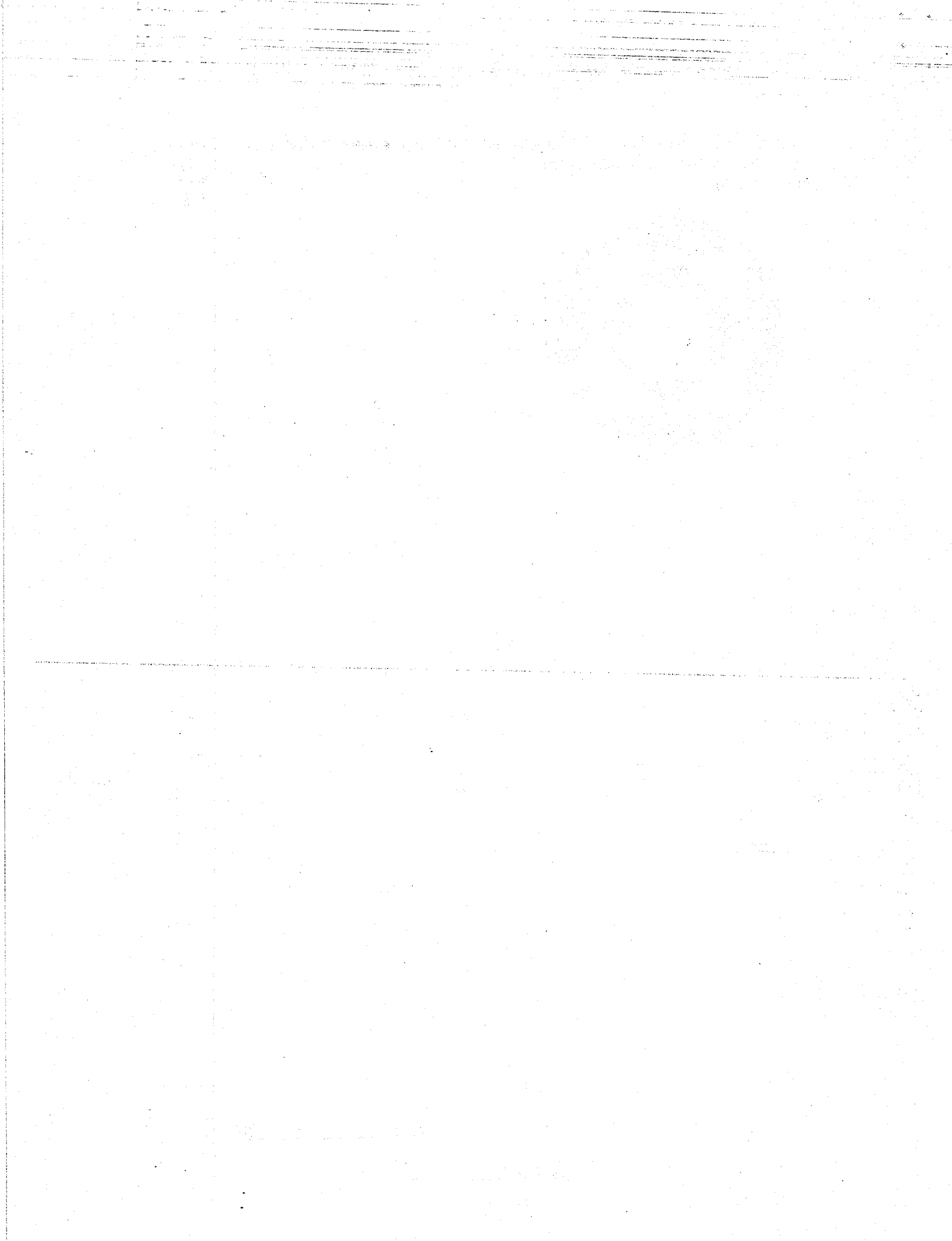


Do not
write
in this
space

Ans : _____ [5]



End of Paper



ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : CHIJ ST NICHOLAS GIRLS'
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 23°

Q17 $16\frac{1}{2}$

Q18 1h 50min

Q19 $(8\pi + 16)$ cm

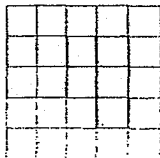
Q20 15

Q21 \$30

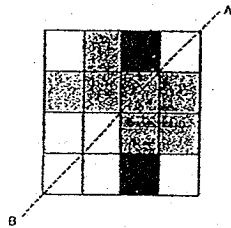
Q22 (a) Point A is west of Point E.

(b) Point E is north-east of Point C.

Q23



Q24



Q25 86

Q26 76

Q27 308

Q28 False
True

Q29 April and June

Q30 80

Paper 2

Q1 $15 \div 1.2 = 12R$
 $12 \times 1.2 = 14.4$
 $15 - 14.4 = 0.6$
 $0.6\text{kg} \Rightarrow \underline{600\text{ g}}$

Q2 $A \rightarrow 1u + 69$
 $B \rightarrow 1u$
 $C \rightarrow 1u + 27$
 $(2u + 27) - (1u + 69) = 40$
 $2u - (1u + 2) = 40$
 $2u = 1u + 42 + 40$
 $= 1u + 82$
 $1u \Rightarrow \underline{82}$

Q3 $686 \div 14 = 49$
 $\sqrt{49} \Rightarrow \underline{7\text{ cm}}$

Q4 $G \rightarrow \frac{1}{3} = \frac{4}{12}$

$H \rightarrow \frac{1}{4} = \frac{3}{12}$

$1u = 32.50$

$12u = 12 \times 32.50 \Rightarrow \underline{\$390}$

Q5 $60\% \rightarrow 81 + 63 = 144$

$1\% \rightarrow 144 \div 60 = 2.4$

$34 + 36 = 70$

$70 \div 2.4 = 29\frac{1}{6}$

$29\frac{1}{6} + 60 = 89\frac{1}{6}$

$100 - 89\frac{1}{6} = 10\frac{5}{6}$

$10\frac{5}{6} \times 2.4 \Rightarrow \underline{26 \text{ pupils}}$

Q6 $12 \times 9 = 108$

$266 + 10 = 276$

$276 - 108 = 168$

$168 \div 10.50 \Rightarrow \underline{16 \text{ kg}}$

Q7 $100\% - 70\% = 30\%$

$30\% \rightarrow 4.2$

$1\% \rightarrow 4.2 \div 30 = 0.14$

$100\% \rightarrow 0.14 \times 100 = 14 \text{ (total distance)}$

$20 + 60 = 80 \text{ (total time)}$

$14 \text{ km} = 14000 \text{ m}$

Average speed $\frac{\text{Total distance}}{\text{Total time}} = \frac{14000}{80} \Rightarrow \underline{175 \text{ m/min}}$

Q8 (a) $L \rightarrow k$

$M \rightarrow 2k$

$N \Rightarrow \underline{(2k - 3) \text{ years old}}$

(b) $16 - 5 = 11$

$k = 11$

$2k = 11 \times 2 = 22 \text{ (M)}$

$22 - 3 \Rightarrow \underline{19 \text{ years old}}$

Q9 $1 - \frac{9}{20} - \frac{7}{20} = \frac{1}{5}$

$\frac{1}{5} \rightarrow 88$

$\frac{5}{5} \rightarrow 88 \times 5 \Rightarrow \underline{440 \text{ buns}}$

Q10 (a)

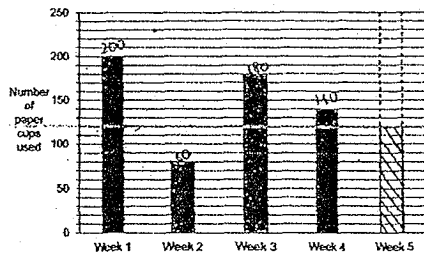
$\angle a$	$\angle b$	$\angle c$	$\angle d$
	✓	✓	

(b) $\angle a \rightarrow 90^\circ - 42^\circ = 48^\circ$

$\angle d \rightarrow 180^\circ - 48^\circ - 74^\circ \Rightarrow \underline{58^\circ}$

Q11 (a) $4 \times 180 = 720$

$720 - 200 - 80 - 180 - 140 \Rightarrow \underline{120^\circ}$



(b) $\frac{200}{720} \times 100 = 27.777 \approx \underline{27.78\%}$

Q12 $11 \times 10 = 110$

$7 \times 5 = 35$

$4 \times 4 = 16$

$110 + 35 + 16 = 161$

$3381 \div 161 = 21$

$21 \times 22 \Rightarrow \underline{462 \text{ participants}}$

Q13 (a) $25 \times 60 \times 18 \Rightarrow \underline{27000 \text{ cm}^3}$

(b) Base area of A $\rightarrow 25 \times 60 = 1500$

Base area of B $\rightarrow 1500 \div 2 = 750$

Capacity of B $\rightarrow 750 \times 42 = 31500$

$31500 - 27000 \Rightarrow \underline{4500 \text{ cm}^3}$

$$\text{Q14 (a)} \quad \frac{4}{5} \rightarrow 66 + \left(\frac{1}{5} - 12\right)$$

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

$$\frac{3}{5} \rightarrow 66 - 12 = 54$$

$$\frac{1}{5} \rightarrow 54 \div 3 = 18$$

$$\frac{5}{5} \rightarrow 18 \times 5 \Rightarrow \underline{90 \text{ stickers}}$$

$$\text{(b)} \quad \frac{10}{100} \times 90 = 9$$

$$90 + 9 = 99$$

$$99 - 66 - 6 = 27$$

$$27 : 99 \Rightarrow \underline{3 : 11}$$

$$\text{Q15} \quad 5 \times 3 = 15$$

$$\frac{1}{3} \times 15 = 5$$

$$15 - 5 = 10$$

$$\frac{2}{5} \times 10 = 4$$

$$10 - 4 = 6$$

$$6u - 4u = 2u$$

$$2u = 208$$

$$1u = 208 \div 2 = 104$$

$$\frac{10}{15} \rightarrow 10 \times 104 = 1040$$

$$1040 \div 8 = 130$$

$$\frac{2}{3} \rightarrow 130$$

$$\frac{1}{3} \rightarrow 130 \div 2 = 65$$

$$65 \times 2 = 845$$

$$845 + 1040 \Rightarrow \underline{\$1885}$$

Q16 (a) $\angle BCG \rightarrow 180^\circ - 146^\circ = 34^\circ$
 $\angle CBG \rightarrow 180^\circ - 34^\circ - 90^\circ = 56^\circ$
 $\angle ECB \rightarrow 138^\circ - 34^\circ = 104^\circ$
 $\angle ABC \rightarrow \frac{360^\circ - (104^\circ \times 2)}{2} \Rightarrow \underline{76^\circ}$

(b) $180^\circ - 42^\circ - 90^\circ = 48^\circ$
 $\angle DEL \rightarrow 180^\circ - 48^\circ - 48^\circ \Rightarrow \underline{84^\circ}$

Q17 $\frac{1}{2} \times 5 \times 5 = 12.5$

$12.5 \times 4 = 50$

$50 \div 16 = 3.125$

$3.125 \times 4 = 12.5$

$3.14 \times 5 \times 5 = 78.50$

$78.5 - 50 = 28.5$

$28.50 + 12.5 \Rightarrow \underline{41 \text{ cm}^2}$

End



2018 PRIMARY 6 PRELIMINARY EXAMINATION

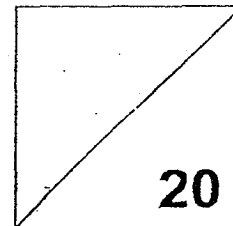
Name : _____ () Date: 1 August 2018

Class : Primary 6 () Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature : _____ Marks: _____ / **100**

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS PAPER 1 (BOOKLET A)



INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. You are **not** allowed to use a calculator.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author details the various methods used to collect and analyze the data. This includes both manual and automated processes. The goal is to ensure that the data is as accurate and reliable as possible.

The third part of the document focuses on the results of the analysis. It shows that there is a clear trend in the data, which is consistent with the initial hypothesis. This finding is significant and warrants further investigation.

Finally, the document concludes with a summary of the findings and a list of recommendations. It suggests that the current methods are effective but could be improved in certain areas. The author also notes that the data is still being analyzed and that a final report will be published in the near future.

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).

Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

1. 7 kg 4 g is the same as _____.

- (1) 74 g
- (2) 704 g
- (3) 7 004 g
- (4) 7 040 g

2. Express $40 \div 200$ as a decimal.

- (1) 0.5
- (2) 0.2
- (3) 0.05
- (4) 0.02

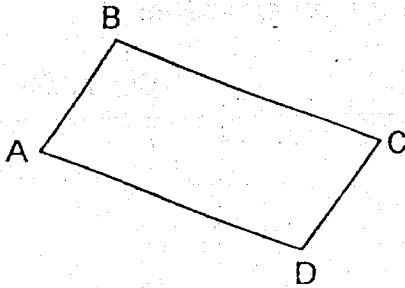
3. What is the value of $50 \div 5 + (22 - 9) \times 2$?

- (1) 14
- (2) 36
- (3) 46
- (4) 81

4. Janah spent 1 h 45 min watching a movie. It ended at 1.15 p.m.
What time did the movie start?

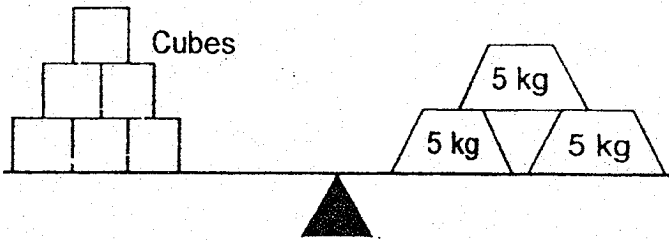
- (1) 11.30 a.m.
- (2) 11.30 p.m.
- (3) 3.00 a.m.
- (4) 3.00 p.m.

5. ABCD is a parallelogram. Which of the following is **false**?



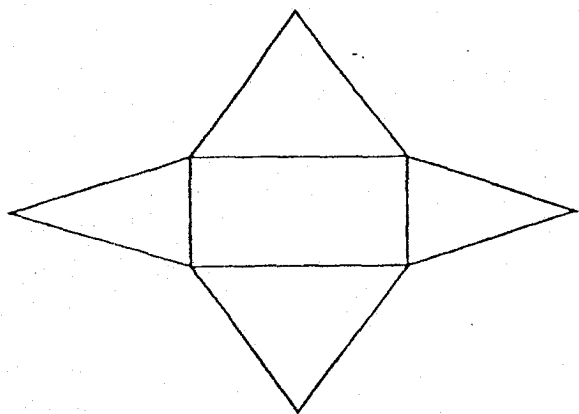
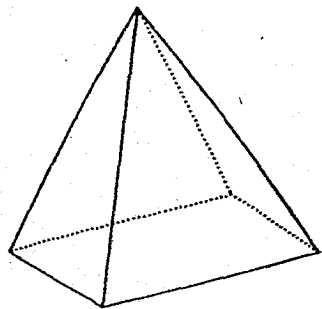
- (1) $\angle ABC + \angle BCD = 180^\circ$
- (2) $\angle BCD = \angle DAB$
- (3) $\angle CDA = \angle DAB$
- (4) $\angle DAB + \angle ABC = 180^\circ$

6. What is the average mass of each cube?

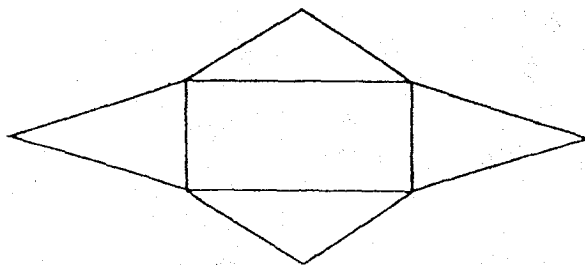


- (1) 15 kg
 - (2) 5 kg
 - (3) 2.5 kg
 - (4) 0.4 kg
7. A machine is able to fill up 10 bottles of drinks in 1 minute. How much time does the same machine take to fill up 1 bottle of drink?
- (1) 10 s
 - (2) 6 s
 - (3) $\frac{1}{6}$ s
 - (4) $\frac{1}{10}$ s

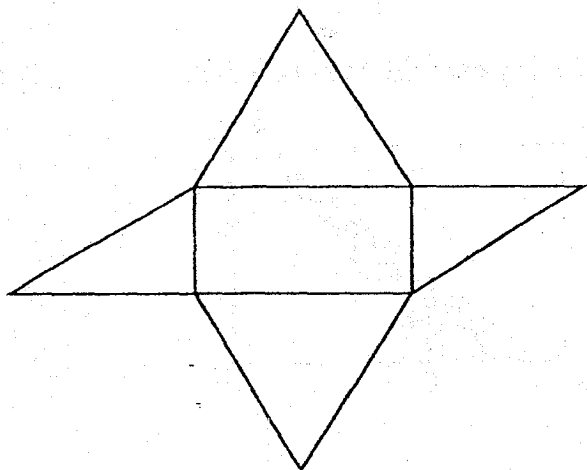
8. Which of the following is a net of the solid?



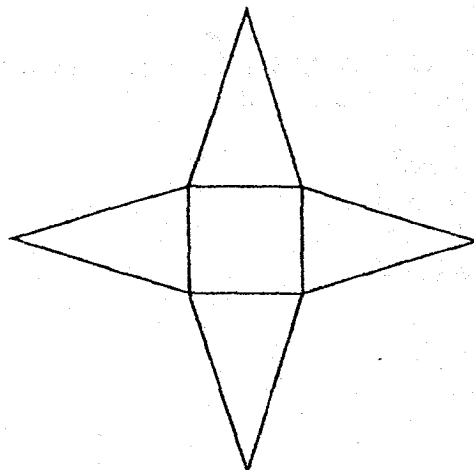
(1)



(2)



(3)



(4)

9. A jar contains 24 red beads, 56 blue beads and 20 green beads. What is the ratio of the number of blue beads to the number of red and green beads?

- (1) 4 : 1
- (2) 7 : 3
- (3) 11 : 14
- (4) 14 : 11

10. Arrange the following numbers from the greatest to the smallest.

62% , 0.63 , $\frac{3}{5}$

(1) $\frac{3}{5}$, 0.63 , 62%

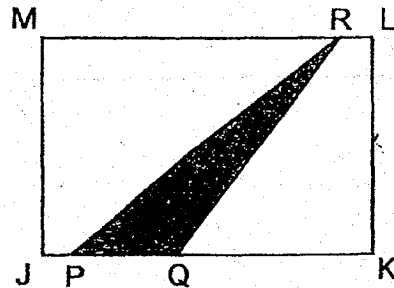
(2) 62% , 0.63 , $\frac{3}{5}$

(3) 0.63 , $\frac{3}{5}$, 62%

(4) 0.63 , 62% , $\frac{3}{5}$

11. JKLM is a rectangle. JK is thrice the length of PQ. The shaded area is 5 cm^2 . Find the area of JKLM.

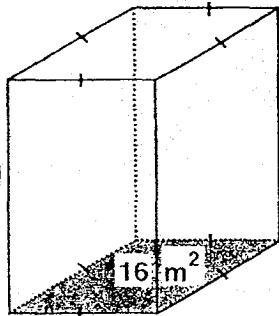
- (1) 6 cm^2
- (2) 10 cm^2
- (3) 15 cm^2
- (4) 30 cm^2



12. Saleh has \$7. He lends \$3 to his sister and spends \$y. His father gives him twice the amount of money he spends. How much money does Saleh have now?

- (1) \$ (4 + y)
- (2) \$ (4 + 2y)
- (3) \$ (10 + 2y)
- (4) \$ (10 + 3y)

13. The base area of the container is 16 m^2 . The length of one side of its base is half the height of the container. Find the volume of the container.



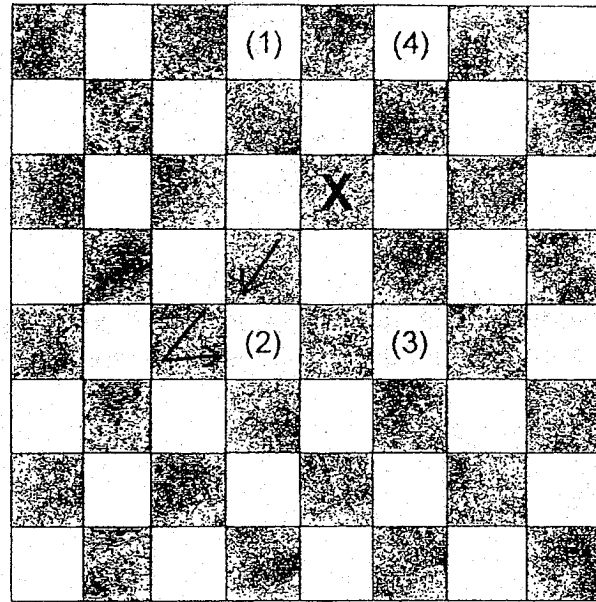
- (1) 1024 m^3
- (2) 128 m^3
- (3) 64 m^3
- (4) 32 m^3

14. $1 + 2 + 3 + \dots + 23 + 24 + 25$

When the first 25 whole numbers are added, what is the digit in the ones place of this total?

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

15. From the square marked 'X', a chess piece is moved 2 squares northeast and 1 square west. Which of the following is the position of the chess piece now?



- End of Booklet A -



2018 PRIMARY 6 PRELIMINARY EXAMINATION

Name : _____ () Date: 1 August 2018

Class : Primary 6 ()

Time: 8.00 a.m. - 9.00 a.m.

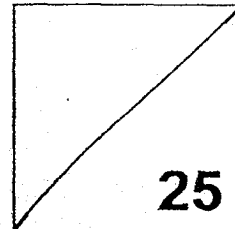
Parent's Signature : _____

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS

PAPER 1

(BOOKLET B)



INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.
6. You are **not** allowed to use a calculator.

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 $48.3 \div 6$.

Ans: _____

17. Simplify $20n - 3 + 10 - 19n$.

Ans: _____

18. Will is 12 years 4 months old. His sister is 3 years and 7 months younger than him. How old is Will's sister?

Ans: _____ years _____ months

19. An insect crawls at a speed of 14 cm/s. Find the time it takes to crawl 700 cm.

Ans: _____ s

20. The average height of Plant A, Plant B and Plant C is 80 cm. Plant A is 60 cm tall and Plant B is 70 cm tall. What is the height of Plant C?

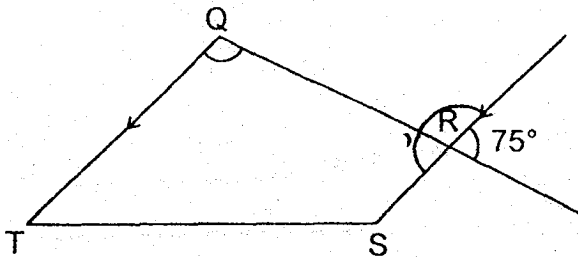
Ans: _____ m

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

21. A mug is $\frac{1}{3}$ -filled with water. Samad pours all the water into a bottle which has a volume twice that of the mug. What fraction of the bottle is filled with water?

Ans: _____

22. Find $\angle TQR$.



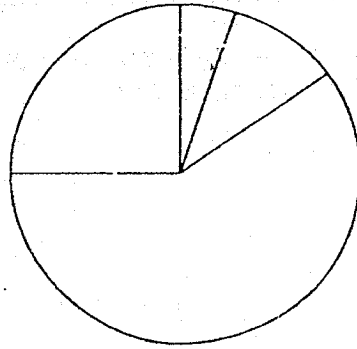
Ans: _____ °

23. The table below shows the results of a survey on 500 pupils.

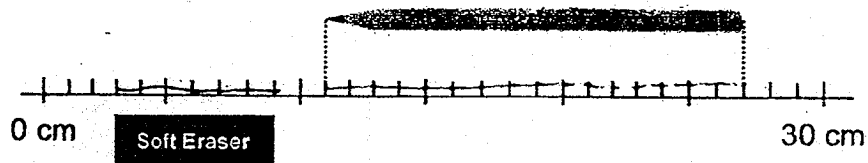
Survey question: How often do you and your family eat out in a week?

Group	Size of group	Response
A	a small number	not at all
B	twice that of Group A	once
C	more than half	twice
D	125 pupils	thrice or more

A pie chart is drawn to represent the results of the survey.
Write letters A, B, C and D in the correct part of the pie chart.

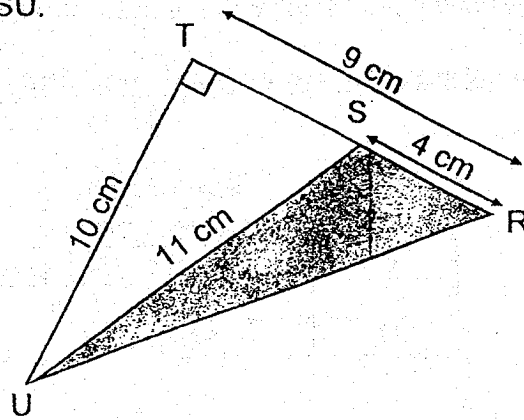


-
24. What is the difference in length between the pencil and eraser?



Ans: _____ cm

25. Find the shaded area of Triangle RSU.

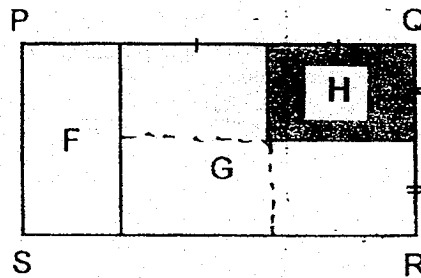


Ans: _____ cm^2

26. Lakhi has 80 cards. She buys more cards and has 100 cards now. What is the percentage increase in Lakhi's number of cards?

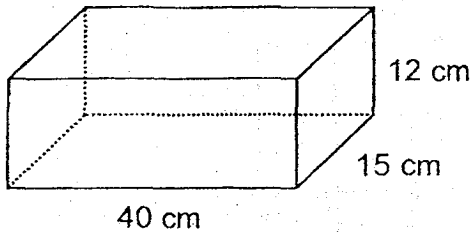
Ans: _____ %

27. Rectangle PQRS is made up of Area F, Area G and Area H.
Area F is $\frac{1}{4}$ of Rectangle PQRS. What fraction of Rectangle PQRS is shaded?



Ans: _____

28. A rectangular tank 40 cm long, 15 cm wide and 12 cm high is filled with 6 l of water. Find the increase in height of the water level when it is filled to the brim.

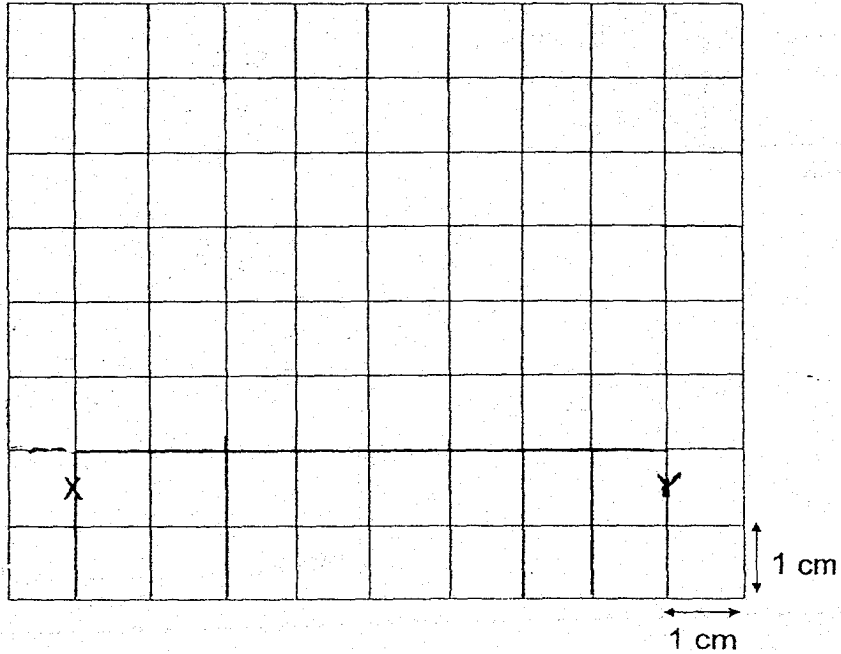


Ans: _____ cm

29. A number has three decimal places. When rounded to the nearest tenth, the value of the number is 1.3. What is the greatest and smallest possible value of the number?

Ans: greatest - _____
smallest - _____

30. Using the grid below, draw trapezium $WXYZ$ such that $\angle XYZ$ is 45° and $WX = ZW = 4$ cm.



End of Booklet B
End of Paper 1



2018 PRIMARY 6 PRELIMINARY EXAMINATION

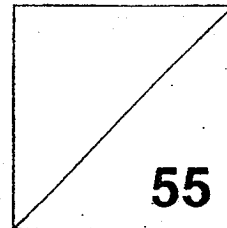
Name : _____ () Date: 1 August 2018

Class : Primary 6 ()

Time: 10.30 a.m. - 12 noon

Parent's Signature : _____

MATHEMATICS PAPER 2



INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Show your working clearly as marks are awarded for correct working.
6. You are allowed to use a calculator.

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

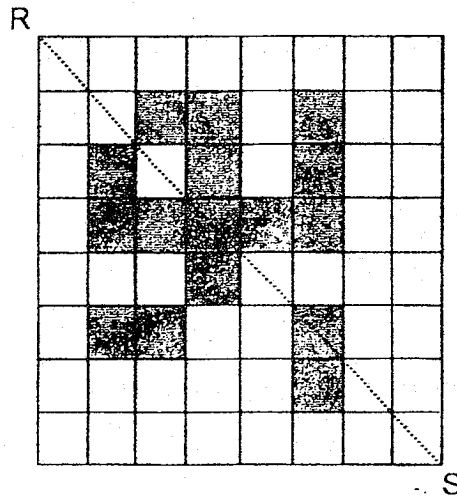
1. There are 105 passengers in a train carriage. The ratio of the number of adults to the number of children is 2 : 1. Then, 15 adults and 10 children alighted from the train. What is the new ratio of the number of adults to the number of children? (Leave your answer in its simplest form)

Ans: _____

2. In a school of 1500 pupils, there are 630 girls. $\frac{1}{5}$ of the boys and $\frac{1}{3}$ of the girls do not wear spectacles. How many pupils wear spectacles?

Ans: _____

3. The figure is made up of identical squares. Shade two more squares so that RS is the line of symmetry for the figure.

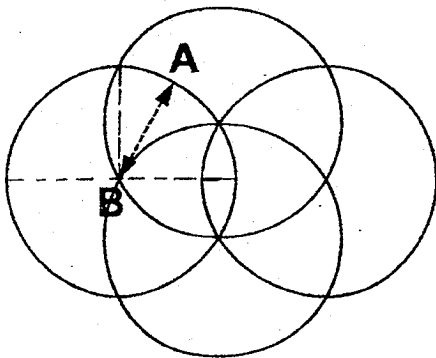


4. Devi bought r packets of flour. Each packet contained 2 kg of flour. She used 1 kg of flour and gave r kg of flour to her mother. How much flour was left?

Ans: _____ kg

5. The pattern is made up of 4 identical circles. The ink tip of a machine moves a total distance of 44 m to trace out the pattern as shown below. Every part of the pattern is traced only once. Find the distance between A and B.

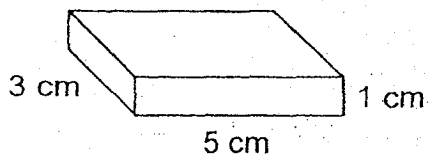
(Take $\pi = \frac{22}{7}$)



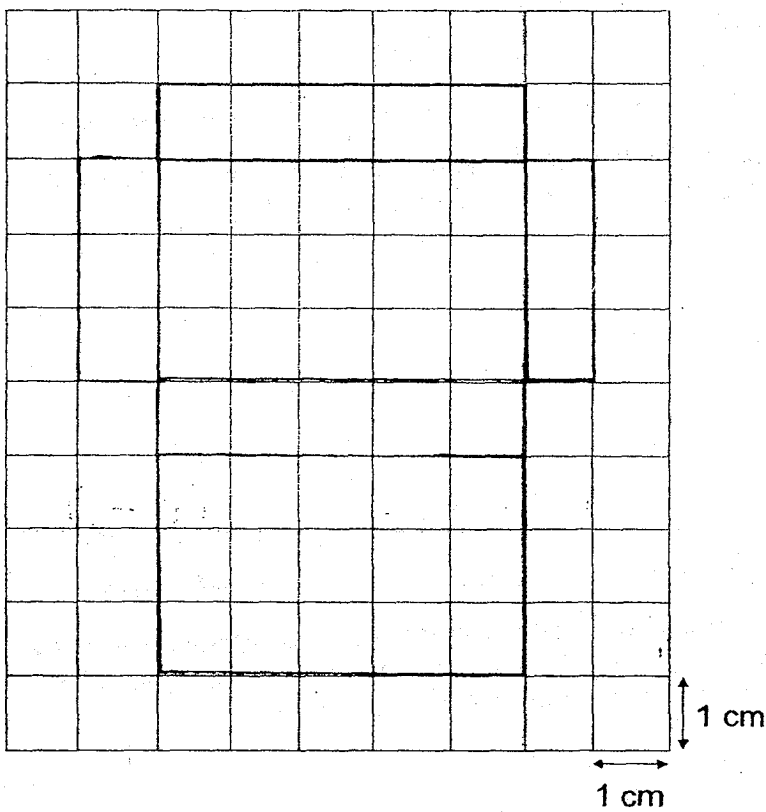
Ans: _____ m

For questions 6 to 17, show your working clearly in the space provided for each question 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. (a) Name the solid below.

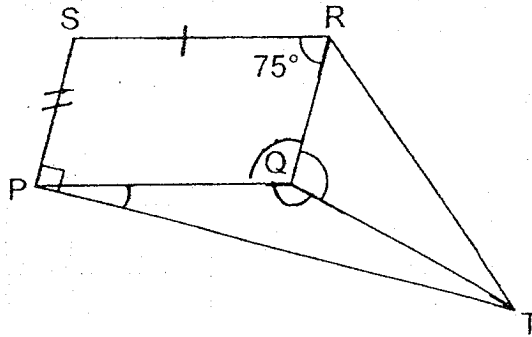


(b) Complete the net of the solid using the grid. [2]



Ans: (a) _____ [1]

7. In the figure, PQRS is a parallelogram. $PQ = QT$ and $\angle QRS = 75^\circ$. Find $\angle TQR$.

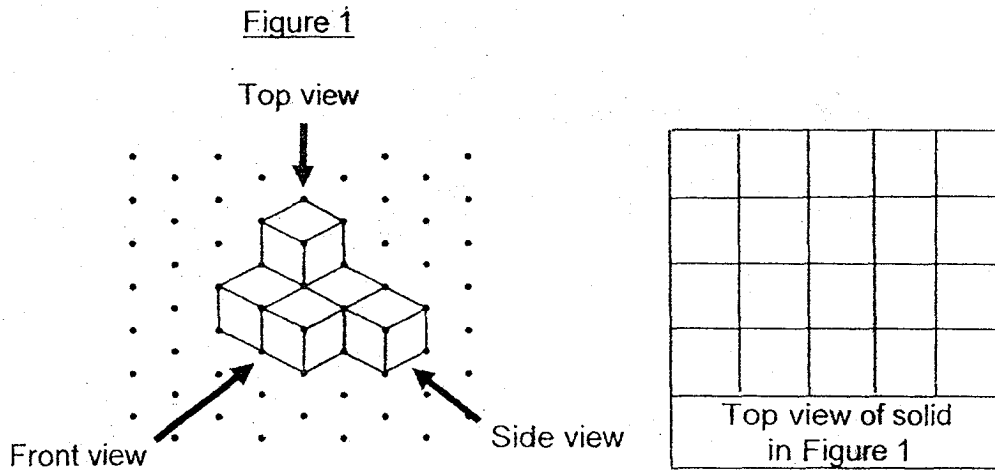


Ans: _____ [4]

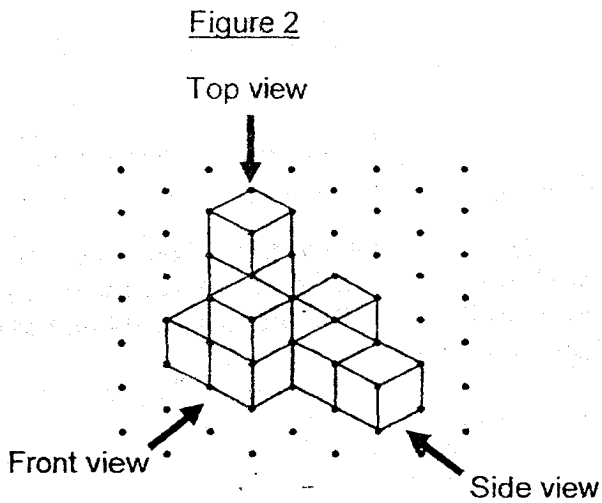
8. The total value of the numbers printed on some cards is 504. Each card is printed with a different 3-digit odd number. The average value of all the numbers is 126. The difference between the greatest and smallest number is 6. Find the smallest number printed on the cards.

Ans: _____ [3]

9. The solid as shown in Figure 1 is built using 1-cm cubes.
 (a) Looking at the solid from the front view, draw its top view in the given square grid. [1]



- (b) Identical 1-cm cubes are added to form a new solid as shown in Figure 2.



- (i) How many 1-cm cubes are added to form the new solid?
 (ii) Find the volume of the new solid.

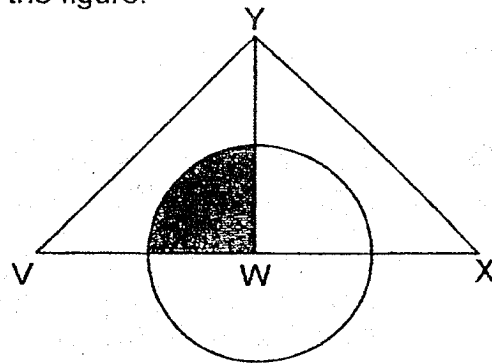
Ans: (b) (i) _____ [1]

(ii) _____ [1]

10. In a 100-metre race, Kane was 2 m behind when Jaah reached the finish line. Jaah's speed was 7 m/s. Find Kane's speed.

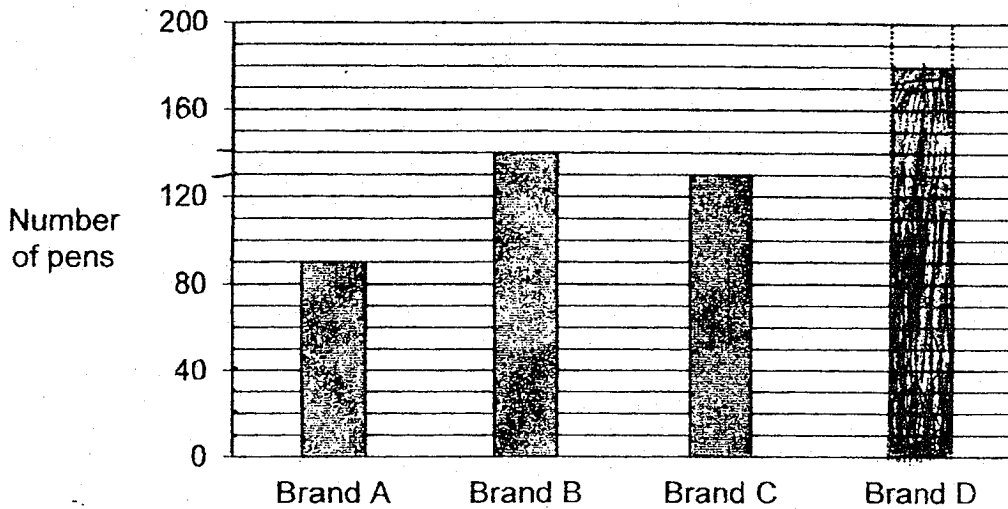
Ans: _____ [3]

11. The figure is made up of a circle and 2 identical right-angled triangles. W is the centre of the circle. $\frac{11}{28}$ of Triangle VWY is shaded. Find the ratio of the area that is **not** shaded to the total area of the figure.



Ans: _____ [3]

12. The bar graph shows the number of each brand of pen sold in a shop.



The prices of the pens are shown in the table below.

Brand	Price per pen
A	\$3.50
B	\$2.40
C	\$2.50
D	\$1.80

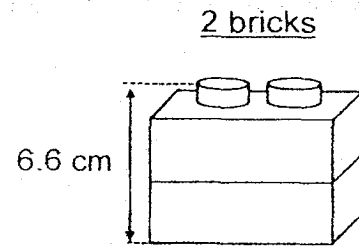
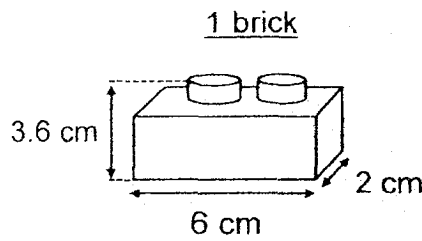
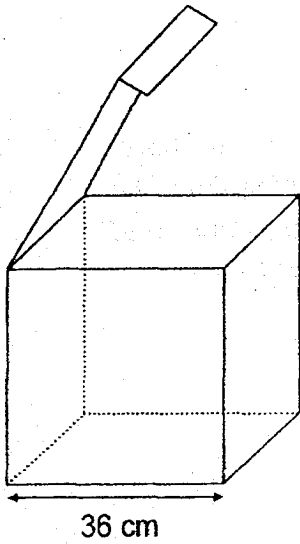
- (a) How many Brand B pens were sold? **Ans:** _____ [1]
- (b) There were twice as many Brand D pens as Brand A pens sold. **Draw** the bar to show the number of Brand D pens sold. [1]
- (c) Each statement below is either true, false or not possible to tell from the graph. For each statement, **put a tick (✓)** in the correct column. [2]

Statement	True	False	Not possible to tell
(i) The greatest amount of money is collected from the sale of Brand B pens.			
(ii) The shop makes the most amount of money from the sale of Brand D pens.			

13. Plastic bricks measuring 6 cm by 2 cm by 3.6 cm each are put into a cubical box with a flap cover.

- (a) How many bricks touch only the base of the box?
- (b) Find the most number of bricks that can be put inside the box such that the cover can be closed completely.

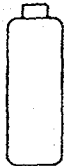


The diagrams are not drawn to scale.



Ans: (a) _____ [1]

(b) _____ [3]

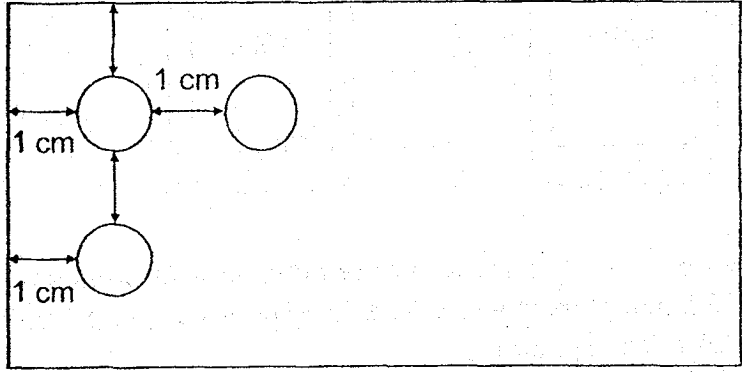
14.

	Small	Medium	Large
			
Capacity	250 ml	500 ml	750 ml

35 l of water is used to fill up bottles of 3 different capacities as shown above. There is an equal number of small-sized bottles and large-sized bottles. The number of medium-sized bottles is three times the number of small-sized bottles. How much water is used to fill up all the medium-sized bottles?

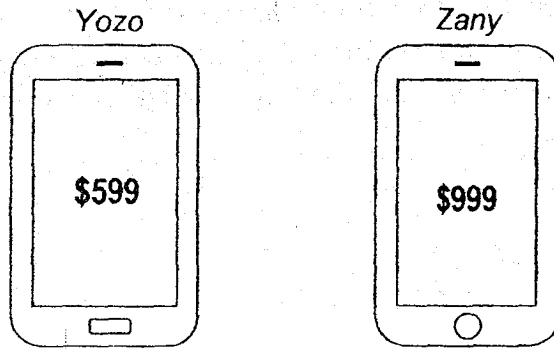
Ans: _____ [4]

15. The cardboard, not drawn to scale, has a perimeter of 64 cm. It has holes punched in such a way that each hole has equal distance from the ones around it and from the sides of the cardboard. There are 10 holes along its length. The diameter of each hole is 1 cm. Find the number of holes along its breadth.



Ans: _____ [5]

16. Shop A and Shop B sold two types of mobile phones at the prices as shown below.



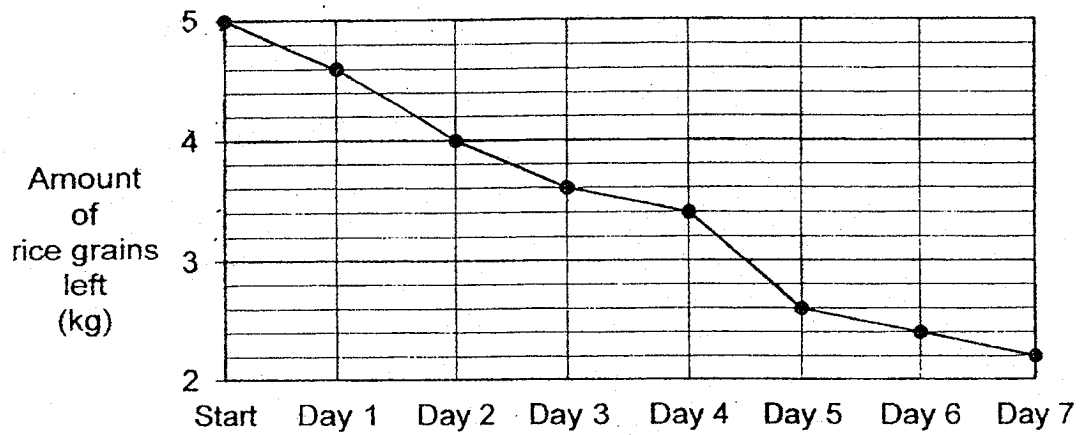
Shop A and Shop B sold the same number of mobile phones last month. Shop A sold 13 Yozo phones and some Zany phones. Shop B sold 15 Zany phones and some Yozo phones. The total amount Shop A collected was \$2000 less than Shop B.

- (a) How many Yozo phones did Shop B sell?
- (b) How much money did Shop A collect?

Ans: (a) _____ [3]

(b) _____ [2]

17. A housewife buys a 5-kg pack of rice grains. The graph shows the amount of rice grains left at the end of each day for a week.

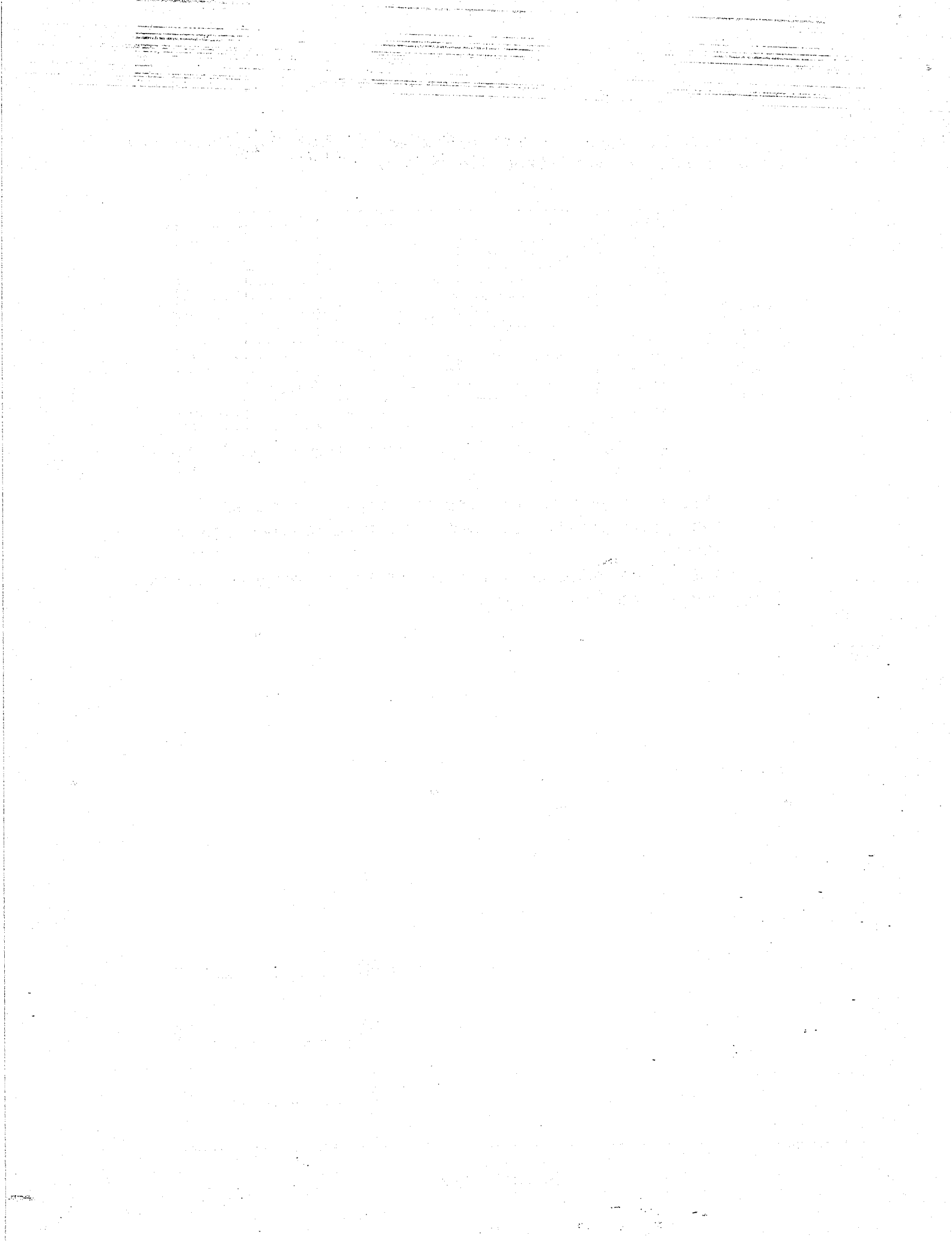


- (a) On which day was the most amount of rice grains consumed?
(b) What percentage of the 5-kg pack of rice grains was consumed by Day 3?
(c) 200 g of rice grains fills 1 measuring cup. How many cups of rice grains were left at the end of Day 7?

Ans: (a) _____ [1]

(b) _____ [2]

(c) _____ [1]



ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : TAO NAN
SUBJECT : MATHEMATICS

Booklet A -Paper 1

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

Booklet B -Paper 1

Q16) 8.05

Q17) $1n - 3 + 10 = n + 7$

Ans: $n + 7$

Q18) 12 years 4 months = 11 years 16 months

$$11 \text{ years } 16 \text{ months} - 3 \text{ years } 7 \text{ months} = 8 \text{ years } 9 \text{ months}$$

Ans: 8 years 9 months

Q19) $700 \div 14 = 50$

Ams: 50s

Q20) $80 \times 3 = 240$

$$240 - 70 - 60 = 110$$

$$110\text{cm} = 1.1\text{m}$$

Ans: 1.1m

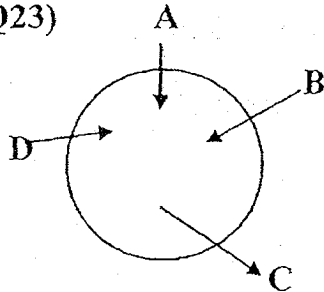
Q21) $3 \times 2 = 6$

Ans: $\frac{1}{6}$

Q22) $\angle TQR = 180^\circ - 75^\circ = 105^\circ$

Ans: 105°

Q23)



Q24) Eraser = 6cm

Pencil = 16cm

$16 - 6 = 10$

Ans: 10cm

Q25) $\frac{1}{2} \times \frac{10}{1} \times \frac{9}{1} = 45$

$9 - 4 = 5$

$\frac{1}{2} \times 5 \times 10 = 25$

$45 - 25 = 20$

Ans: 20cm^2

Q26) $100 - 80 = 20$

$100\% = 80 \text{ cards}$

$80 \div 100 = 0.8$

$20 \div 0.8 = 20 \div \frac{8}{10} = 20 \times \frac{10}{8} = \frac{200}{8} = 25$

Ans: 25%

Q27) $\frac{1}{4} \times \frac{3}{4} = \frac{3}{16}$

Ans: $\frac{3}{16}$

Q28) $6000 \div 40 \div 15 = 10$

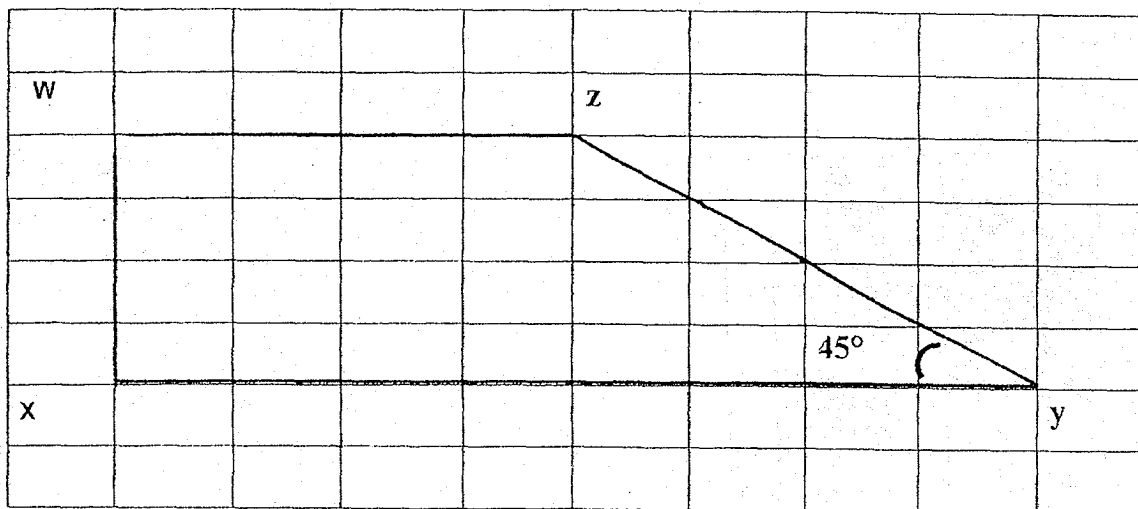
$$12 - 10 = 2$$

Ans: 2cm

Q29) Greatest = 1.349

Smallest = 1.250

Q30)



Paper 2

Q1) $105 \div 3 = 35$

$$35 \times 2 = 70$$

A	C
70	35
-15	-10
55	25
11	5

Ans: 11 : 5

$$\text{Q2) } \frac{1}{3} \times 630 = 210$$

$$1500 - 630 = 870$$

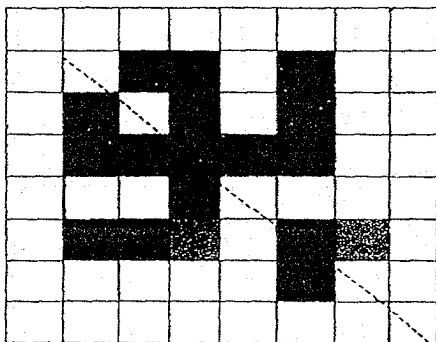
$$\frac{1}{5} \times 870 = 174$$

$$1500 - 210 - 174 = 1116$$

Ans: 1116

Q3)

R



S

$$\text{Q4) } r \times 2 = 2r$$

$$2r - 1 - r = 1r - 1 = (1r - 1) \text{ kg}$$

Ans: $(1r - 1) \text{ kg}$

$$\text{Q5) } 2 \times \frac{22}{7} \times r \times 4 = \frac{176r}{7}$$

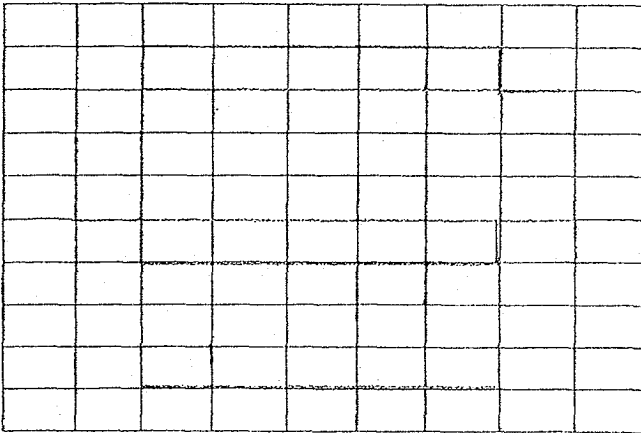
$$\frac{176r}{7} = 44$$

$$R = \frac{44}{176} \times 7 = 1.75$$

Ans: 1.75m

Q6a) cuboid

Q6b)



Q7) $\angle TPQ = 90^\circ - 75^\circ = 15^\circ$

$\angle RSP = \angle RQP = 180^\circ - 75^\circ = 105^\circ$

$\angle PQT = 180^\circ - 15^\circ - 15^\circ = 150^\circ$

$\angle TQR = 360^\circ - 150^\circ - 105^\circ = 105^\circ$

Ans: 105°

Q8) $504 \div 126 = 4$

$6 \div 3 = 2$

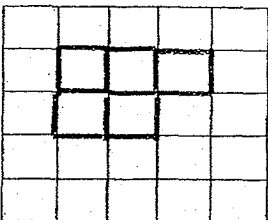
$6 \times 2 = 12$

$504 - 12 = 492$

$492 \div 4 = 123$

Ans: 123

Q9a)



Q9bi) 4

Q9bii) $6 + 4 = 10$

$$1 \times 1 \times 1 = 1$$

$$10 \times 1 = 10$$

Ans: 10cm^3

Q10) $\frac{100}{7} = 14\frac{2}{7}$

$$100 - 2 = 98$$

$$98 \div 14\frac{2}{7} = 6.86$$

Ans: 6.86m/s

Q11) $28 - 11 = 17$

$$2 \times 17 = 34$$

$$22 + 11 + 17 + 17 = 67$$

$$67 + 11 = 78$$

NS : TA

$$67 : 78$$

Ans: $67 : 78$

Q12a) 140

Q12b) Draw till 180

Q12ci) True

Q12cii) Not possible to tell

Q13a) $36 \div 6 = 6$

$$36 \div 2 = 18$$

$$6 \times 18 = 108$$

Ans: 108

Q13b) $6.6 - 3.6 = 3$

$$36 \div 3 = 12$$

$$12 - 1 = 11$$

$$108 \times 11 = 1188$$

Ans: 1188

Q14) $250u + 3u \times 500 + 750u = 35000$

$$250u + 1500u + 750u = 35000$$

$$2500u = 35000$$

$$U = 35000 \div 2500 = 14$$

$$3u = 3 \times 14 = 42$$

$$42 \times 500\text{ml} = 21000 = 21\ell$$

Ans: 21 ℓ

Q15) $64 \div 2 = 32$

$$10 \text{ holes} \rightarrow 10 \times 1\text{cm} = 10\text{cm}$$

10holes, 11 gaps = Length

$$11 \text{ gaps} \rightarrow 11 \times 1 = 11\text{cm}$$

$$10\text{cm} + 11\text{cm} = 21\text{cm}$$

$$13 = 32 - 21 = 11\text{cm}$$

$$13 \text{ minus } 1 \text{ gap at one end} - 11 - 1 = 10$$

$$1 \text{ gap} + 1 \text{ hole} = 1 + 1 = 2\text{cm}$$

$$\text{Number of sets} = 10 \div 2 = 5$$

Ans: 5cm

Q16a) $A = 13 \times 599 = 7787$

$$B = 15 \times 999 = 14985$$

Shop A and B sold same number of phones.

$$\$999 - \$599 = \$400$$

$$\$2000 \div 400 = 5 \text{ less Zany phone}$$

$$15 - 5 = 10$$

$$13 + 10 = 23$$

$$23 - 15 = 8$$

Ans: 8

$$\text{Q16b) } 999 \times 15 = 14985$$

$$599 \times 13 = 7787$$

$$8 \times 599 = 4792$$

$$14985 + 4792 = 19777$$

$$10 \times 999 = 9990$$

$$9990 + 7787 = 17777$$

$$19777 - 17777 = 2000$$

Ans: \$17.777

$$\text{Q17a) Day 5}$$

$$\text{Q17b) } 5 - 3.6 = 1.4$$

$$\frac{1.4}{5} \times 100\% = 28\%$$

Ans: 28%

$$\text{Q17c) } 2.2\text{kg} = 2200\text{g}$$

$$2200 \div 200 = 11$$

Ans: 11

END



Temasek Primary School

Preliminary Examination

Primary Six Standard

2018

MATHEMATICS

(PAPER 1 BOOKLET A)

Name: _____ () Class: 6 ()

Date : 21 August 2018

Total Time for Booklets A and B : 1 hour

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. Shade your answers on the Optical Answer Sheet (OAS) provided.
5. You are not allowed to use a calculator.
6. This booklet consists of 10 printed pages.

1900

1901

1902

1903

1904

1905

1906

1907

1908

1909

1910

1911

1912

1913

1914

1915

1916

1917

1918

1919

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. The value of the digit 5 in 865 973 is _____.

- (1) 50
- (2) 500
- (3) 5 000
- (4) 50 000

2. Express 8 050 cm in m.

- (1) 8.05 m
 - (2) 8.5 m
 - (3) 80.5 m
 - (4) 805 m
-

3. How many quarters are there in $8\frac{1}{2}$?

- (1) 17
- (2) 20
- (3) 32
- (4) 34

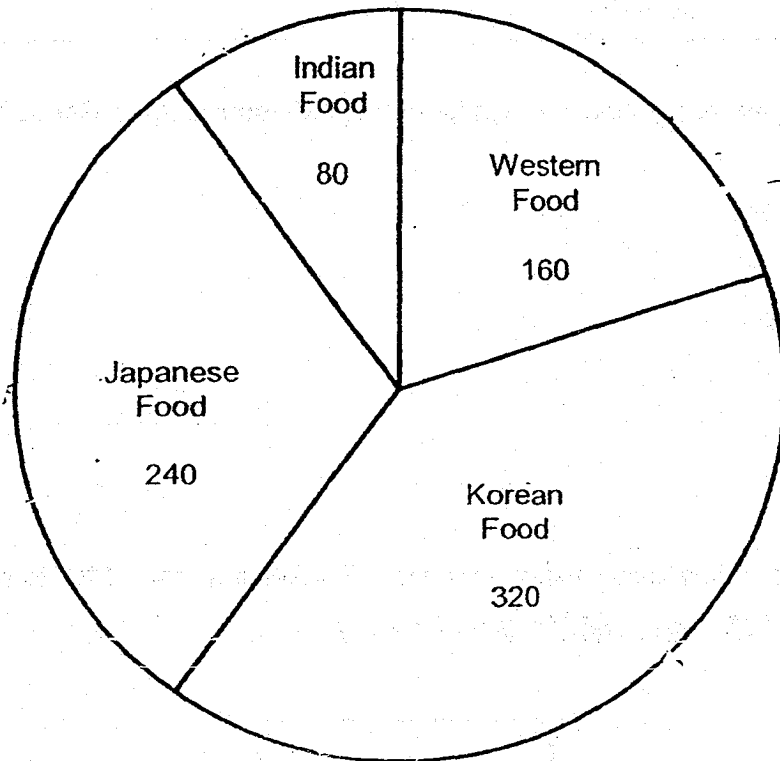
4. Find the value of $11y - 5 + \frac{7y}{4}$ when $y = 8$.

- (1) 220
- (2) 180
- (3) 97
- (4) 64

5. A rectangular block of wood measuring 50 cm by 5 cm by 5 cm was cut into five equal pieces. What was the volume of each piece of wood?

- (1) 210 cm^3
 - (2) 250 cm^3
 - (3) $1\,050 \text{ cm}^3$
 - (4) $1\,250 \text{ cm}^3$
-

6. A group of 800 students was asked to choose their favourite food. The pie chart below shows their choices and the number of students who chose each type of food. Which type of food was chosen by 40% of the students?



- (1) Indian Food
 - (2) Korean Food
 - (3) Western Food
 - (4) Japanese Food
-

7. The table below shows the scores obtained by Choon Tuck in an online game.

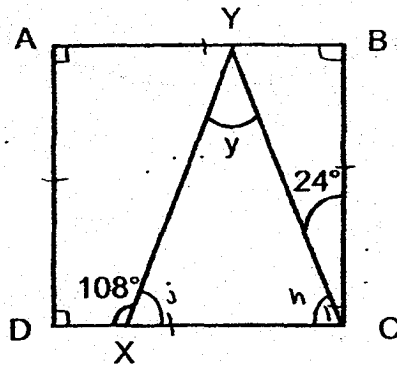
Online Game	Score
Game 1	10
Game 2	25

Find the percentage increase in Choon Tuck's scores from Game 1 to Game 2.

- (1) 150%
- (2) 100%
- (3) 60%
- (4) 40%

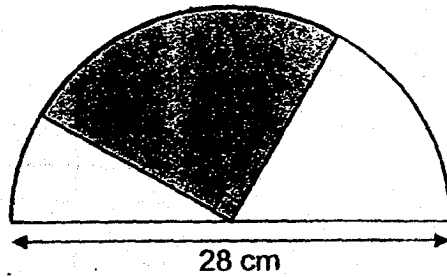
8. The figure below is not drawn to scale. ABCD is a square. CXY is a triangle.

$\angle DXY = 108^\circ$ and $\angle BCY = 24^\circ$. Find $\angle y$.



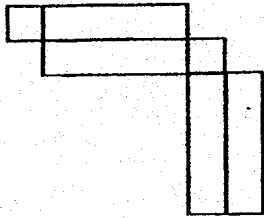
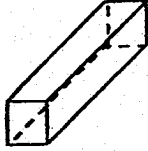
- (1) 42°
- (2) 48°
- (3) 66°
- (4) 72°

9. The figure below is not drawn to scale. It shows a shaded quadrant in a semicircle. The diameter of the semicircle is 28 cm. Find the total area of the unshaded parts. (Take $\pi = \frac{22}{7}$)

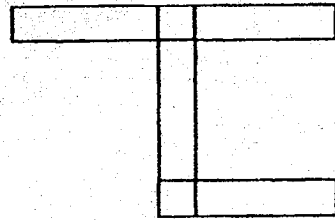


- (1) 144 cm²
- (2) 154 cm²
- (3) 308 cm²
- (4) 616 cm²

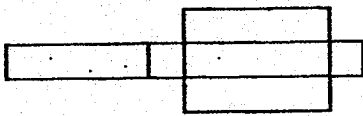
10. Which of the following figure is not a net of the solid below?



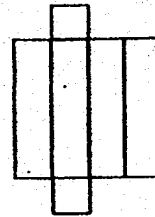
(1)



(2)



(3)

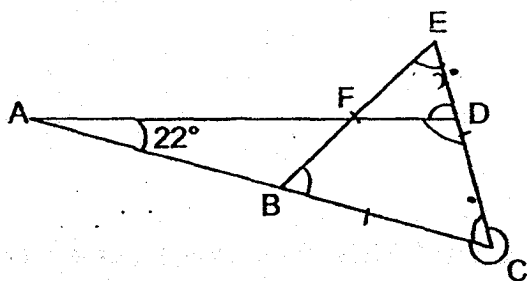


(4)

11. A group of Brownies calculated their average collection from a fundraising. They discovered that if one of them collected \$200 more, their average collection would be \$240. If one of them collected \$340 less, their average collection would be \$180. How many Brownies were there in the group?

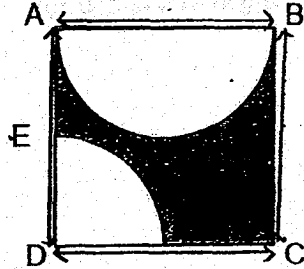
- (1) 9
 (2) 8
 (3) 5
 (4) 4

12. The figure below is not drawn to scale. BCE is an equilateral triangle. ABC and AFD are straight lines. If $\angle BAF = 22^\circ$, what is the difference between the marked angles, $\angle EDF$ and $\angle BCD$?



- (1) 338°
 (2) 300°
 (3) 278°
 (4) 218°

13. The figure below is not drawn to scale. ABCD is a square of area 100 m^2 . A semicircle and a quadrant lie within Square ABCD. $AE = ED$. Find the area of the shaded part. (Leave your answer in terms of π .)

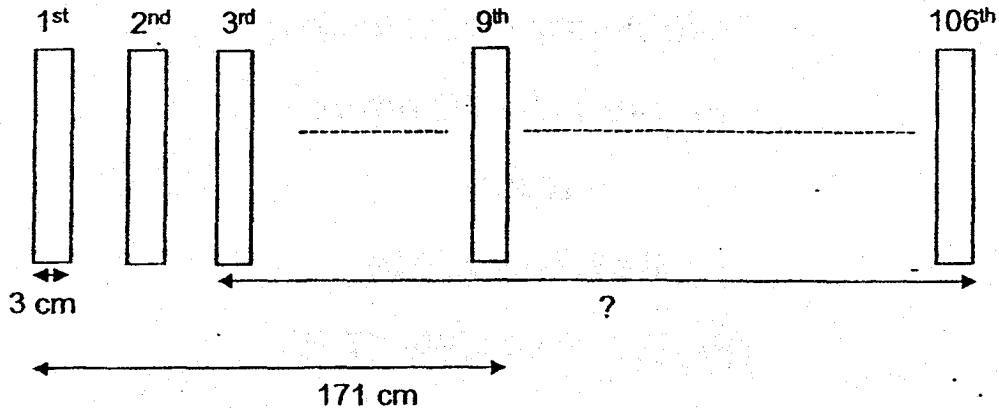


- (1) $(100 - 6\frac{1}{4}\pi) \text{ m}^2$
- (2) $(100 - 7\frac{1}{2}\pi) \text{ m}^2$
- (3) $(100 - 12\frac{1}{2}\pi) \text{ m}^2$
- (4) $(100 - 18\frac{3}{4}\pi) \text{ m}^2$

14. There were 800 adults at a carnival. 80% of them were women. Halfway through, some women left the carnival. The ratio of the number of women to the number of men became $7 : 4$. How many women left the carnival?

- (1) 280
- (2) 360
- (3) 480
- (4) 640

15. Nine identical rectangular cards are placed in a straight line at an equal distance from one another as shown below. The total distance taken from the 1st card to the 9th card is 171 cm. The width of each rectangular card is 3 cm.



What is the total distance taken from the 3rd card to the 106th card?

- (1) 2166 cm
- (2) 2160 cm
- (3) 1989 cm
- (4) 1957 cm

End of Booklet A

(Go on to Booklet B)



Temasek Primary School
Preliminary Examination
Primary Six Standard
2018
MATHEMATICS
(PAPER 1 BOOKLET B)

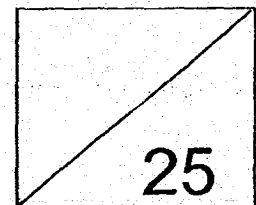
Name: _____ () Class: 6 ()

Date : 21 August 2018

Total Time for Booklets A and B : 1 hour

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. Write your answers in this booklet.
5. You are not allowed to use a calculator.
6. This booklet consists of 9 printed pages.



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 $66 - (36 + 3) \div 3$.

Ans: _____

17. Find the value of $22.62 \div 30$.

Ans: _____

18. The mass of flour in a bag was 5 kg. It was repacked into packets of $\frac{2}{5}$ kg each.

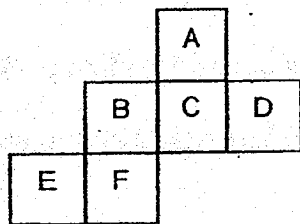
What was the most number of packets of flour that were repacked?

Ans: _____

19. Alice, Bernice and Clarissa sold 320 donation cards in the ratio of 4 : 3 : 1. How many donation cards did Alice sell?

Ans: _____

20. The figure below shows the net of a cube. The net is folded to make a cube. Which letter is opposite letter "F"?



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)

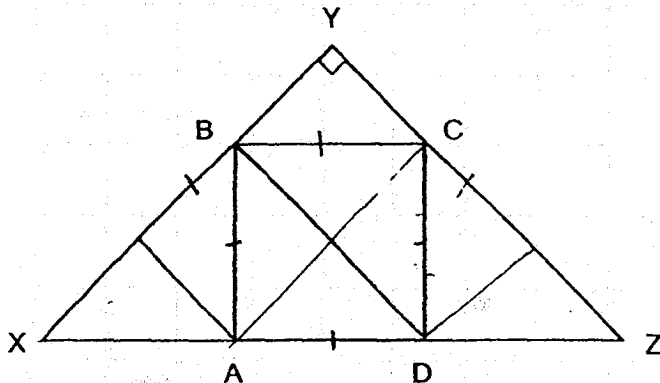
21. A group of children donated \$200 altogether. The table below shows the amount of money donated by each child in the group.

Amount of money donated per child	\$1	\$2	\$3	\$4
Number of children	35	24	15	?

How many children donated \$4?

Ans: _____

22. The figure below is not drawn to scale. ABCD is a square. XYZ is a right-angled isosceles triangle of area 108 cm^2 . Find the area of Square ABCD.

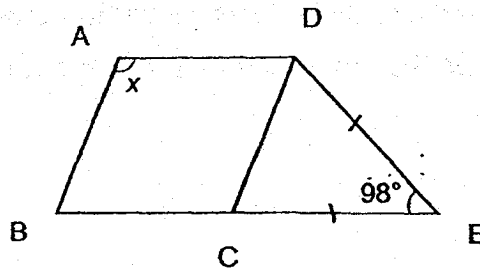


Ans: _____ cm^2

24. At a bookshop, 3 identical pens cost as much as 2 identical notebooks. Each pen costs \$0.80 less than each notebook. What is the cost of a notebook?

Ans: \$ _____

25. The figure below is not drawn to scale. ABCD is a rhombus. CDE is an isosceles triangle. BCE is a straight line. $CE = DE$ and $\angle CED = 98^\circ$. Find $\angle x$.



Ans: _____°

26. Joyce was given a fixed amount of pocket money each month. In January, she spent \$100 and saved the rest. In February, she spent 10% less and her savings increased by 25%. How much was Joyce's pocket money for each month?

Ans: _____

-
27. Bedok and Kuala Lumpur are about 360 km apart. At 9.00 a.m., Mr Chong travelled from Bedok to Kuala Lumpur while Mr Ma travelled from Kuala Lumpur to Bedok. Mr Chong's speed was 80 km/h while Mr Ma's speed was 70 km/h. Both of them did not change their speeds throughout their journeys. At what time did they pass each other?

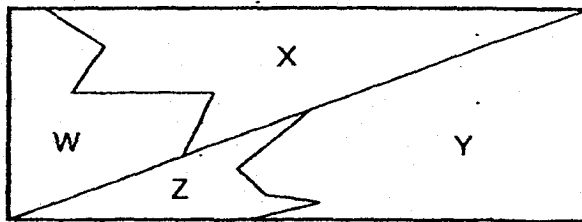
Ans: _____ a.m.

28. Ming Ming gave \$60 to his sister and $\frac{1}{5}$ of the remainder to his brother.

In the end, Ming Ming was left with $\frac{2}{3}$ of his money. How much money did Ming Ming have at first?

Ans: _____

29. The rectangle below is divided into four parts W, X, Y and Z. The ratio of Area W to Area X is 3 : 5. The ratio of Area Y to Area Z is 1 : 2. What fraction of the total area is Area W? Give your answer in its simplest form.

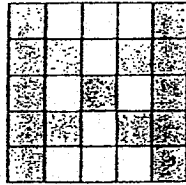


Ans: _____

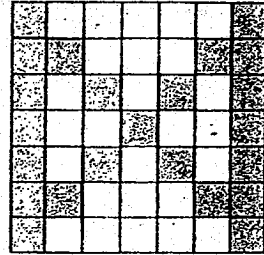
30. Azlinda formed the pattern below using white and grey tiles. Study the pattern carefully.



Pattern 1



Pattern



How many white tiles would Azlinda use to build Pattern 7?

Ans: _____

End of Paper



Temasek Primary School
Preliminary Examination
Primary Six Standard
2018
MATHEMATICS
(PAPER 2)

Name: _____ () Class: 6 ()

Date : 21 August 2018

Total Time : 1 hour 30 minutes

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. Write your answers in this booklet.
5. You are allowed to use a calculator.
6. This booklet consists of 15 printed pages

Paper	Max Mark	Score
Paper 1 Booklet A	20	
Paper 1 Booklet B	25	
Paper 2	55	
Total Mark	100	

Parent's Signature/Date: _____

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. Lyndi had 15 m of cloth. She cut $2y$ cm from it to give to Bob. She gave Lucas 30 cm of the cloth. She used all the remaining cloth to sew 7 similar dresses. If Lyndi used equal length of cloth for each dress, what is the length of cloth used for each dress? Give your answer in terms of y .

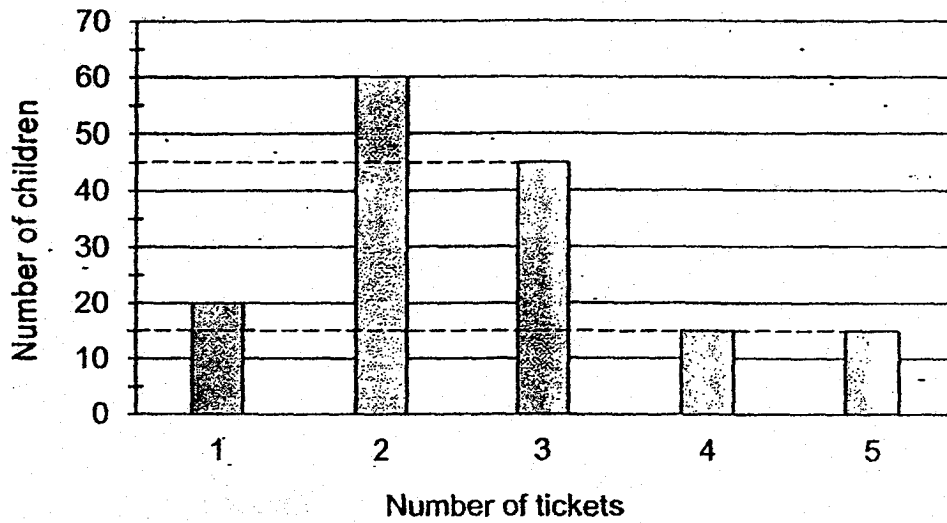
Answer: _____ cm

2. Dae made the cuboid shown below using cubes of sides 4 cm. What is the volume of the cuboid?



Answer: _____ cm^3

3. The bar graph below shows the number of tickets sold for a concert to a group of children.



How many children purchased more than 2 tickets?

Answer: _____

4. A group of girls shared some sweets among themselves. When each girl took 11 sweets, the last girl had 16 sweets. When each girl took 8 sweets, there were 32 sweets left over. How many sweets were there altogether?

Answer: _____

-
5. Jamie takes 6 days to paint a house. Her sister takes 10 days to paint the same house. If they work together, what fraction of the house will they be able to paint in 3 days? Give your answer in its simplest form.

Answer: _____

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

6. Joash bought a total of 30 notebooks and pencil cases. Each notebook cost \$9 and each pencil case cost \$3 more. The total cost of the pencil cases is \$87 more than the total cost of the notebooks.

(a) How many notebooks did Joash buy?

(b) How much did he spend on all the pencil cases?

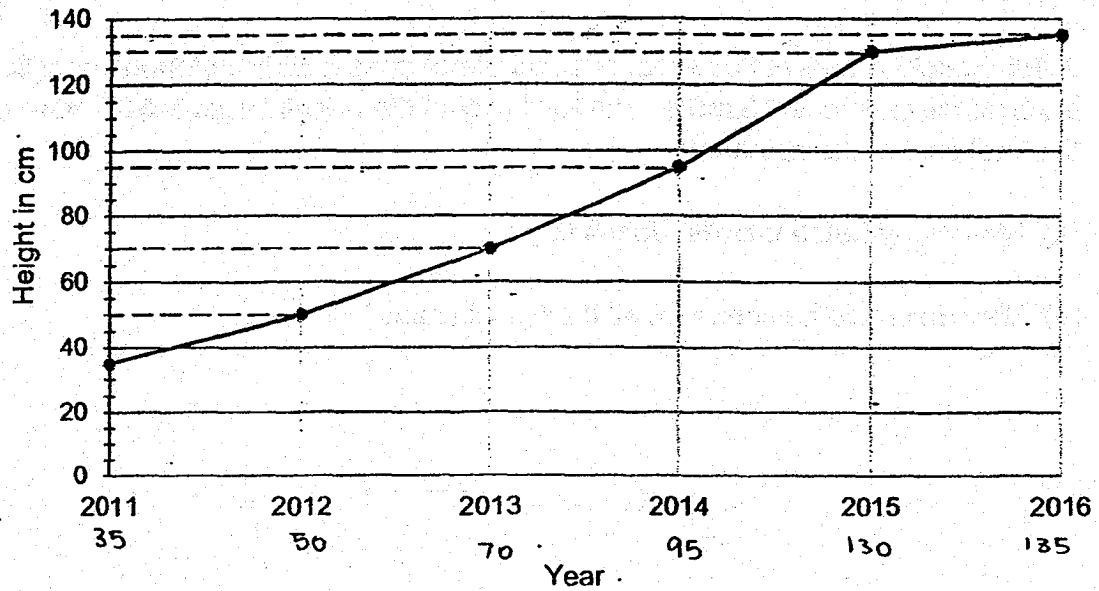
Answer: (a) _____ [2]

(b) _____ [1]

7. Ken travelled from his house to the park. He ran $\frac{1}{3}$ of the journey in 3 minutes and jogged $\frac{3}{5}$ of the remaining journey. He walked the rest of the journey in 2.5 minutes at an average speed of 80m/min. What was Ken's running speed?

Answer: _____ [3]

8. The line graph below shows the height of a mango tree measured in January of each year from 2011 to 2016.



- (a) In which year was the height the mango tree twice its height in 2011?
- (b) What was the average height of the mango tree from 2012 to 2015?

Answer: (a) _____ [1]

(b) _____ [2]

9. The table below shows the number of buns sold at a bakery last week.

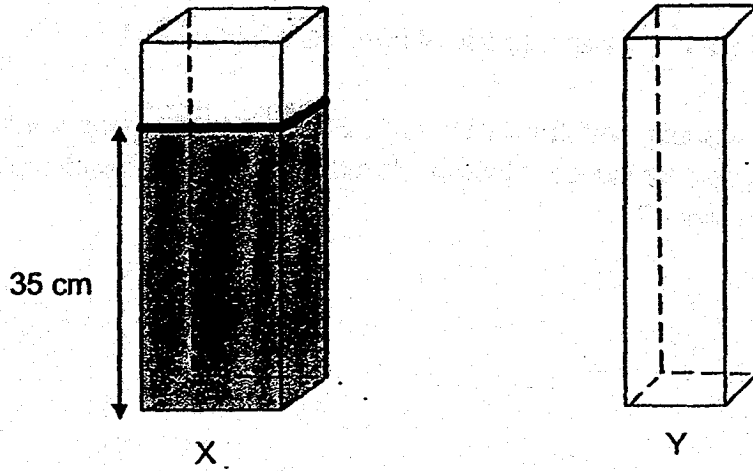
Day	Number of buns sold
Monday to Friday	$2y$ per day
Saturday	$y + 50$
Sunday	$3y - 15$

- (a) If $y = 28$, what was the total number of buns sold last week?
- (b) The buns were usually sold for \$1.50 each. However, there was a 40% discount on all the buns sold last week. How much did the bakery collect from the sales of all the buns last week?

Answer: (a) _____ [2]

(b) _____ [1]

10. X and Y are two rectangular containers. The base area of X is 90 cm^2 while that of Y is 60 cm^2 . At first, X contained water to a height of 35 cm and Y was empty, as shown below. Richard then poured some water from X to Y. After that, the height of the water level in X was 4 times that in Y. What was the new height of the water level in X?



Answer: _____ [3]

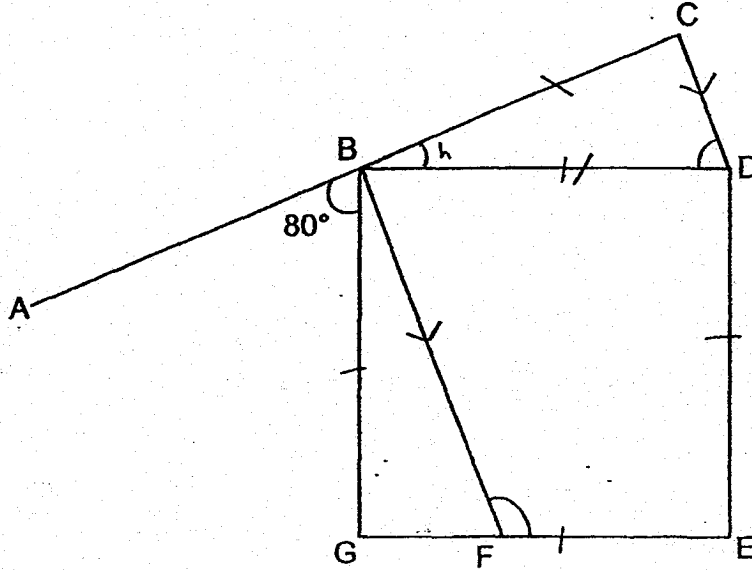
11. Roy had to paint a piece of paper. He painted $\frac{1}{5}$ of the paper yellow and 85 cm^2 of the paper red. He then painted $\frac{1}{3}$ of the remainder green and the rest blue. If the area of the blue region is $\frac{1}{4}$ of the area of the whole piece of paper, find the area of the paper.

Answer: _____ [3]

12. In the figure below, not drawn to scale, BDEG is a square and BCD is an isosceles triangle. ABC is a straight line. $BF \parallel CD$ and $\angle ABG = 80^\circ$

(a) Find $\angle BDC$.

(b) Find $\angle BFE$.



Answer: (a) _____ [1]

(b) _____ [3]

13. The table below shows the charges of a taxi company.

Flag Down	\$2.50
Every 200m up to 10km	\$0.10
Every 150m after 10km	\$0.10
Morning Surcharge (7.00 a.m. to 9.30 a.m.)	\$2.00

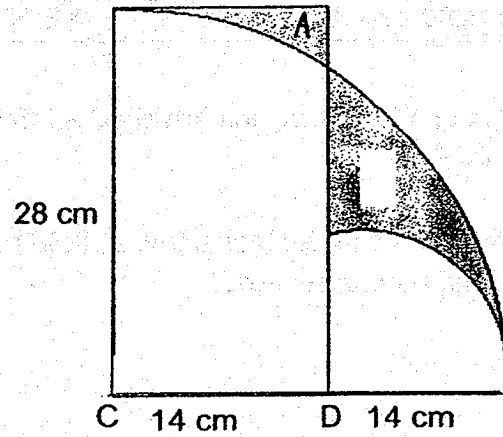
- (a) Rachel took a taxi to work at 11.00 a.m. and travelled a total distance of 16km. How much was her taxi fare?
- (b) Ryan paid \$18 for his taxi fare when he took a taxi at 8.30 a.m. What was the maximum distance he could have travelled?

Answer: (a) _____ [2]

(b) _____ [2]

14. The figure shows two quadrants of circles, centred at C and D respectively. Find the difference between the area of the two shaded regions.

(Take $\pi = \frac{22}{7}$)



Answer: _____ [4]

15. Marcus wants to make 35 large identical stars and 20 small identical stars using wire. He has made 20 large stars and 14 small ones using 12.48 m of wire. The length of wire he used for 5 small stars is the same as that for 4 large stars.

- (a) How many small stars can be made with the same length of wire used to make 20 large stars?
- (b) What is the length of wire he needs to make the remaining stars?

Answer: (a) _____ [1]

(b) _____ [4]

16. There are a total of 300 people at a party. The ratio of the number of men to the number of adults is 3 : 5. The ratio of the number of boys to the number of children is 1 : 2. The total number of males is 166.

(a) How many adults are there at the party?

(b) How many girls are there at the party?

Answer: (a) _____ [3]

(b) _____ [2]

17. There were 27 pieces of \$5 notes and \$10 notes altogether in the piggy bank. Lukas used 75% of the \$5 notes and put in 12 more pieces of \$10 notes. As a result, the number of \$5 notes was 40% the number of \$10 notes.

(a) What was the total value of the \$5 notes at first?

(b) What was the total amount of money Lukas had in the piggy bank in the end?

Answer: (a) _____ [3]

(b) _____ [2]

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ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : : TEMASEK PRIMARY
SUBJECT : : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 53

Q17 0.754

Q18 12

Q19 160

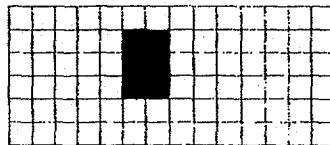
Q20 A

Q21 18

Q22 48 cm²

Q23 (a) Front view

(b)



Q24 \$2.40

Q25 139°

Q26 \$140

Q27 11:24 am

Q28 \$360

Q29 $\frac{3}{16}$

Q30 170

Paper 2

Q1 7 dress $\rightarrow 15m - 2y \text{ cm} = 30 \text{ cm}$
 $\rightarrow (1500 - 2y - 30) \text{ cm}$
 $\rightarrow (1470 - 2y) \text{ cm}$

Length of cloth per dress $\Rightarrow \left(\frac{1470 - 2y}{7}\right) \text{ cm}$

Q2 Vol. of 1 cube $\rightarrow (4 \times 4 \times 4) \text{ cm}^3 = 64 \text{ cm}^3$
Vol. of 1 cuboid $\rightarrow 64 \text{ cm}^3 \times 8 \Rightarrow \underline{512 \text{ cm}^3}$

Q3 No. of children $\rightarrow 45 + 15 + 15 \Rightarrow \underline{75}$

Q4 Let x be the number of girls
 $11x + 5 = 8x + 32$
 $3x = 27$
 $x = 27 \div 3 = 9 \text{ girls}$
No. of sweets $\rightarrow 9 \times 8 + 32 \Rightarrow \underline{104 \text{ sweets}}$

Q5 Jamie $\rightarrow 1 \text{ day} \rightarrow \frac{1}{6} \text{ house}$

Sister $\rightarrow 1 \text{ day} \rightarrow \frac{1}{10} \text{ house}$

Together $\rightarrow 1 \text{ day} \rightarrow \frac{1}{6} + \frac{1}{10} = \frac{4}{15} \text{ house}$

Fraction of house painted in 3 days $\rightarrow \frac{4}{15} \times 3 \Rightarrow \frac{4}{5}$

Q6 (a) 13 notebooks

(b) \$204

Q7 $\frac{3}{5} \times \frac{2}{3} = \frac{2}{5}$

$\frac{4}{15}$ journey = 200 m

$\frac{5}{15}$ journey = $200 \text{ m} \times \frac{5}{4} = 250 \text{ m}$

Speed of running = $(250 \div 3) \text{ m/min} \Rightarrow 83\frac{1}{3} \text{ m/min}$

Q8 (a) Height of mango tree in 2011 $\rightarrow 35 \text{ cm}$
2 times the height $\rightarrow 2 \times 35 \text{ cm} = 70 \text{ cm}$
 \Rightarrow In year 2013

(b) Total height $\rightarrow (50 + 70 + 95 + 130) \text{ cm} = 345 \text{ cm}$
Avg. height $\rightarrow 345 \text{ cm} \div 4 \Rightarrow \underline{86.25 \text{ cm}}$

Q9 (a) No. of buns sold in terms of $y \rightarrow 2y \times 5 + y + 50 + 3y - 15 = 14y + 35$
No. of buns sold $\rightarrow 28 \times 14 + 35 \Rightarrow \underline{427 \text{ buns sold}}$

(b) Amt of money 1 bun cost $\rightarrow \$1.50 \times \frac{60}{100} = \0.90

Amt of money bakery collected $\rightarrow \$0.90 \times 427 \Rightarrow \underline{\$384.30}$

Q10 Water $\rightarrow (35 \times 90) \text{ cm}^3 = 3150 \text{ cm}^3$

Units of water in X $\rightarrow 90 \text{ cm}^2 \times 4 \text{ units} = 360 \text{ units}$

Units of water in Y $\rightarrow 60 \text{ cm}^2 \times 1 \text{ unit} = 60 \text{ units}$

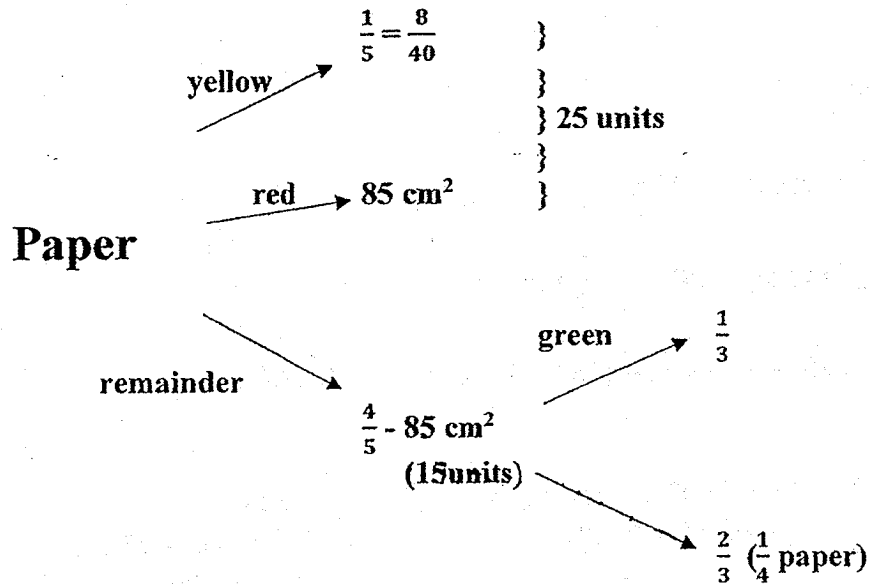
$(360 + 60) \text{ units} = 3150 \text{ cm}^3$

$420 \text{ units} = 3150 \text{ cm}^3$

$4 \text{ units} = 30 \text{ cm}$

The new height in X is 30 cm

Q11



$$\frac{2}{3} \text{ remainder} = \frac{1}{4} \text{ paper}$$

$$\frac{2}{3} \text{ remainder} = \frac{2}{8} \text{ paper} \quad \square$$

$$\text{Remainder} = 3 \text{ units} \rightarrow 15 \text{ units}$$

$$8 \text{ units} \rightarrow 40 \text{ units}$$

$$25 \text{ units} - 8 \text{ units} = 17 \text{ units} \rightarrow 85 \text{ cm}^2$$

$$1 \text{ unit} \rightarrow 85 \text{ cm}^2 \div 17 = 5 \text{ cm}^2$$

$$\text{Area of paper} = 5 \text{ cm}^2 \times 40 \Rightarrow \underline{200 \text{ cm}^2}$$

Q12 (a) $\angle h \rightarrow 180^\circ - 90^\circ - 80^\circ = 10^\circ$
 $\angle BDC \rightarrow (180^\circ - 10^\circ) \div 2 \Rightarrow \underline{85^\circ}$

(b) $\angle BDC = \angle FBD$ (alternate angles in parallel lines)
 $\angle FBD = 85^\circ$
 $\angle BFE = 180^\circ - 85^\circ \Rightarrow \underline{95^\circ}$

Q13 (a) Total paid = $\$(2.50 + 5 + 4) \Rightarrow \underline{\$11.50}$

(b) Fare for travelling $\rightarrow \$18 - \$2.00 - \$2.50 = \13.50
 Amt after first 10km $\rightarrow \$13.50 - \$5 = \$8.50$
 Distance travelled $\rightarrow 10 \text{ km} + \frac{8.50}{0.10} \times 150 \text{ m}$
 $= 10 \text{ km} + 12750 \text{ m} (\approx 12.75 \text{ km}) \Rightarrow \underline{22.75 \text{ km}}$

Q14 Area of rectangle $\rightarrow (28 \times 14) \text{ cm}^2 = 392 \text{ cm}^2$

Area of quadrant $\rightarrow (28 \times 28 \times \frac{22}{7}) \text{ cm}^2 \div 4 = 616 \text{ cm}^2$

Area of A, B and small quadrant $\rightarrow (616 - 392) \text{ cm}^2 \div 4 = 224 \text{ cm}^2$

Area of small quadrant $\rightarrow (14 \times 14 \times \frac{22}{7}) \text{ cm}^2 \div 4 = 154 \text{ cm}^2$

Area of A and B $\rightarrow (224 - 154) \text{ cm}^2 = 70 \text{ cm}^2$

Area of H and B $\rightarrow (616 - 154) \text{ cm}^2 = 462 \text{ cm}^2$

Difference in two shaded parts $= (462 - 392) \text{ cm}^2 \Rightarrow \underline{70 \text{ cm}^2}$

Q15 (a) 20 large + 14 small $\rightarrow 12.48 \text{ m}$
39 small $\rightarrow 12.48 \text{ m}$

14 small $\rightarrow 12.48 \text{ m} \times \frac{14}{39} = 4.48 \text{ m}$

Length of wire for 20 large stars $(12.48 - 4.48) \text{ m} = 8 \text{ m}$

1 small star $\rightarrow 12.48 \text{ m} \div 39 = 0.32 \text{ m}$

No. of small stars $\rightarrow (8 \div 0.32) \text{ m} \Rightarrow \underline{25 \text{ small stars}}$

(b) No. of large and small stars $\rightarrow 15 \text{ large} + 6 \text{ small}$

Small stars $\rightarrow 0.32 \text{ m} \times 6 = 1.92 \text{ m}$

15 large stars $\rightarrow 8 \text{ m} \times \frac{15}{20} = 6 \text{ m}$

Wire needed $\rightarrow (6 + 1.92) \text{ m} \Rightarrow \underline{7.92 \text{ m}}$

Q16 (a) $5 \text{ units} + 2 \text{ parts} \rightarrow 300$
 $(3 \text{ units} + 1 \text{ part} = 166) \times 2$
 $6 \text{ units} + 2 \text{ parts} = 332$
 $1 \text{ unit} = 332 - 300 = 32$
 $\text{No. of adults} \rightarrow 32 \times 5 \Rightarrow \underline{160}$

(b) $3 \text{ units} \rightarrow 32 \times 3 = 96$
 $\text{No. of girls} \rightarrow 166 - 96 \Rightarrow \underline{70}$

Q17 (a) $26 \text{ units} \rightarrow 39$

$16 \text{ units} \rightarrow 39 \times \frac{16}{26} = 24$

$\text{Total value of \$5 notes} \rightarrow 24 \times \$5 \Rightarrow \underline{\$120}$

(b) $4 \text{ units} \rightarrow 39 \times \frac{4}{26} = 6$

$10 \text{ units} \rightarrow 39 \times \frac{10}{26} = 15$

$\text{Total value in the end} \rightarrow 6 \times \$5 + 15 \times \$10 \Rightarrow \underline{\$180}$