HENRY PARK PRIMARY SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ ( )

Parent's Signature

Class: Primary 6_____

_____

Marks:

Paper 1	Booklet A	20
	Booklet B	25
Paper 2		55
Total		100

Total Time for Booklets A and B: 1 hour

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.
You are **not** allowed to use a calculator.

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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) and shade your answer on the Optical Answer Sheet.

(20 marks)

---

1 Express 3.025 as a mixed number in the simplest form.

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

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

(3) $3\frac{1}{25}$

(4) $3\frac{1}{40}$

2 Simplify $12 + 10y - 5 - 9y + 2$

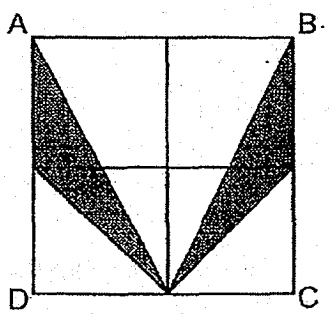
(1) $5 + y$

(2) $9 - y$

(3) $9 + y$

(4) $19 - y$

3 In the figure below, ABCD is made up of four **identical** squares.
What fraction of the figure is shaded?



(1) $\frac{1}{8}$

(2) $\frac{1}{2}$

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

(4) $\frac{1}{4}$

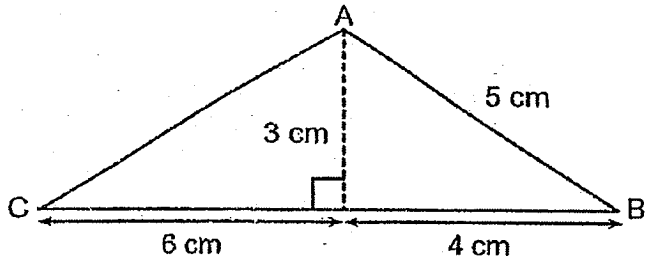
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4 Which of the following is the same as 2030 cm?

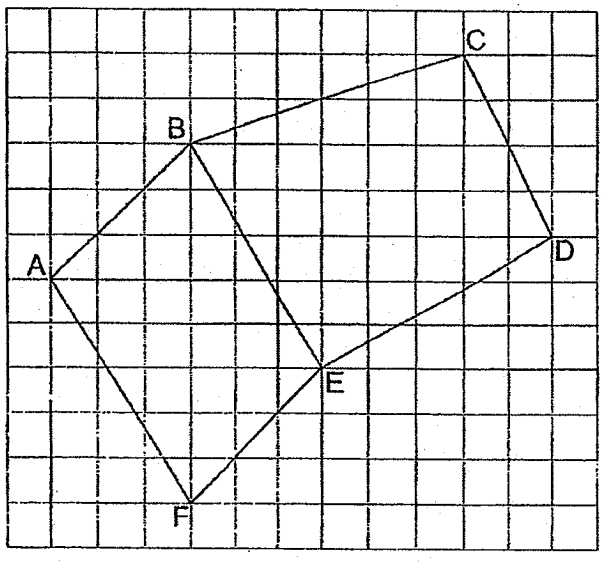
(1) 2 m 30 cm
(2) 2 m 3 cm
(3) 20 m 30 cm
(4) 20 m 3 cm

5 What is the area of triangle ABC shown below?



(1) 15 cm^2
(2) 18 cm^2
(3) 30 cm^2
(4) 36 cm^2

6 In the square grid below, which two lines are perpendicular to each other?



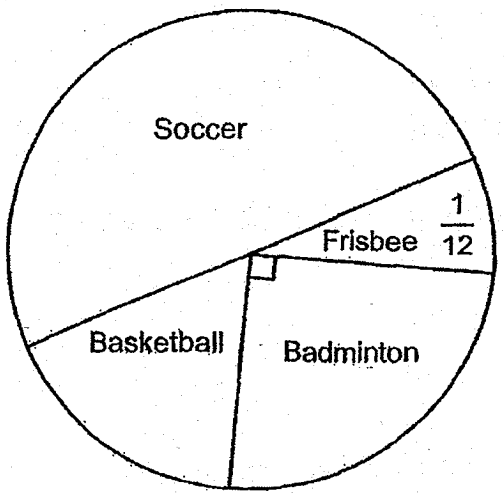
(1) AF and BE
(2) BE and ED
(3) ED and DC
(4) EF and AF

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*Use the information below to answer questions **7** and **8**.*

The pie chart shows the different games a number of students played during recess. Half of the students played soccer.



7 What fraction of the students played basketball?

(1) $\frac{5}{12}$

(2) $\frac{1}{6}$

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

(4) $\frac{1}{4}$

8 There were 75 more students who played soccer than frisbee. How many students played badminton?

(1) 15

(2) 30

(3) 45

(4) 90

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9 Joan baked a pie. She ate $\frac{1}{6}$ of it and her sister ate $\frac{1}{4}$ of the remainder.

What fraction of the pie was left?

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

(2) $\frac{5}{8}$

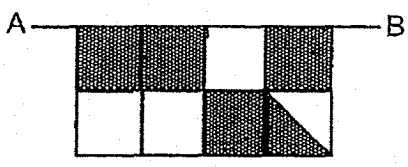
(3) $\frac{5}{12}$

(4) $\frac{7}{12}$

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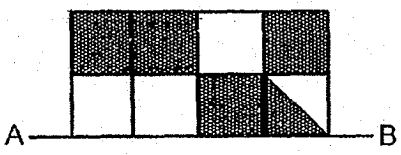
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10 The bottom half of a symmetric figure is shown below. AB is the line of symmetry.

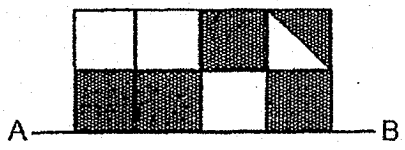


Which one of the following completes the symmetric figure?

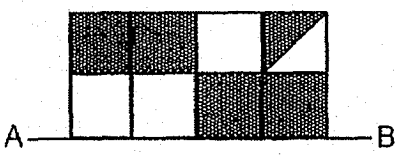
(1)



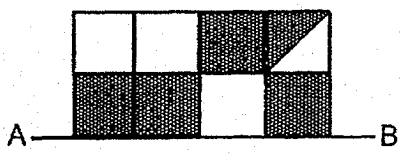
(2)



(3)



(4)

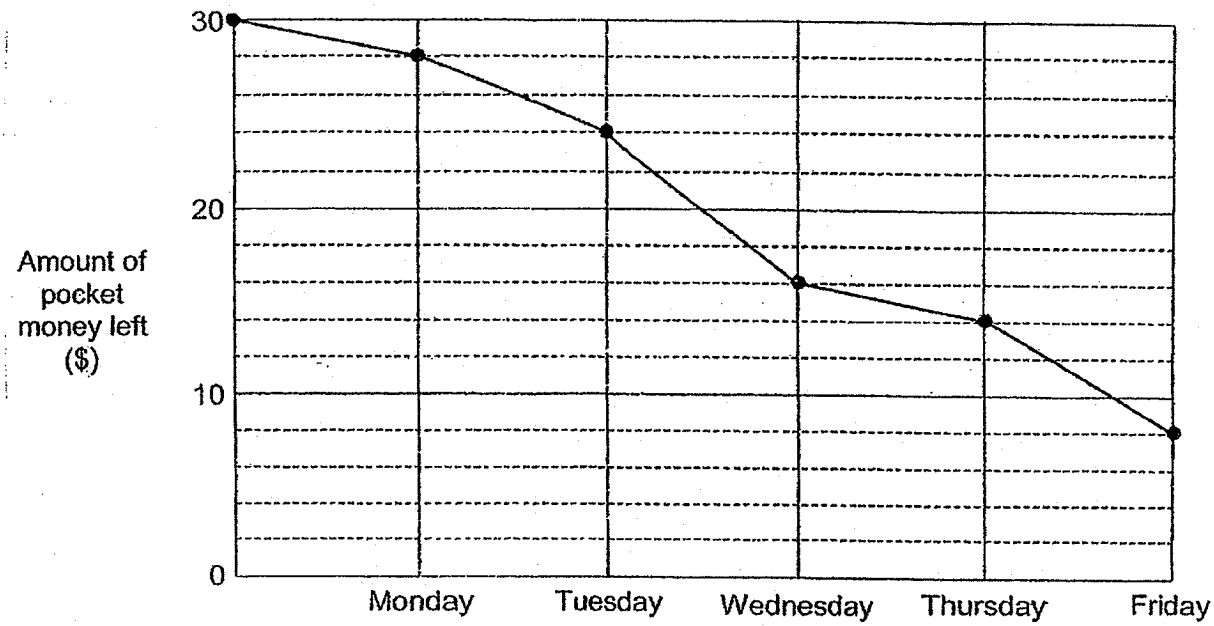


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*Use the information below to answer questions **11** and **12**.*

Tom received $30 each week for his pocket money. The line graph below shows the amount of pocket money he had left at the end of each day.



11 On which day did Tom spend the most amount of money?

(1) Tuesday
(2) Wednesday
(3) Thursday
(4) Friday

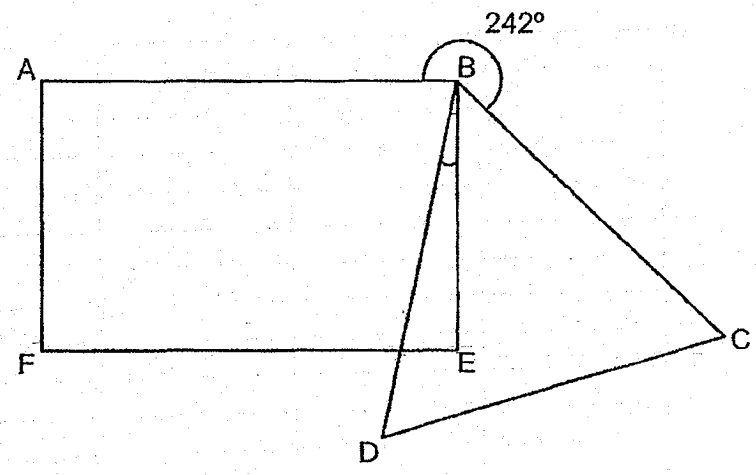
12 What was the average amount of pocket money that Tom spent each day from Monday to Friday?

(1) $4.40
(2) $12
(3) $20
(4) $22

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13 In the figure, ABEF is a rectangle, BCD is an equilateral triangle and $\angle ABC = 242°$. Find $\angle DBE$.



(1) 28°
(2) 30°
(3) 32°
(4) 58°

14 Adam and Bella had the same number of stamps. **After** Adam gave Bella $\frac{1}{6}$ of his stamps, Bella had 84 stamps. How many stamps did Adam have at first?

(1) 60
(2) 70
(3) 72
(4) 98

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15 A family of 8 adults and 5 children went for the high tea buffet at Royal Café. What is the least amount of money the family had to pay?

Royal Café High Tea Buffet

Adult price : $22.50
Child price : $11.10

Promotion!
For 3 paying adults, 2 children dine free!

(1) $179.10
(2) $191.10
(3) $213.30
(4) $235.50

(Go on to Booklet B)

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HENRY PARK PRIMARY SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ( )

Class: Primary 6_____

25

Total Time for Booklets A and B: 1 hour

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.

You are **not** allowed to use a calculator.

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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.

(5 marks)

Do not write in this space

16 Find the value of $\frac{85-7a}{4}$ when $a = 5$. Express your answer as a decimal.

Ans: _____

17 Find the value of $\frac{4}{5} \div \frac{3}{7}$

Ans: _____

18 A number with 3 decimal places is 7.9 when rounded to 1 decimal place. What is the greatest possible value of this number?

Ans: _____

(Go on to the next page)

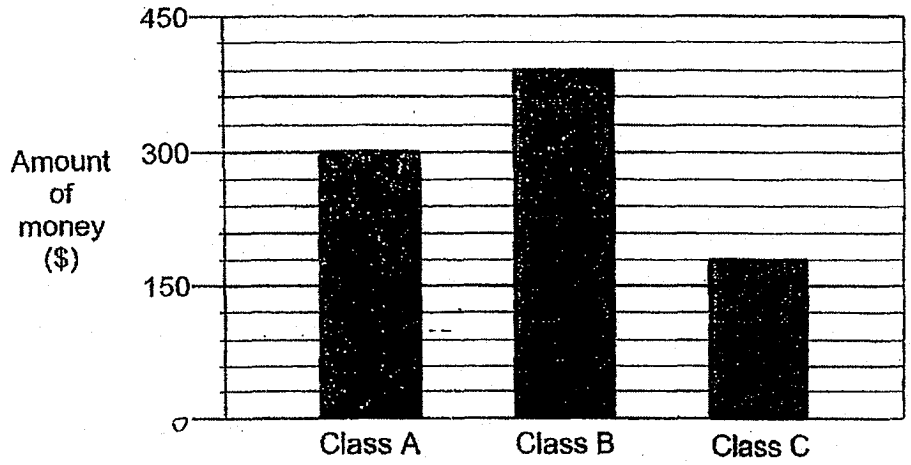
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19 The ratio of the length to the breadth of a cuboid is 3 : 1. The ratio of the height to breadth of the cuboid is 4 : 3. Find the ratio of the length to the height of the cuboid.

Ans: _____

20 The graph shows the amount of money collected by 3 classes for a charity.



What was the total amount of money collected by the 3 classes?

Ans: $ _____

(Go on to the next page)

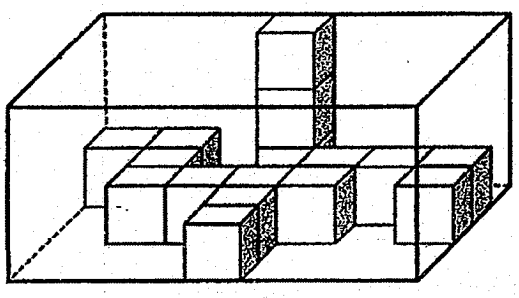
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Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(20 marks)

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21 The figure shows a rectangular box partly filled with 1-cm cubes. What is the capacity of the rectangular box?



Ans: _____ cm^3

22 The airmail rates to Country X and Country Y are shown below.

Mass Step	Country X	Country Y
First 20 g or part thereof	$1.25	$0.75
Every additional 10 g or part thereof	$0.30	$0.45

Jayen sent a letter weighing 18 g to Country X and a letter weighing 41 g to Country Y. How much did he pay altogether?

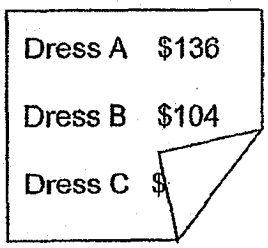
Ans: $ _____

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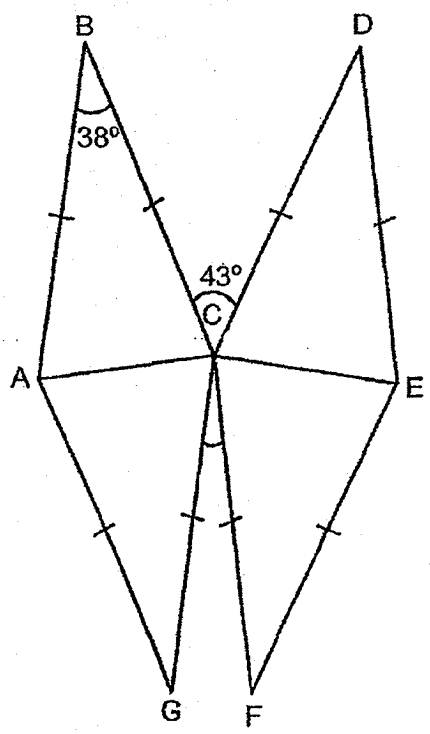
23 The receipt below shows the cost of 3 dresses Mrs Koh bought. The cost of Dress C was 20% of the total cost of the 3 dresses. Find the total cost of the 3 dresses.



Ans: $ _____

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24 In the figure, ABC, CDE, EFC and CGA are identical isosceles triangles. $\angle ABC = 38°$ and $\angle BCD = 43°$. Find $\angle GCF$.



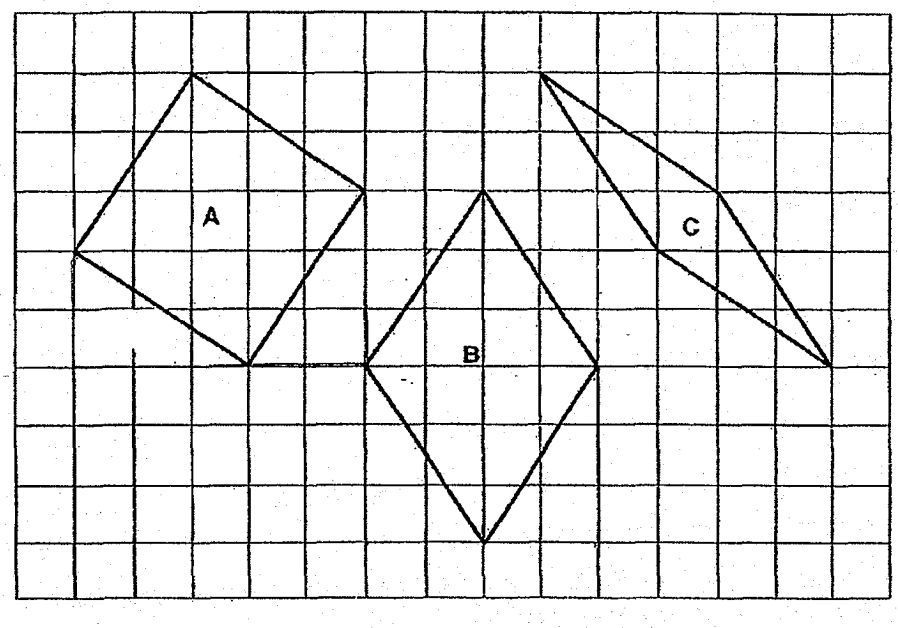
Ans: _____ °

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25 Three rhombuses, A, B and C are shown in the square grid below.

Do not write in this space



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
(a)	Rhombus A has the same perimeter as Rhombus C.			
(b)	Rhombus A has the same area as Rhombus B.			

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Do not write in this space

26 Figure 1 is a parallelogram. Figure 2 is made up of 7 such parallelograms. The perimeter of Figure 2 is 180 cm. What is the length of the side AB of the parallelogram?

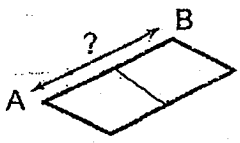


Figure 1

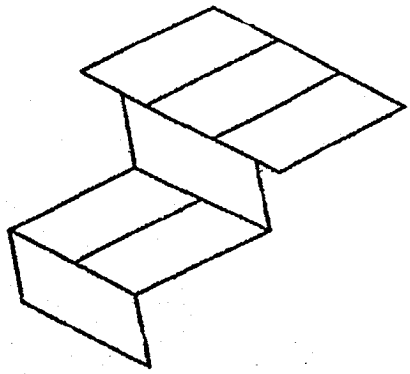


Figure 2

Ans: _____ cm

27 The average of three different 2-digit numbers is 30. Find the largest possible sum of two of the numbers.

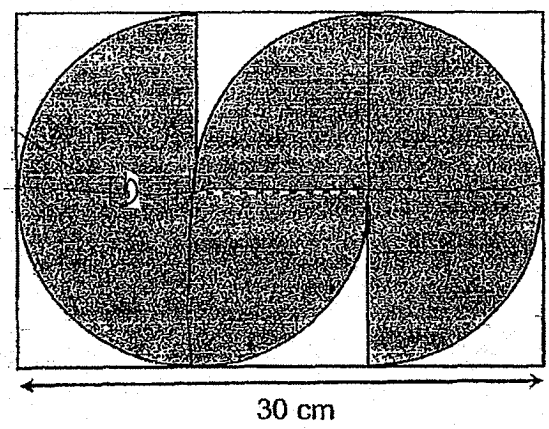
Ans: _____

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28 The figure shows 2 identical three-quarter circles on a rectangle. Given that the length of the rectangle is 30 cm, find the area of the unshaded parts of the figure. (Take $\pi = 3.14$)

Do not write in this space



Ans: _____ cm^2

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29 Figure 1 shows a cuboid measuring 5 cm by 7 cm by 10 cm. The base of the cuboid is shaded. Figure 2 shows the net of the cuboid.

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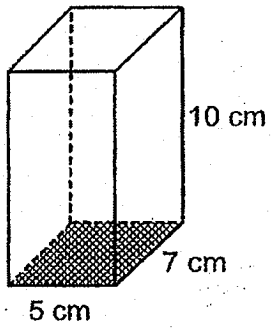


Figure 1

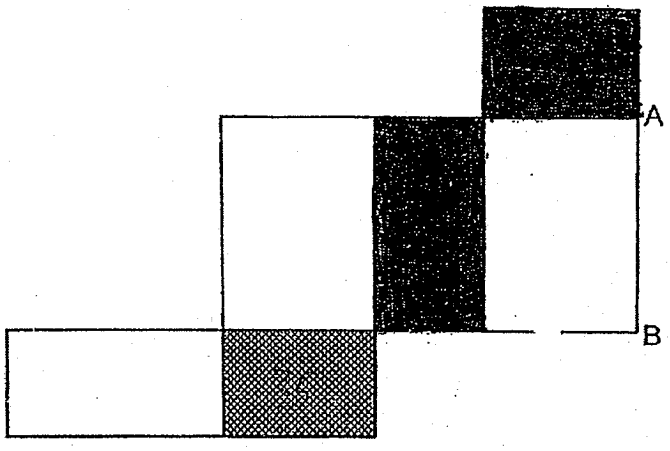


Figure 2

(a) Find the length of side AB of the net in Figure 2.

(b) Shade two more faces in Figure 2 so that the total shaded area of the net is 120 cm^2.

Ans: (a) _____ cm

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30 Mr Tan is between 30 and 70 years old. This year, his age is a multiple of 6. Next year, his age will be a multiple of 7. How old is Mr Tan this year?

Do not write in this space

Ans: _____ years

End of Paper 1

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HENRY PARK PRIMARY SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 2

Parent's Signature

_____

Name: _____ ( )

Class: Primary 6___ _____

/ 55

Time for Paper 2: 1 hour 30 minutes

Do not turn over this page 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.

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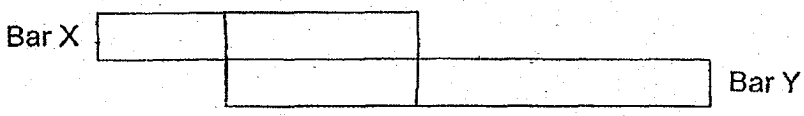
Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

Do not write in this space

1 $\frac{3}{5}$ of the length of Bar X is glued to $\frac{2}{5}$ of the length of Bar Y as shown.

Find the ratio of the length of Bar X to the length of Bar Y. Express your answer in the simplest form.



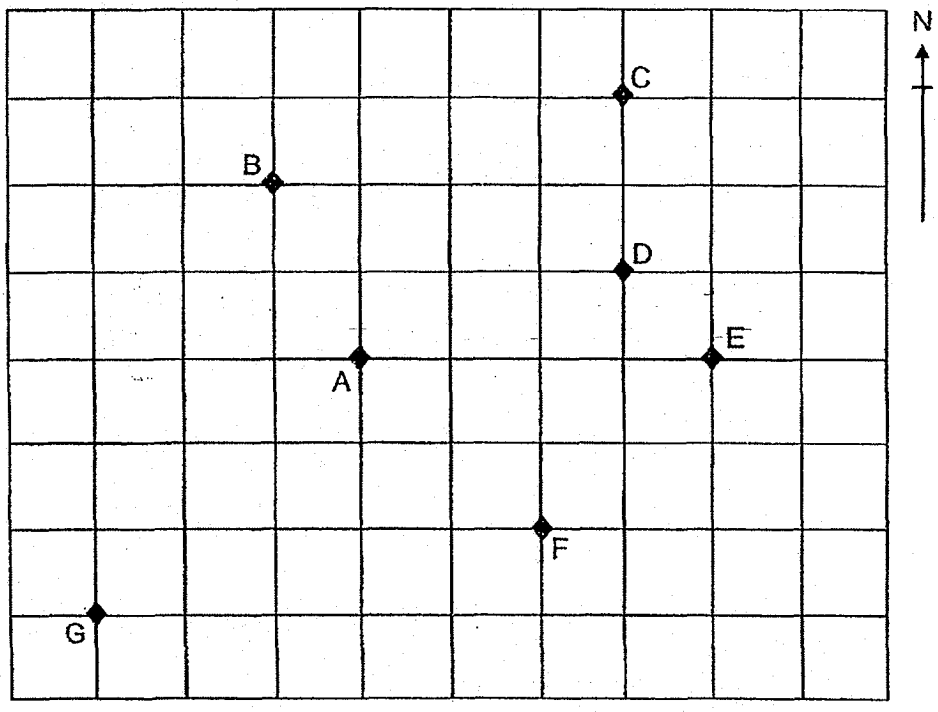
Ans: _____

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2 Seven places of interest, A, B, C, D, E, F and G, of a town are shown in the square grid below.

Do not write in this space



(a) In which direction is D from E?

(b) Mr Lee is at one of the places of interest. He is facing C. When he turns 270° anti-clockwise, he faces F. Which place of interest is Mr Lee at?

Ans: (a) _____

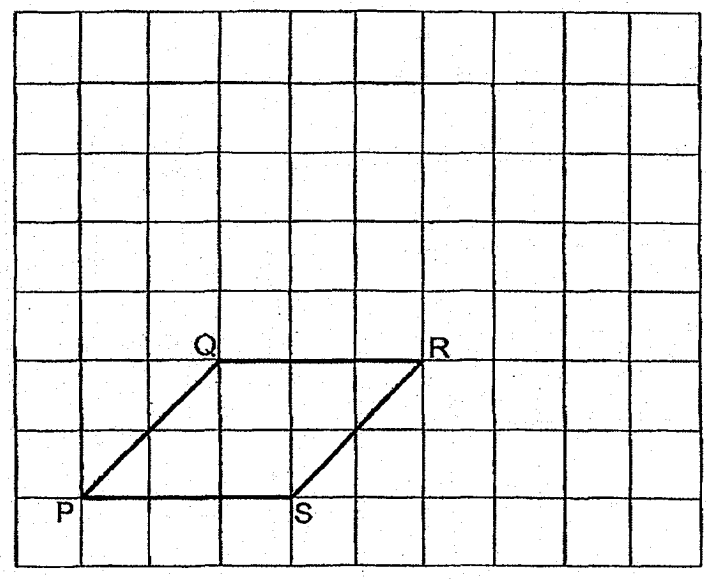
(b) _____

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3 The figure below shows a parallelogram PQRS drawn on the square grid.

Do not write in this space



(a) Draw an isosceles triangle PXY in the square grid such that PX is twice of PS, PX = XY and ∠PXY is 90°.
Triangle PXY does not overlap with parallelogram PQRS.

(b) What is the ratio of the area of triangle PXY to the area of parallelogram PQRS? Express your answer in the simplest form.

Ans: (b) _____

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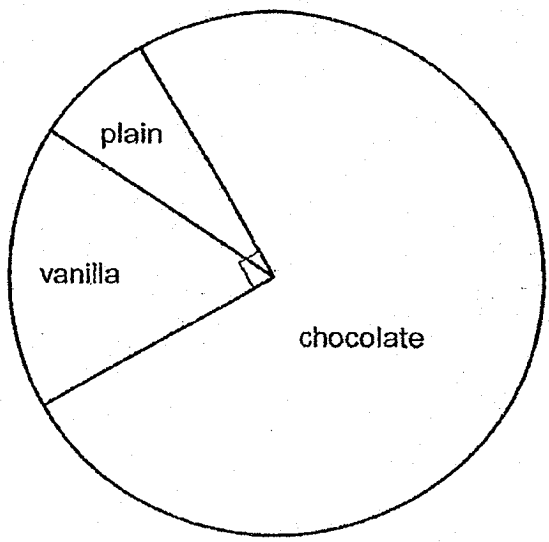
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4 The pie chart below shows the different types of muffins in a bakery.

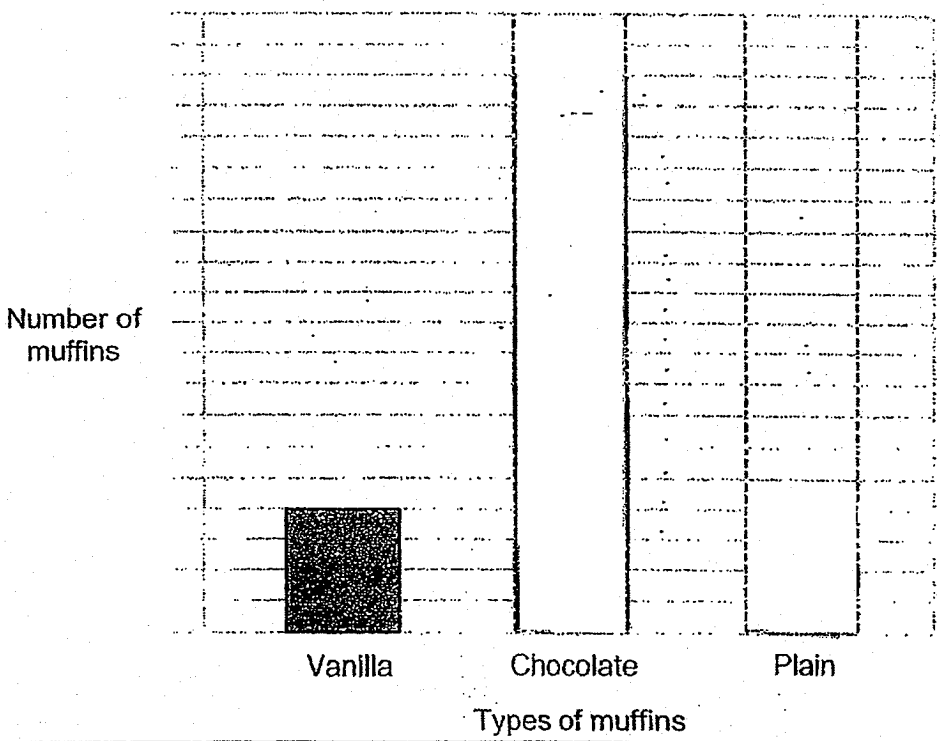
Do not write in this space

$\frac{1}{4}$ of the muffins were either vanilla or plain.

There were twice as many vanilla muffins as plain muffins.



The different types of muffins are also represented by the bar graph below. Draw the bars for the number of chocolate muffins and plain muffins.

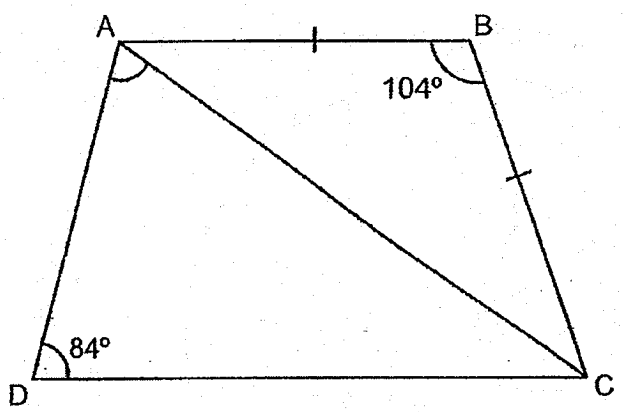


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5 In the figure, ABCD is a trapezium, ABC is an isosceles triangle, $\angle ADC = 84°$ and $\angle ABC = 104°$. Find $\angle CAD$.

Do not write in this space



Ans: _____ °

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

(45 marks)

Do not write in this space

6 Ali, Ben and Chen have an average of 42 stamps. Ali has y stamps, Ben has 4 times as many stamps as Ali and Chen has 27 stamps less than Ben.

(a) Find the number of stamps Chen has in terms of y.

(b) How many stamps does Ali have?

Ans: (a) _____ [1]

(b) _____ [2]

7 The ratio of the volume of water in Jug A to the volume of water in Jug B is 8 : 3. After 50 ml of water was poured from Jug A to Jug B, Jug A had twice amount of water as Jug B. How much water was there in Jug B in the end?

Ans: _____ [3]

(Go on to the next page)

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8 25% of the coins in a coin box are 50-cent coins, 35% are 20-cent coins and the rest are 10-cent coins. The total amount of money in the box is $28.20. How many 10-cent coins are there in the box?

Do not write in this space

Ans: _____ [3]

9 At a minimart, rice is sold in bags of different masses as shown below.

Mass per bag	Cost per bag
1-kg	$4.40
2-kg	$8.05
5-kg	$19.90

What is the least amount of money that a customer has to pay to buy 16 kg of rice?

Ans: _____ [3]

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10 Figure 1 is made up of 5 identical rectangles. The area of Figure 1 is 375 cm^2. The rectangles are rearranged into Figure 2. Find the perimeter of Figure 2.

Do not write in this space

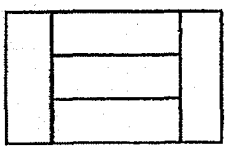


Figure 1

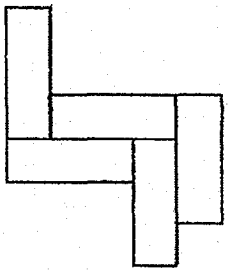


Figure 2

Ans: _____ [3]

11 Aisyah and Jenny competed in a 200-m race. Both did not change their speeds from start to finish. Aisyah ran at 8 m/s and Jenny ran at a speed 3 m/s slower than Aisyah. How far was Jenny from Aisyah when Aisyah reached the finishing line?

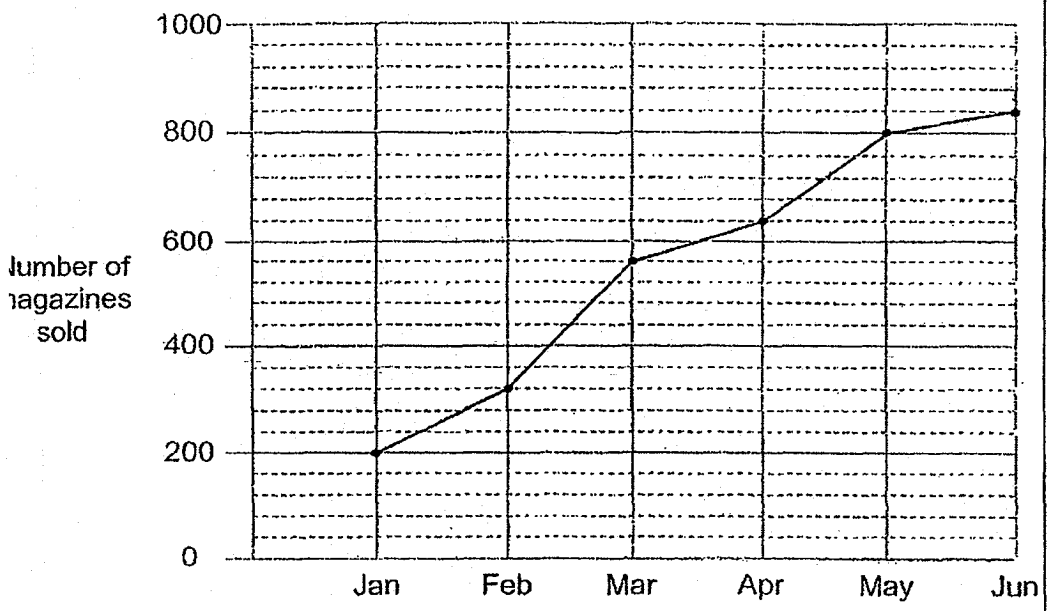
Ans: _____ [3]

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12 The graph below shows the number of magazines sold each month by a new publishing company from January to June.

Do not write in this space



(a) What was the percentage increase in the number of magazines sold in March compared to January?

(b) What was the average increase in the number of magazines sold per month from January to June?

Ans: (a) _____ [2]

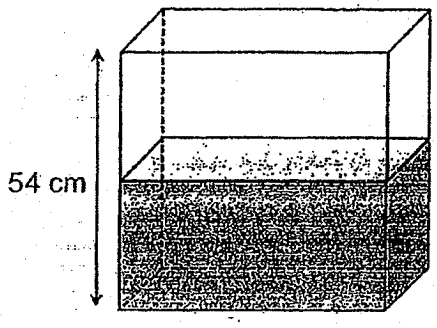
(b) _____ [2]

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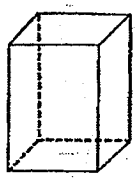
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13 Two rectangular tanks, A and B, are shown below. The height of Tank A is 54 cm. After Annie poured 41 472 cm^3 of water into an empty Tank A, it was $\frac{4}{9}$ filled as shown below.

Do not write in this space



Tank A



Tank B

(a) Find the base area of Tank A.

(b) After Annie poured some water from Tank A into an empty Tank B, the height of the water level in Tank A decreased to 21.5 cm. Given that the base area of Tank B is 270 cm^2, find the height of the water level in Tank B.

Ans: (a) _____ [1]

(b) _____ [3]

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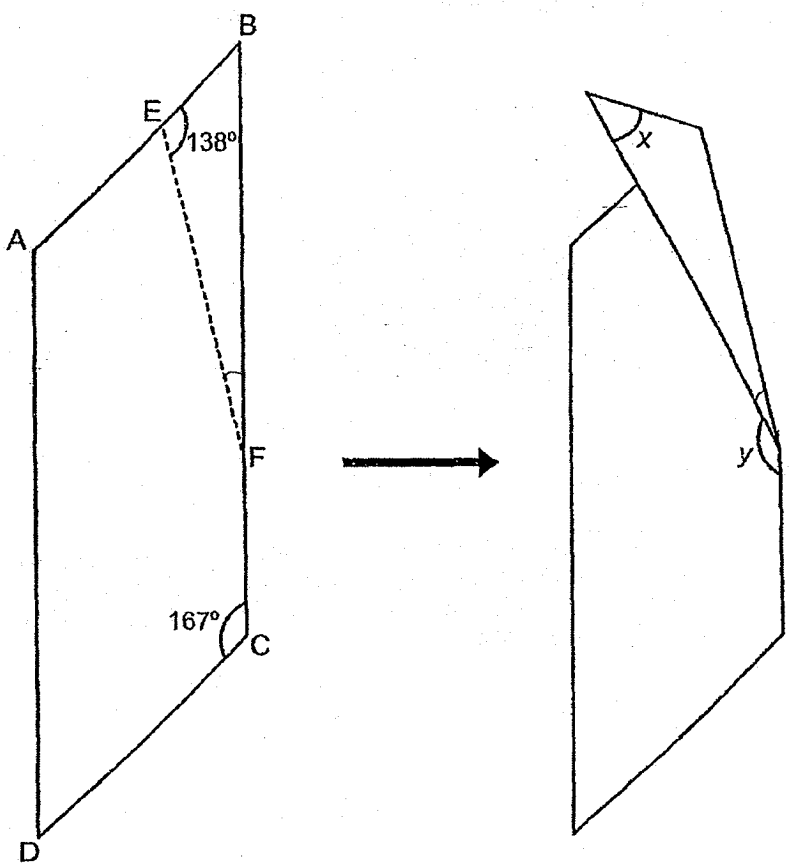
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14 Shiva has a piece of paper, ABCD, in the shape of a parallelogram. He folded it along the line EF as shown below. Given that $\angle BCD = 167°$, $\angle BEF = 138°$, AE and BFC are straight lines, find:

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(a) $\angle x$,

(b) $\angle y$.



Before folding

After folding

Ans: (a) _____ [1]

(b) _____ [3]

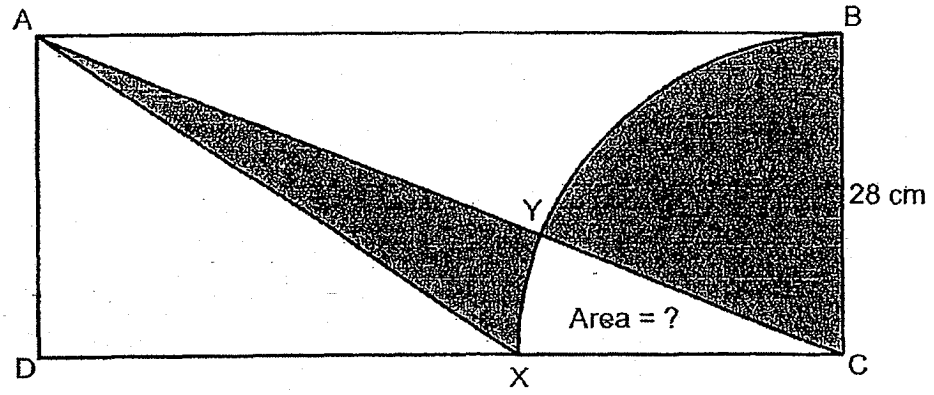
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15 In the figure below, ABCD is a rectangle and BCX is a quarter circle. The length of BC is 28 cm. The total area of the shaded parts of the figure is 514 cm^2. Find the area of the unshaded part CXY of the figure.

(Take $\pi = \frac{22}{7}$)

Do not write in this space



Ans: _____ [5]

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16 $\frac{3}{8}$ of Abby's savings was \$100 more than $\frac{1}{3}$ of Betty's savings. After Abby spent $\frac{5}{8}$ of her savings and Betty spent $\frac{1}{2}$ of her savings, Betty had \$30 more than Abby. Find Betty's savings at first.

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Ans: _____ [5]

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17 Farah uses black and white buttons to form figures that follow a pattern. The first four figures are shown below.

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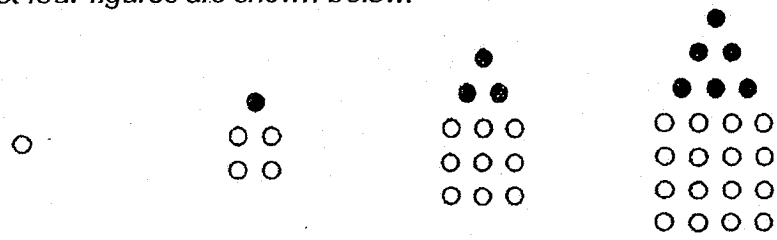


Figure 1 Figure 2 Figure 3 Figure 4

(a) The table shows the number of black and white buttons used for each figure. Complete the table for Figure 5.

Figure Number	1	2	3	4	5
Number of black buttons	0	1	3	6	
Number of white buttons	1	4	9	16	
Total number of buttons	1	5	12	22	

[1]

(b) A figure in the pattern has a total of 176 black and white buttons. What is the Figure Number?

(c) A figure in the pattern has 784 white buttons. How many black buttons are there in that figure?

Ans:(b) Figure _____ [2]

(c) _____ [2]

End of Paper 2

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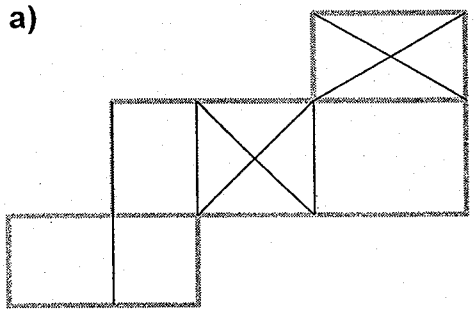
SCHOOL : HENRY PARK PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	3	4	3	1	2	2	3	2	4

Q 11	Q12	Q13	Q14	Q15
2	1	3	3	2

PAPER 1 BOOKLET B

Q16)	12.5
Q17)	28/15
Q18)	7.949
Q19)	9:4
Q20)	$870
Q21)	7 X 3 X 5 = 105cm3
Q22)	1.25 + 0.75 + 0.45 x 3 = $3.35
Q23)	$300
Q24)	33°
Q25)	a)True b)False
Q26)	20cm
Q27)	80
Q28)	129cm2
Q29)	**a)**  **b)10cm**
Q30)	48 years

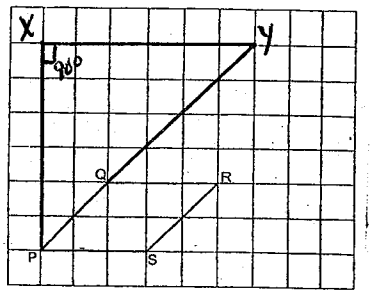
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PAPER 2

Q1) 10 : 15
2 : 3

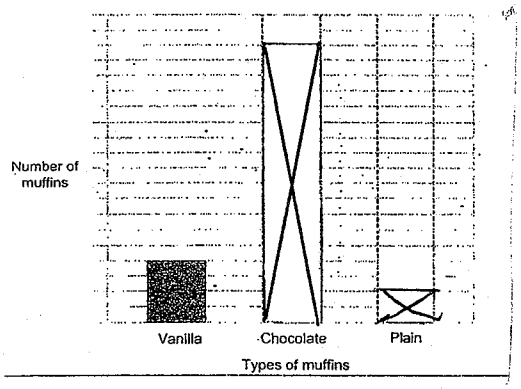
Q2) a)North-west
b)A

Q3) a)



b)3 : 1

Q4)



Q5) $\angle BAD = (180° - 104°) \div 2 = 38°$
$\angle CAD = 180° - 84° - 38° = 58°$

Q6) a)$(4y - 27)$
b)$9y - 27 = 126$
$9y = 153$
$Y = 153 \div 9 = 17$

Q7)

A	B	C
8u x 3 = 24u	3u x 3 = 9u	11u x 3 = 33u
– 50	+ 50	
22u	11u	11u x 3 = 33u

2u = 50
u = 50 ÷ 2 = 25
25 x 11 = 275ml

Q8) 48

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Q9)	3 5kg + 1 1kg = 3 x 19.90 + 4.40 = $64.10 2 5kg + 3 2kg = 2 x 19.90 + 3 x 8.05 = $63.95
Q10)	375÷ 5 = 75 3u = 75 U = 75÷2 = 25 U = $\sqrt{25}$ = 5 (30+25) x 2 =110cm
Q11)	8 – 5 =3 200÷ 8 x 3 = 75m
Q12)	a)560 – 200 = 360 360/200 x 100 = 180% b)120 + 240 + 80 + 160 + 40 = 640 640÷5 = 128
Q13)	a)41472÷4 x 9 = 93312 93312÷54 = 1728cm2 b)54 x 4/9 = 24 24 – 21.5 = 2.5 2.5 x 1728 = 4320 4320÷270 = 16cm
Q14)	a)∠180° – 167° = 13° ∠BFE = 180° – 138° – 13° = 29° ∠180° – 29° x 2 = 122°
Q15)	A + X = 28 x 28 x ½ = 392 B + X = 28 x 28 x 22/7 x ¼ = 616 A + B + 2 X = 1008 A + B = 514 2X = 1008 – 514 = 494 X = 494÷2 = 247cm2
Q16)	8u x 3/8 – 100 = 1/3 x (6u+60) 3u – 100 = 2u + 20 U = 120 120 x 6 + 60 = $780
Q17)	a)10 , 25 , 35 b)11 c)378

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