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.

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)

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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.

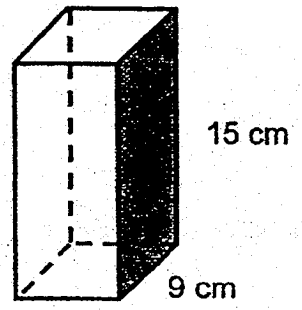
(1) 1.036 litres

(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.



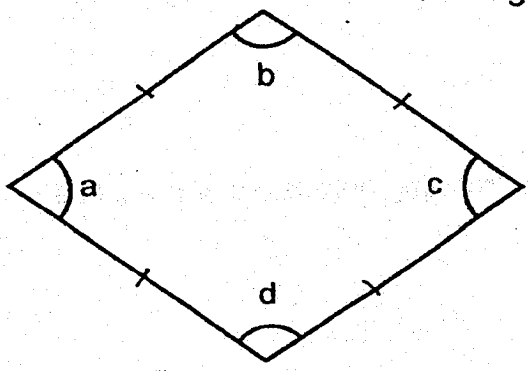
(1) 1080 cm^2

(2) 135 cm^2

(3) 120 cm^2

(4) 72 cm^2 ( )

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



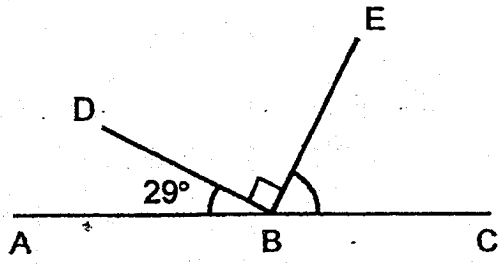
(1) $\angle a = 90°$?

(2) $\angle b = \angle c$ ×

(3) $\angle b + \angle d = 180°$ ×

(4) $\angle a + \angle b = 180°$ ✓ ( )

7 In the figure, ABC is a straight line. ∠DBE = 90° and ∠DBA = 29°. Find ∠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.

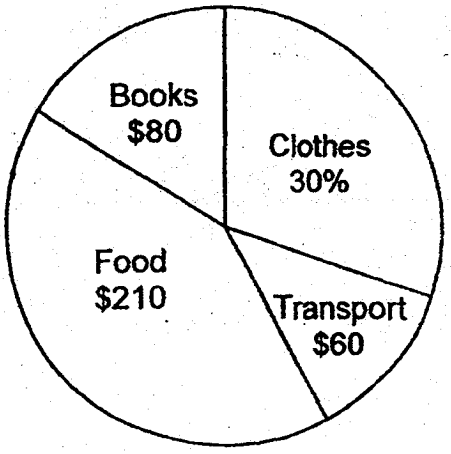
(1) 5 : 14 : 19

(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?



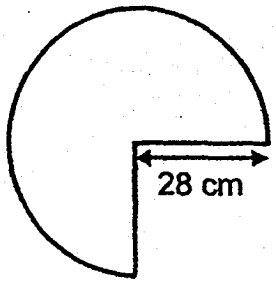
(1) $70
(2) $150
(3) $190
(4) $500 ( )

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...
1st 16th

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

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



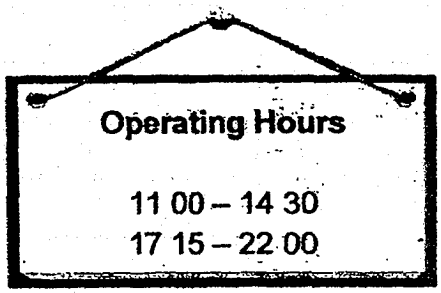
(1) 132 cm

(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?

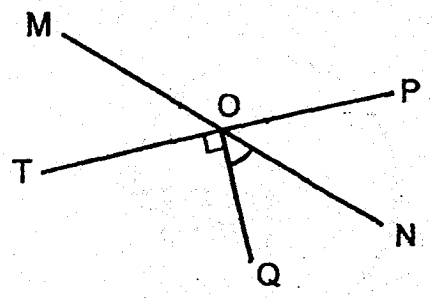
(1) 11 h 15 min

(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. ∠MOP is twice the size of ∠MOT. Find ∠NOQ.



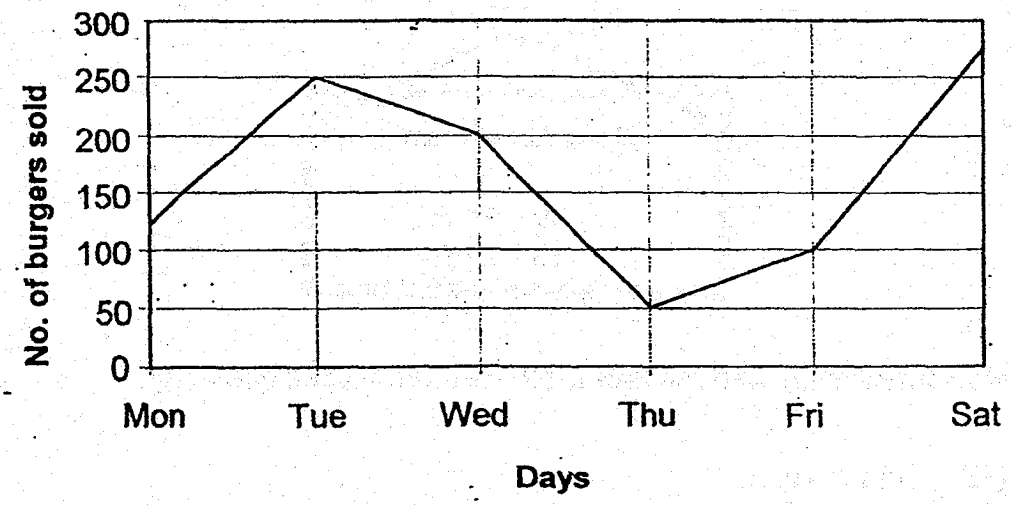
(1) 30°

(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

Parent's signature

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. 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

This booklet consists of 7 printed pages, excluding the cover page.

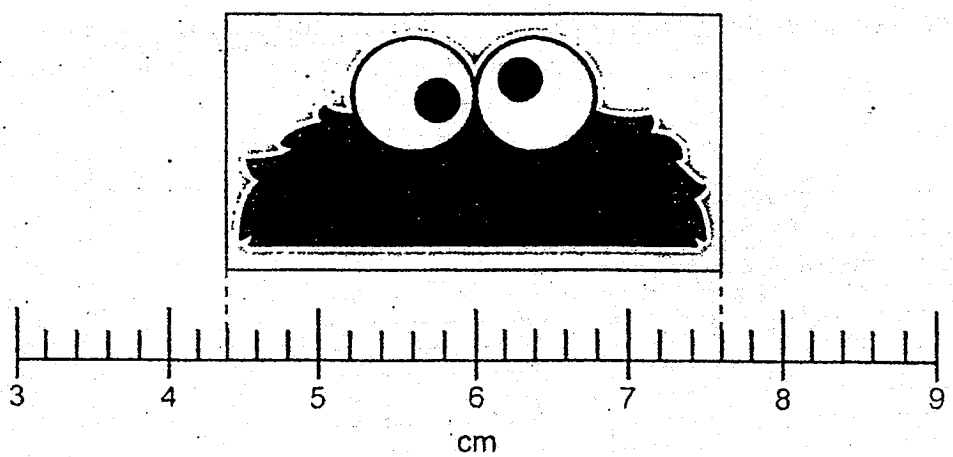
Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

Do not write in this space

16 Find the value of 12.3 – 0.99.

Ans: _____

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



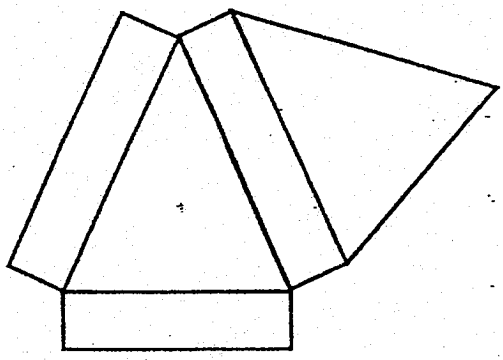
Ans: _____ cm

18 Express 0.035 as a percentage.

Ans: _____ %

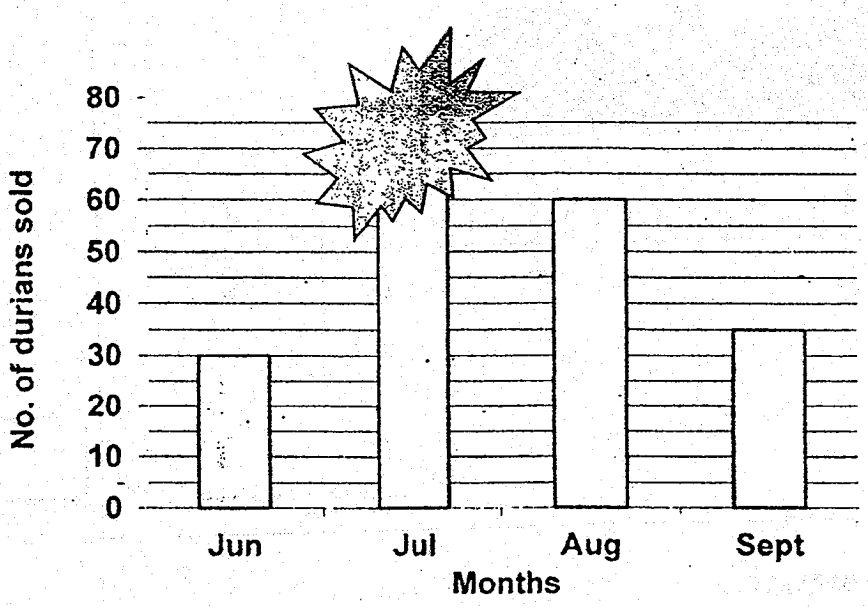
Do not write in this space

19 Name the solid formed by the following net.



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.

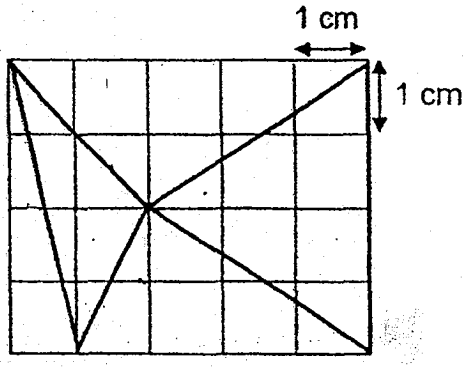
Ans: _____

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: $ _____

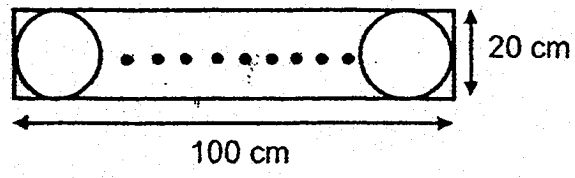
23 The figure below shows 2 shaded triangles. Find the total area of the shaded triangles.



Ans: _____ cm^2

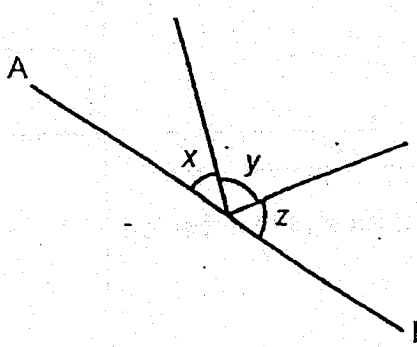
Do not write in this space

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: _____ cm^2

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: _____

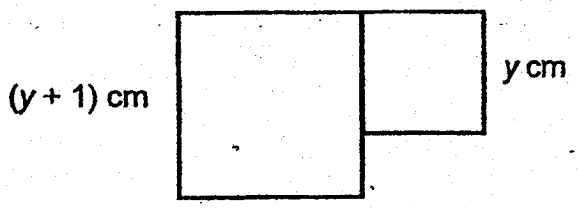
27 The table below shows the number of hamsters owned by a group of children. The total number of hamsters owned by the children is 88. How many children owned 2 hamsters?

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

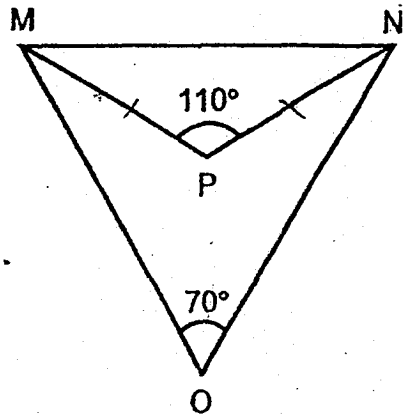
29 Muthu sold 147 marbles on Monday. He sold $\frac{3}{7}$ of the remainder on Tuesday and had half of his marbles left. Find the number of marbles he sold altogether.

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 (✓) in the correct column.

In the figure below, MNO and MNP are triangles. PM = PN, ∠MPN = 110° and ∠MON = 70°.



Statement	True	False	Not possible to tell
(a) ∠MNP is 35°.			
(b) ∠OMP = ∠ONP = 20°			

-- 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

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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)

Do not write in this space

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?

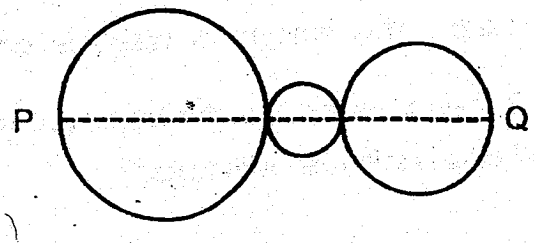
Ans: _____

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: $ _____

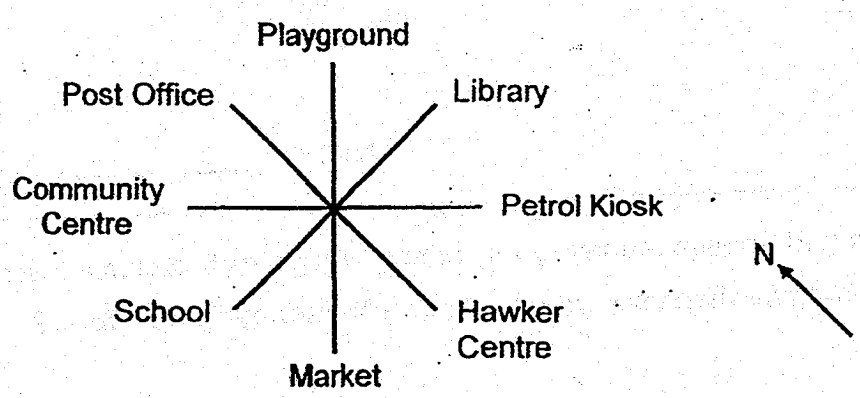
Do not write in this space

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.



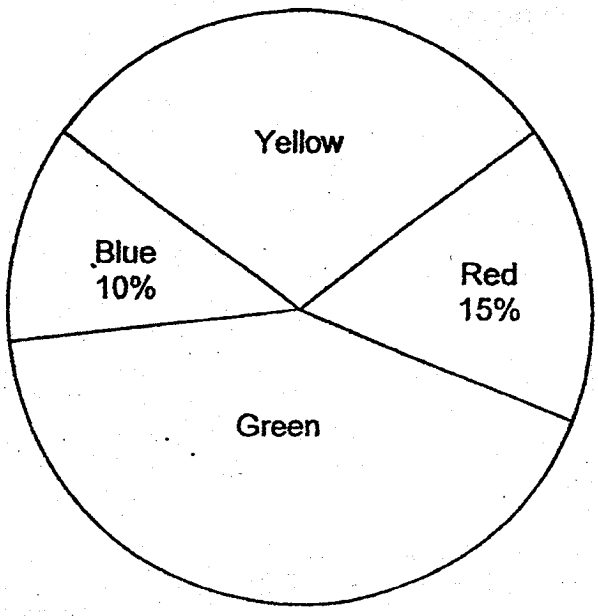
Jasmine is facing the south-west direction at first. Which location will she be facing after making a 135° anti-clockwise turn?

Ans: _____

Do not write in this space

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?

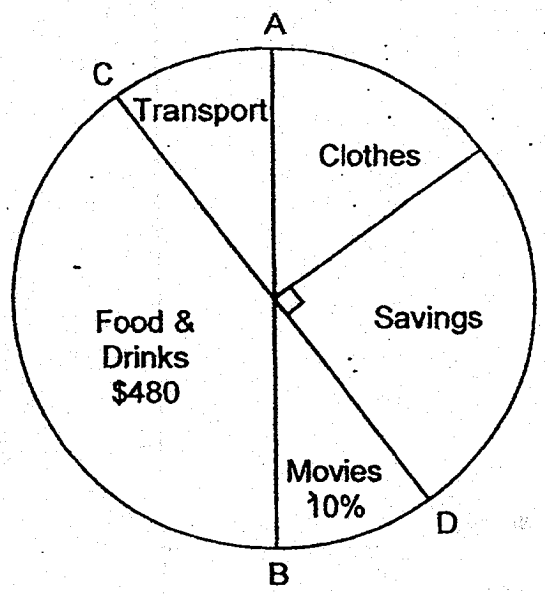
Ans: _____ [3]

Do not write in this space

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]

Do not write in this space

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]

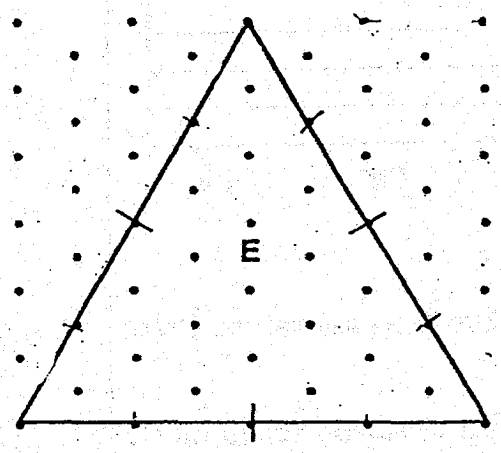
Do not write in this space

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]

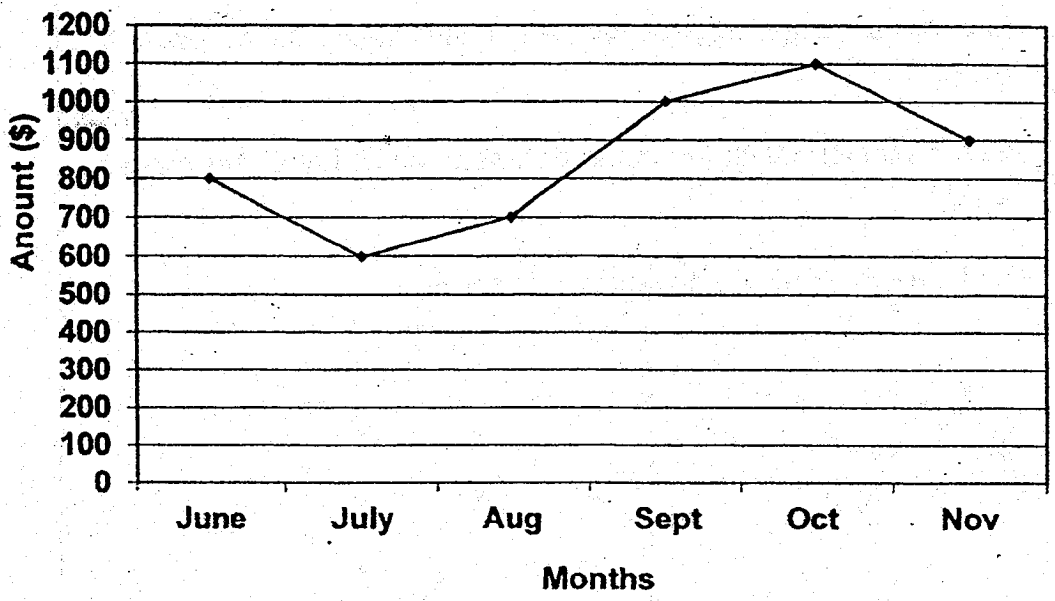
(c) Find the sum of all the angles in E, T and R.



Ans: (c) _____ [1]

Do not write in this space

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]

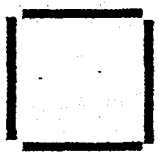
Do not write in this space

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]

Do not write in this space

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



She then formed a pattern using more of the sticks.

(a) How many sticks are used to form 13 squares?

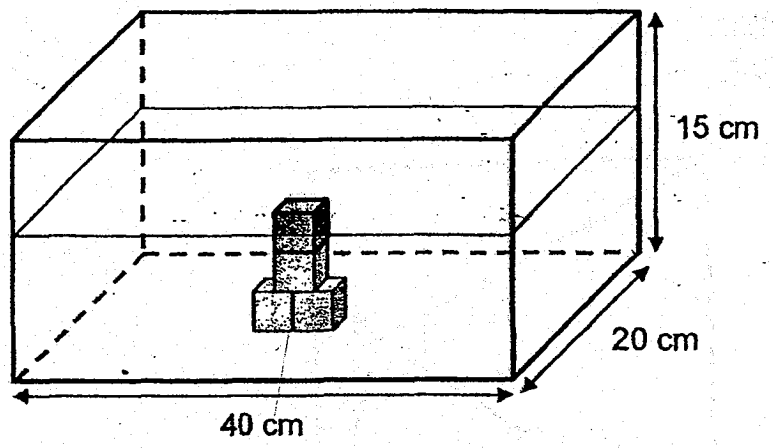
(b) How many squares are formed using 100 sticks?.

Ans: (a) _____ [2]

(b) _____ [2]

Do not write in this space

15 Study the figure below.



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.

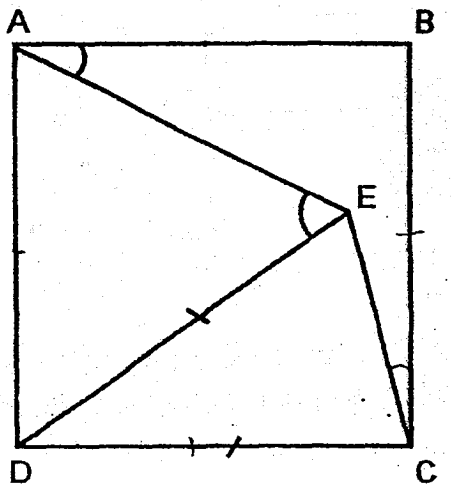
Ans: _____ [4]

Do not write in this space

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

(a) Find ∠AED.

(b) Find ∠BAE.



Ans: (a) _____ [4]

(b) _____ [1]

Do not write 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]

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) cm

Q29) 588 marbles

Q30) a: true b: Not possible to tell

PAPER 2

Q1) 5 cups → $\frac{3}{4}$

1 cup → $\frac{3}{4} \div 5$

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

$5 - 2 = 3$

3 cups → $\frac{3}{20} \times 3$

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

Q2) $9 - 6 = 3$

3 brooms → $3.85 \times 6 = \$23.10$

1 broom → $23.10 \div 3 = \$7.70$

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

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

Q4) $90 \div 2 = 45$

$90 + 45 = 135$

= Library

Q5) Y : G

2 : 3 (5u)

5u → $100 - 10 - 15 = 75\%$

1u → $75 \div 5 = 15\%$

3u → $15 \times 3 = \underline{45\%}$

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

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

Q8) $\frac{1}{2}$ B → 600 x 2 = 1200g

B → 1200 x 2 = 2400g

A → 1200 + 600 = 1800g

A + B + C → 1800 + 2400 + 600 = <u>4800g</u>

Q9) Movies = Transport = 10%

Clothes → (100% ÷ 2) – 25 – 10

= 15%

Food and drinks → (100% ÷ 2) – 10

= 40%

40% → $480

1% → 12

15% → 12 x 15 = <u>$180</u>

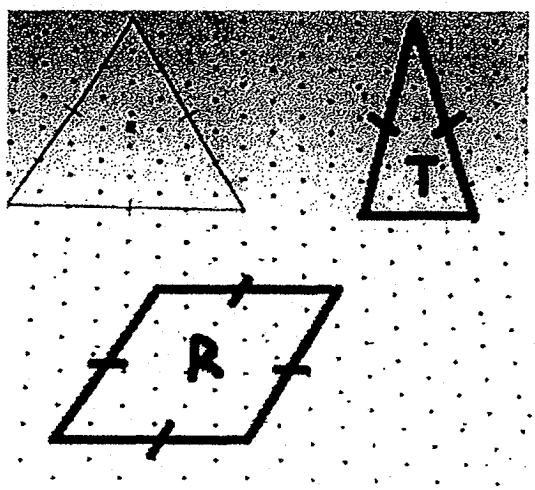
Q10) S → 40 + 10 = 50km/h

D → 160km

T → $160 \div 50 = 3\frac{1}{5}$ h

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

Q11)



Q11c) (180 x 2) + 360 = <u>720°</u>

Q12a) 800 + 600 + 700 + 1000 + 1100 + 900 = 5100

5100 ÷ 6 = <u>$850</u>

Q12b) D : N : W

4 : 5 : 3 (12u)

12u → 900

1u → 900 ÷ 12 = 75

5u → 75 x 5 = <u>$375</u>

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

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

Otah : curry

1u + 70 : 1u

20u + 70 : 20u

-15u -52.5 : -12u

5u + 17.5 : 8u

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

70 – 52.5 = 17.5

15u -12u = 3u

3u + 52.5 = 126

3u → 126 -52.5 = $73\frac{1}{2}$

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

Otah buns 5u → $122\frac{1}{2}$

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

Curry buns 8u → 196

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

Q14a) sticks → (13 x 3) +1 = <u>40 sticks</u>

Q14b) squares → (100 – 1) ÷ 3 = <u>33 squares</u>

Q15) Base area of tank: 40 x 20 = 800
Base area of 2 cubes: 6 x 3 = 18
Layer 1: (800 – 18) x 3 = 2346cm^3
Base area of 1 cube: 3 x 3 = 9
800 – 9 = 791
Amount of water at layer 2: 5747.3 – 2346 = 3401.3cm^3
3401.3 ÷ 791 = 4.3
4.3 + 3 = <u>7.3cm</u>

Q16a) 90 ÷ 5 = 18
<DCE → 18 x 4 = 72
<EDC → 180 – (72 x 2) = 36
<ADE → 90 – 36 = 54
<AED → (180 – 54) ÷ 2 = <u>63°</u>

Q16b) <BAE → 90 – 63 = <u>27°</u>

Q17) R : G : T
7 : 3 : 2 (12u)
1u → 320
15u → 320 x 15 = <u>4800</u>