



PEI HWA PRESBYTERIAN PRIMARY SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS PAPER 1
(BOOKLET A)

22 AUGUST 2017

Name : _____

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

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

Total time for Booklets A and B: 50min

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.

Paper 1 (Booklet A)

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.

You are not allowed to use a calculator.

(20 marks)

1 6 hundreds, 5 tenths and 4 thousandths is _____.

(1) 600.054

(2) 600.504

(3) 600.540

(4) 650.004

()

2 The value of $\frac{3}{5} \div \frac{1}{2}$ is the same as _____.

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

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

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

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

()

3 Which of the following has the greatest value?

(1) 0.6

(2) 0.68

(3) 0.601

(4) 0.657

()

- 4 Timothy attended a sports carnival from 9.50 a.m. to 3.05 p.m.. How long was the sports carnival?

(1) 3 h 55 min

(2) 5 h 15 min

(3) 5 h 55 min

(4) 6 h 45 min

()

- 5 Karis has 50 identical coins of the same value which amount to \$25. What is the value of each coin?

(1) 5 cents

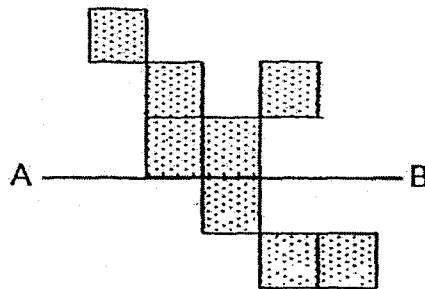
(2) 10 cents

(3) 20 cents

(4) 50 cents

()

- 6 The figure below shows 8 squares. What is the smallest number of squares that must be added so that line AB will be the line of symmetry?



(1) 7

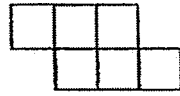
(2) 6

(3) 5

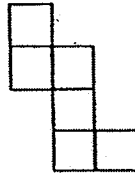
(4) 4

()

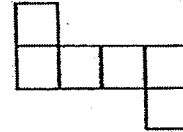
7 Which of the following figures are nets of a cube?



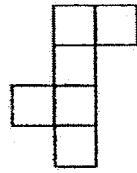
A



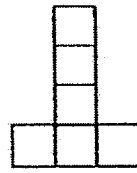
B



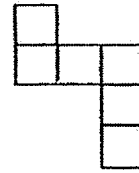
C



D



E



F

(1) A, B, C and D

(2) A, B, E and F

(3) B, C, D and E

(4) C, D, E and F

()

8 Ahmad's savings is $3\frac{1}{5}$ times that of Bala's. Find the ratio of Ahmad's savings to Bala's savings.

(1) 9 : 5

(2) 5 : 9

(3) 16 : 5

(4) 5 : 16

()

9 Express 0.804 as a percentage.

(1) 0.804%

(2) 8.04%

(3) 80.4%

(4) 804%

()

10 A motorist travelled at an average speed of 80 km/h and reached his destination in 120 min. Find the distance travelled by the motorist.

(1) 160 km

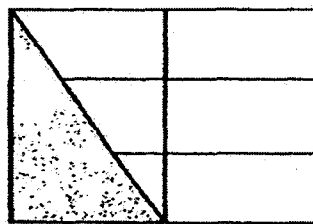
(2) 96 km

(3) 9600 km

(4) 40 km

()

11 The figure below is made up of 5 identical rectangles. What fraction of the figure is shaded?



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

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

(3) $\frac{3}{10}$

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

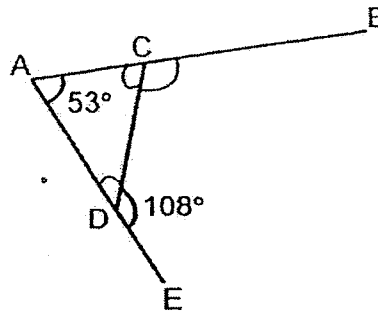
()

- 12 The length of each side of a square is an odd number. What is a possible perimeter of the square?

- (1) 16 cm
- (2) 20 cm
- (3) 24 cm
- (4) 32 cm

()

- 13 In the figure below, $\angle CAD$ is 53° and $\angle CDE$ is 108° . Find $\angle BCD$.



- (1) 72°
- (2) 125°
- (3) 127°
- (4) 161°

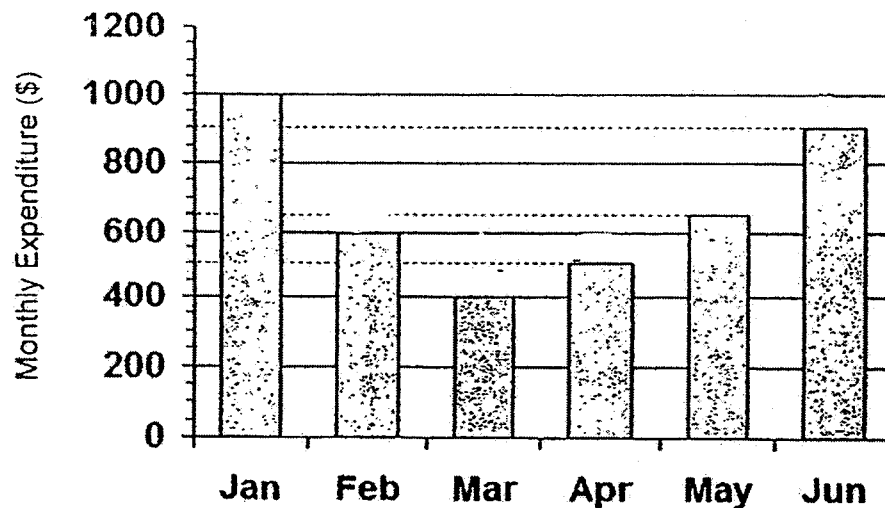
()

- 14 Hannah spent $\frac{4}{5}$ of her pocket money to buy 8 pens. She wanted to buy another 8 similar pens but found that she was short of \$12. What was the price of 1 pen?

- (1) \$1.20
 (2) \$1.50
 (3) \$2.00
 (4) \$4.00

()

- 15 The bar graph below shows Debbie's expenditure on beauty products for the first half of the year.



In which month did she spend $\frac{3}{5}$ of her combined expenditure in January and April?

- (1) February
 (2) March
 (3) May
 (4) June

()

PRELIMINARY EXAMINATION

PRIMARY 6 MATHEMATICS PAPER 1 (BOOKLET B)

22 AUGUST 2017

Name : _____

Parent's signature

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

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

Total time for Booklets A and B: 50min

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) :	20
Total Marks (Booklets A and B) :	40

Questions 16 to 25 carry 1 mark each. 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.

- 16 Express $9\frac{3}{8}$ as a decimal. Give your answer correct to 2 decimal places.

Ans: _____

- 17 Find the value of $(82 + 72 \div 9) - 30 \times 2$.

Ans: _____

- 18 0.3 of a number is 45. What is the number?

Ans: _____

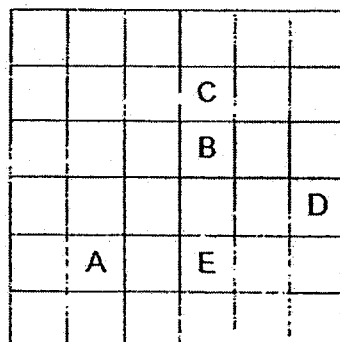
19 Express 60 l 80 ml in millilitres.

Ans: _____ ml

20 The volume of a cube is 64 cm^3 . Find the length of one side of the cube.

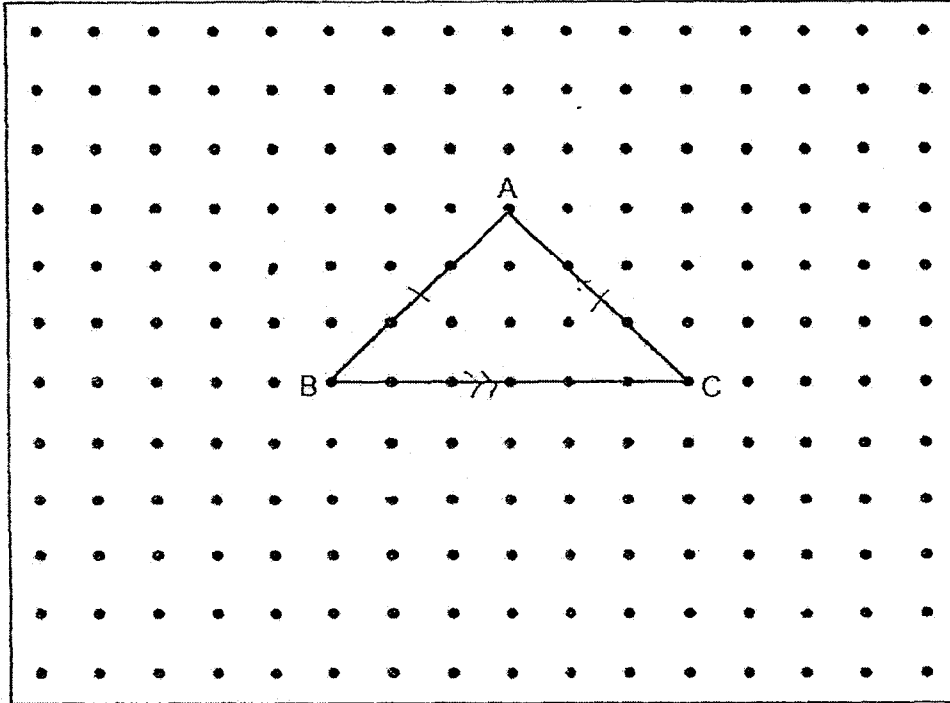
Ans: _____ cm

21 Refer to the square grid below and fill in the blanks with A, B, C, D or E.



Point _____ is north-east of Point _____.

- 22 ABC is an isosceles triangle. D is one of the dots inside the box. Draw two lines, AD and BD, to complete a parallelogram.



- 23 The usual price of a watch is \$220. What is the price of the watch after a 30% discount?

Ans: \$ _____



- 24 The table below shows the number of board games borrowed by pupils in a month.

Number of board games borrowed	0	1	2	3	4
Number of pupils	5	16	5	7	3

How many pupils borrowed 2 or more board games in that month?

Ans: _____

- 25 Find the value of $5n - 4 + \frac{3n}{2}$ when $n = 4$.

Ans: _____

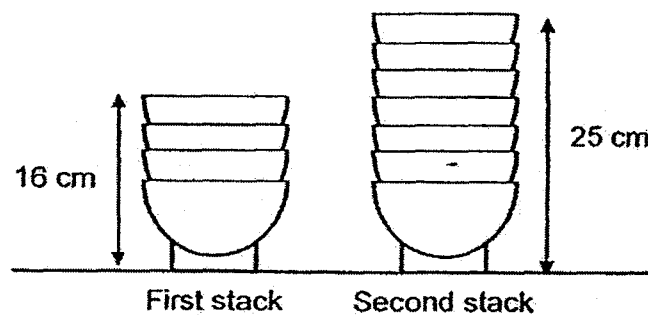
Questions 26 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space.

- 26 There are 182 chickens and cows in a farm. For every 4 chickens, there are 3 cows. How many more chickens than cows are there?

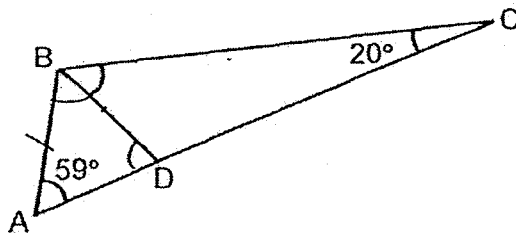
Ans: _____

- 27 Some identical bowls are stacked vertically to save space. In the figure below, the height of the first stack of 4 bowls is 16 cm. The height of the second stack of 7 bowls is 25 cm. Find the height of one such bowl.



Ans: _____ cm

- 28 The figure below shows two triangles, ABD and BDC. ADC is a straight line. DA is equal to DB. $\angle DAB$ is 59° and $\angle BCA$ is 20° . Find $\angle DBC$.

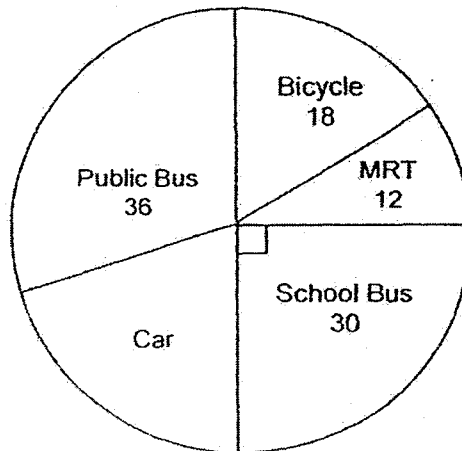


Ans: _____

- 29 There were 60 children on board a bus at first. 4 boys and 2 girls alighted from the bus. The ratio of the number of boys to the number of girls then became 4 : 5. Find the number of boys on board the bus at first.

Ans: _____

- 30 The pie chart below shows the number of pupils travelling to school by various modes of transport.



What percentage of the pupils travel by car?

Ans: _____ %

END OF PAPER 1

PRELIMINARY EXAMINATION

PRIMARY 6 MATHEMATICS PAPER 2

22 AUGUST 2017

Name: _____

Parent's signature

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

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

Total time: 1h 40min

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 :	40
Paper 2 :	60
Total Marks :	100

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 Ali has \$840 more than Baba. If Ali gives $\frac{7}{9}$ of his money to Baba, Ali will have $\frac{1}{5}$ as much money as Baba. How much money does Ali have at first?

Ans: \$ _____

- 2 Gillian stood on a weighing machine with her school bag. The total mass is shown in Figure 1.

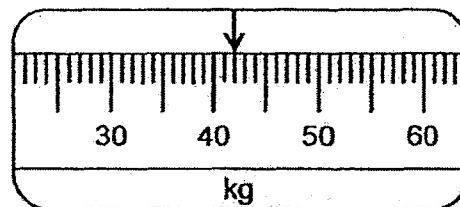


Figure 1

Gillian then put her bag on the floor. Her mass is shown in Figure 2.

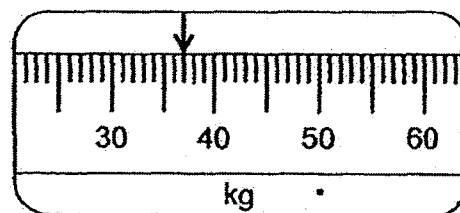


Figure 2

How heavy did Gillian's school bag weigh?

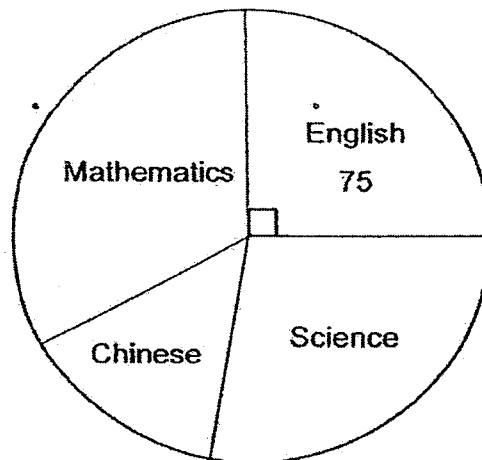
Ans: _____ kg

- 3 Mrs Fields used 20% of her flour to make some muffins and 60% of the remainder to bake some cookies. What percentage of the flour was left?

Do not write in this space

Ans: _____ %

- 4 Some pupils were asked to name their favourite subjects. The results were shown in the pie chart below.



33% of the pupils chose Science as their favourite subject. Find the total number of pupils who chose Chinese and Mathematics as their favourite subjects.

Ans: _____

- 5 In a candy store, sweets were packed in packets of 15 sweets each. Lynn bought $3c$ packets of sweets and gave 20 sweets away. How many sweets had Lynn left? Give the answer in terms of c in the simplest form.

Do not write
in this space

Ans: _____

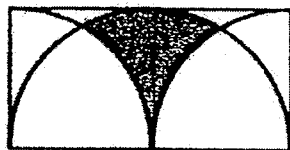
Questions 6 to 18 show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part question. (50 marks)

Do not write in this space

- 6 The number of pupils in Team A is 4 more than the number of pupils in Team B. There are 46 boys in Team A and 18 boys in Team B. The number of girls in Team A is $\frac{4}{5}$ of the number of girls in Team B. What fraction of the pupils in Team A are girls? Express your answer in the simplest form.

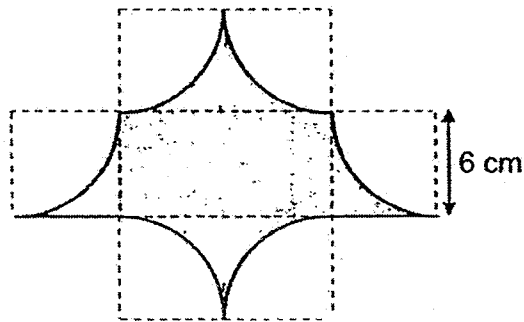
Ans: _____ [3]

- 7 The figure below consists of a rectangle, a semicircle and two identical quadrants. The diameter of the semicircle is 35 cm. Find the perimeter of the shaded region. (Take $\pi = \frac{22}{7}$)



Ans: _____ [3]

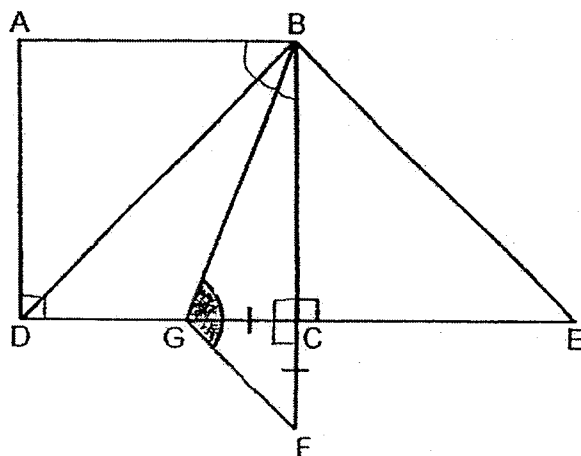
- 8 The figure below is made up of 6 identical quadrants. The radius of the quadrant is 6 cm. Find the area of the shaded part. Round off the answer to 2 decimal places. Do not write in this space



Ans: _____ [3]



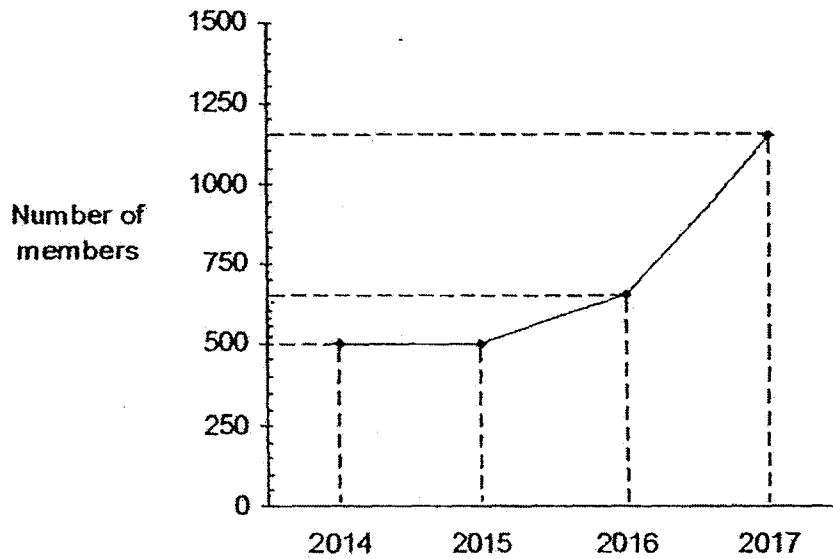
- 9 The figure below consists of a square $ABCD$, a right-angled triangle BCE and an isosceles triangle GCF . GC is equal to CF . DCE and BCF are straight lines. $\angle DBG$ is equal to $\angle GBC$. Find $\angle BGF$.



Ans: _____ [3]



- 10 The line graph shows the number of members a football club had each year from 2014 to 2017. What was the percentage increase in the number of members from 2015 to 2017? Do not write in this space



Ans: _____ [3]

- 11 The total number of children at a National Day Parade was 3760. After 400 boys and $\frac{2}{5}$ of the girls left the parade, the ratio of the number of boys to the number of girls became 3 : 1. How many more boys than girls were there at first?

Do not write
in this space

Ans: _____ [4]

- 12 Pails A, B and C contain 16 litres, 12 litres and 14 litres of water respectively.

$\frac{3}{8}$ of the water from Pail A was poured into Pail C.

Then, $\frac{1}{3}$ of the water from Pail B was poured equally into Pail A and C

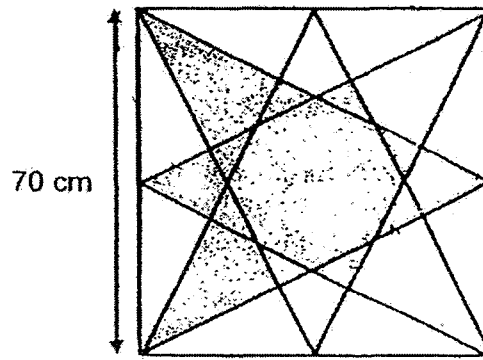
In the end, $\frac{4}{11}$ of the water from Pail C was poured back into Pail A.

How many litres of water were in Pail C in the end?

Do not write
in this space

Ans: _____ [4]

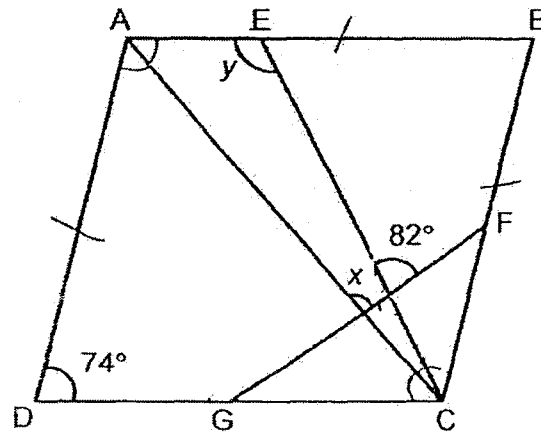
- 13 The figure below consists of a square and four identical isosceles triangles. Each side of the square is 70 cm. Find the area of the shaded region. Do not write in this space



Ans: _____ [4]



- 14 The figure below shows a rhombus, ABCD. The rhombus is divided into 6 parts using three straight lines, namely AC, EC and FG. Find the sum of $\angle x$ and $\angle y$. Do not write in this space



Ans: _____ [4]



- 15 A lorry was travelling from Town X towards Town Y at a constant speed of 60 km/h. At the same time, a car was travelling from Town Y towards Town X at a constant speed of 98 km/h. The two vehicles passed each other at a point 57 km from the midpoint between Town X and Town Y. What is the distance between Town X and Town Y?

Do not write
in this space

Ans: _____ [4]

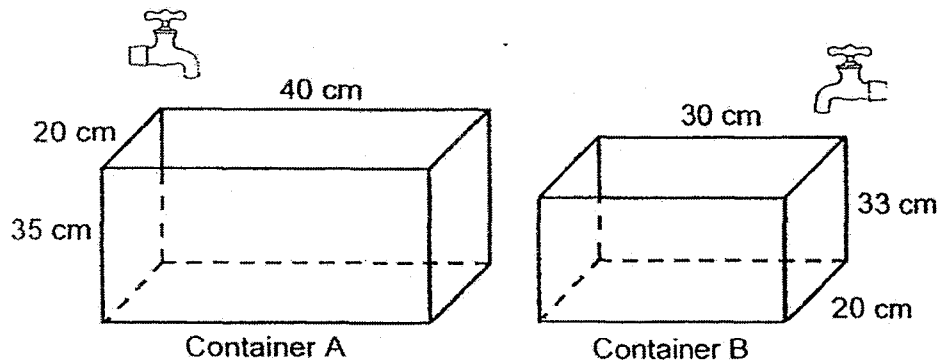
- 16 On the school's first fund-raising campaign, Class A raised 4 times as much money as Class B. On the second fund-raising campaign, Class A raised another \$480 while Class B raised another \$320. Class A raised three times as much money as Class B at the end of the two campaigns. What was the total amount of money raised by the two classes at the end of the two campaigns?

Do not write
in this space

Ans: _____ [5]

- 17 The figure below shows 2 empty containers, A and B. Container A is filled with water flowing in at a rate of 0.96 l/min . Container B is filled with water flowing in at a rate of 1.2 l/min . The tap for Container A was turned on for 10 minutes before the tap for Container B was turned on. Both taps were turned off when the water levels in both containers are equal. Find the height of the water level when the taps were turned off.

Do not write
in this space



Ans: _____ [5]



- 18 Muthu, Nora and Osman agreed to share the cost of a present for their friend. Muthu agreed to pay 35% of the cost of the present while Nora agreed to pay 20% of the remaining amount. The rest of the amount would be paid by Osman. However, when they went to buy the present, the price of the item had increased by 35%. As a result, Muthu paid \$94.50 for his share.

Do not write
in this space

- (a) What was the original price of the present?
(b) How much did Osman pay in the end?

Ans: (a) _____ [3]

(b) _____ [2]



– End of Paper 2 –

PRELIMINARY EXAM PAPER 2017

SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL
 SUBJECT : PRIMARY 6 MATH PAPER ONE BOOKLET A & B
 TERM : PRELIMINARY EXAMINATION 2017

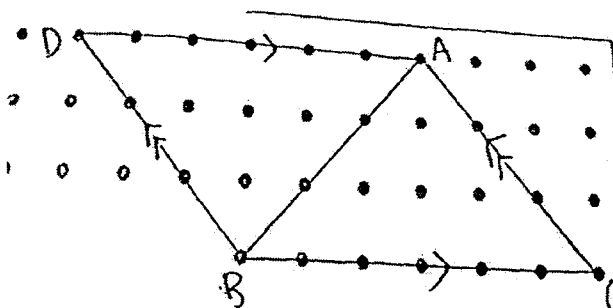
Booklet A:

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

Booklet B:

Answer:

16) 9.38 17) 30 18) 150 19) 60 080 ml 20) 4 cm 21) Point B is north east of Point A
 22)



23) \$154 24) 15 25) 22 26) 26 27) 7cm 28) 42° 29) 28 30) 20%

PRELIMINARY EXAM PAPER 2017

SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL
SUBJECT : PRIMARY 6 MATH PAPER 2
TERM : PRELIMINARY EXAMINATION 2017

PAPER 2:

Answer:

1) After Before
A: B A: B—
1: 5 9: 3
2: 10

$$6u \rightarrow 840$$

$$1u \rightarrow 840 \div 6 = 140$$

$$9u \rightarrow 140 \times 9 = 1260$$

Answer: \$1260

$$2) 42\text{kg} - 37\text{kg} = 5\text{kg}$$

Answer: 5kg

$$3) 1 - \frac{1}{5} = \frac{4}{5}$$

$$\frac{4}{5} \times \frac{3}{5} = \frac{12}{25}$$

$$1 - \frac{1}{5} - \frac{12}{25} = \frac{8}{25}$$

$$\frac{8}{25} \times 100\% = 32\%$$

Answer: 32%

$$4) \frac{1}{4} \rightarrow 75$$

$$\frac{4}{4} \rightarrow 75 \times 4 = 300$$

$$4/4 = 100/100$$

$$1/100 = 3$$

$$33/100 \rightarrow 3 \times 33 = 99$$

Science: 99

$$C+M \rightarrow 300-99-75=126$$

Answer: 126

$$6) 5u+18+4= 4u+46$$

$$1u \rightarrow 46 - 22 = 24$$

$$4u \rightarrow 24 \times 4 = 96$$

$$G/\text{total (A)} = 96/142 = 48/71$$

$$\text{Total (A)} \rightarrow 96+46= 142$$

Check

$$\text{Girls in B} \rightarrow 120$$

$$96/120 = 4/5$$

Answer: 48/71

$$7) 35 \div 2 = 17.5$$

$$1/4 \times 22/7 \times 35 = 27.5$$

$$27.5 \times 2 = 55$$

Answer: 55cm

$$8) 12 \times 6 = 72$$

$$\text{Area of boomerang} \rightarrow (6 \times 6) - \frac{1}{4} \times \pi \times 6 \times 6 = 7.7257$$

$$\text{Area of boomerang} \rightarrow 7.7257 \times 6 = 46.3542$$

$$\text{Area of shaded part} \rightarrow (72 + 46.3542) = 118.35$$

Answer: 118.35cm²

$$5) 1 \text{ packet} \rightarrow 15 \text{ sweets}$$

$$\begin{aligned} \text{bought 30 packets} &\rightarrow 15 \times 30 \\ &= 450 \text{ sweets} \end{aligned}$$

$$\text{Lynn gave away 20 sweets}$$

$$\begin{aligned} \text{left} &\rightarrow 450 - 20 \\ &= 430 \text{ sweets} \end{aligned}$$

9)

$$\angle CGF \text{ or } \angle CFG \rightarrow (180^\circ - 90^\circ) \div 2 = 45^\circ$$

$$\angle ABD \rightarrow 90^\circ \div 2 = 45^\circ$$

$$\angle GBC \rightarrow 45^\circ \div 2 = 22.5^\circ$$

$$\angle BGC \rightarrow 180^\circ - 22.5^\circ - 90^\circ = 67.5^\circ$$

$$\angle BGF \rightarrow 45^\circ + 67.5^\circ = 112.5^\circ$$

Answer: 112.5°

10)

$$5 \text{ gaps} \rightarrow 750 - 500 = 250$$

$$1 \text{ gap} \rightarrow 250 \div 5 = 50$$

$$2016 \rightarrow 500 + 150 = 650$$

$$2017 \rightarrow 1000 + 150 = 1150$$

$$\text{Increase} \rightarrow 1150 - 500 = 650$$

$$\text{Increase}/2015 = 650/500$$

$$650/500 \times 100\% = 130\%$$

Answer: 130%

11)

First- B:G, ? : 5

End- B: G, 3:1, 9: 3

$$5 - 2u = 3u$$

$$9u + 400 + 5u = 3760$$

$$9u + 5u = 14u$$

$$14u \rightarrow 3760 - 400 = 3360$$

$$1u \rightarrow 3360 \div 14 = 240$$

$$5u \rightarrow 240 \times 5 = 1200 \text{ (no. of girls at first)}$$

$$9u \rightarrow 240 \times 9 = 2160$$

$$2160 + 400 = 2560 \text{ (no. of boys at first)}$$

$$2160 - 1200 = 1360 \text{ (Diff)}$$

Answer: 1360 more

12)

Step 1

$$\frac{3}{8} \times 16 = 6$$

$$A \rightarrow 16 - 6 = 10$$

$$C \rightarrow 14 + 6 = 20$$

Step 2

$$\frac{1}{3} \times 12 = 4$$

$$4 \div 2 = 2$$

$$B \rightarrow 12 - 4 = 8$$

$$A \rightarrow 10 + 2 = 12$$

$$C \rightarrow 20 + 2 = 22$$

Step 3

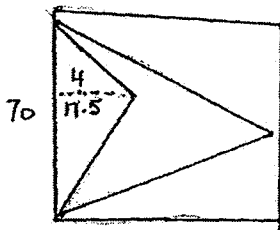
$$\frac{4}{11} \times 22 = 8$$

$$C \rightarrow 22 - 8 = 14$$

$$A \rightarrow 12 + 8 = 20$$

Answer: 14L

13)



$$\frac{1}{2} \times 70 \times 70 = 2450$$

$$70 \div 4 = 17.5$$

$$\frac{1}{2} \times 70 \times 17.5 = 1837.5$$

Answer: 1837.5 cm²

14)

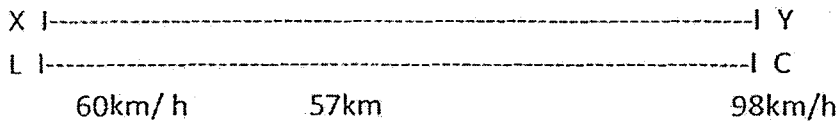
$$\angle DCA \text{ or } \angle DAC \rightarrow (180^\circ - 74^\circ) \div 2 = 53^\circ$$

$$\angle Z \rightarrow 180^\circ - 82^\circ = 98^\circ$$

$$\angle x + \angle y \rightarrow 360^\circ - 98^\circ - 53^\circ = 209^\circ$$

Answer: 209°

15)



Dist. Travelled by car more than lorry $\rightarrow 57 \times 2 = 114$

Dist. Travelled by car more than lorry per hour $\rightarrow 98 - 60 = 38$

$114 \div 38 = 3$ (time for car to travel extra dist.)

$$(98 + 60) \times 3 = 474$$

Answer: 474 km

16)

$$1p = 1u + 320$$

$$3p = 3u + 960$$

$$1u \rightarrow 960 - 480 = 480$$

$$1p \rightarrow 480 + 320 = 800 \text{ (B-end)}$$

$$3p \rightarrow 800 \times 3 = 2400 \text{ (A-end)}$$

$$\text{Total: (A + B)} \rightarrow 2400 + 800 = 3200$$

Answer: \$3200

17)

Water level in A after 10min

$$\rightarrow 0.96 \times 10 \times 1000 / 20 \times 40 = 12$$

$$960 / 20 \times 40 = 1.2 \text{ (rise in water level in A per min)}$$

$$1200 / 20 \times 20 = 2 \text{ (rise in water level in B per min)}$$

$$2 - 1.2 = 0.8 \text{ (Every min, B catches up by 0.8cm)}$$

$$12 \div 0.8 = 15 \text{ (no. of min for Tap B to turn on to catch up)}$$

$$1200 \times 15 / 30 \times 20 = 30$$

Answer: 30cm

18a)

$$1u \times 13 = 13u$$

$$7u \times 5 = 35u$$

$$13u \times 5 = 65u$$

$$20u \times 5 = 100u$$

$$47.25u \rightarrow 94.5$$

$$1u \rightarrow 94.5 \div 47.25 = 2$$

$$100u \rightarrow 100 \times 2 = 200$$

Answer (a): \$200

18b)

$$\text{Answer (b): } 70.2u \rightarrow 2 \times 70.2 = 140.40$$

END

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