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 <u>not</u> 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?

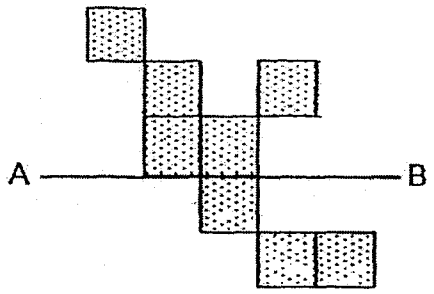
(1) 5 cents

(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?



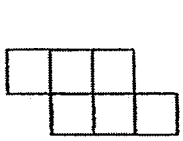
(1) 7

(2) 6

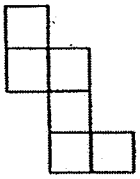
(3) 5

(4) 4 ( )

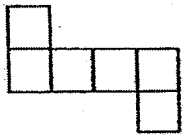
7 Which of the following figures are nets of a cube?



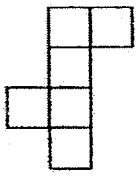
A



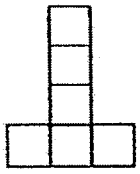
B



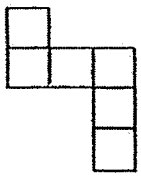
C



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.

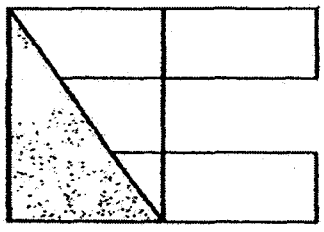
(1) 160 km

(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?

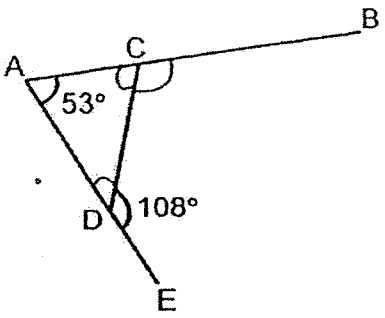
(1) 16 cm

(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?

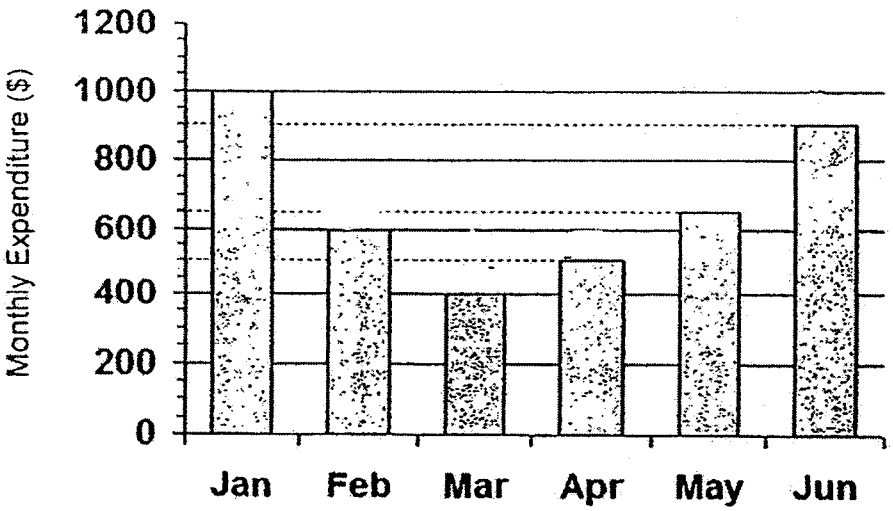
(1) $1.20

(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 ( )

– End of Booklet A –

PRELIMINARY EXAMINATION

PRIMARY 6
MATHEMATICS PAPER 1
(BOOKLET B)

22 AUGUST 2017

Parent's signature

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. 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**

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

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: _____

(Go on to the next page)

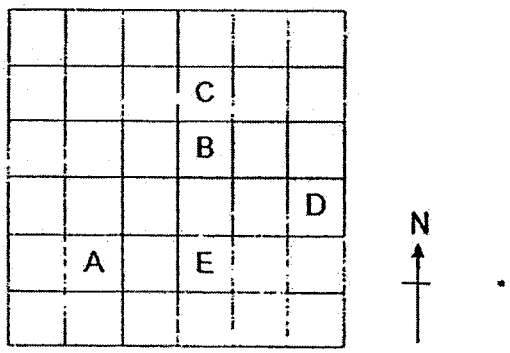
19 Express 60 ℓ 80 mℓ in millilitres.

Ans: _____ mℓ

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

Ans: _____ cm

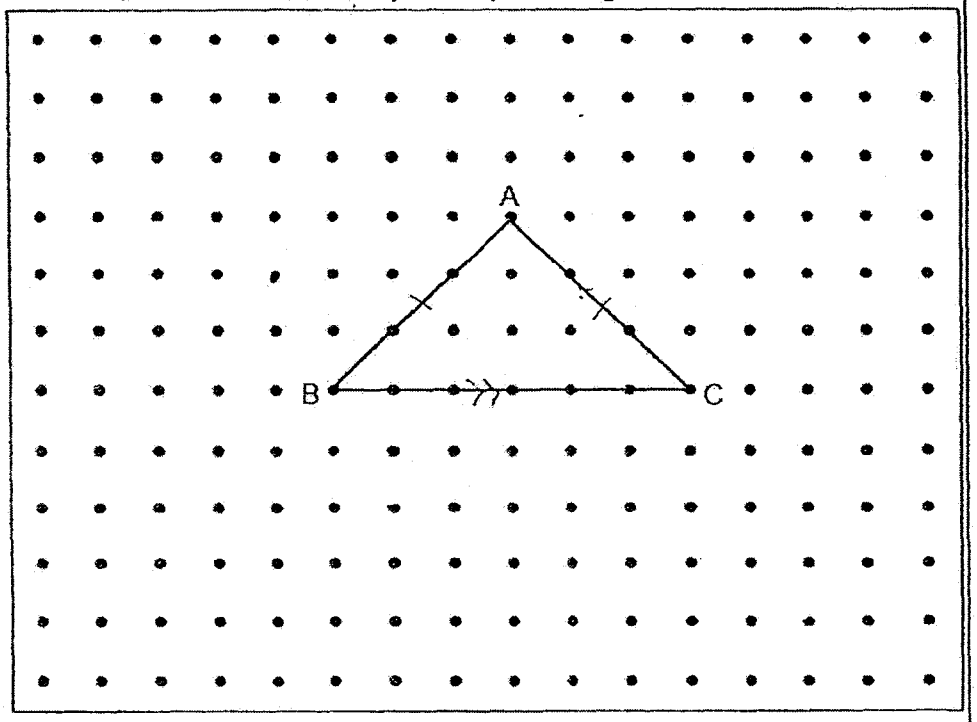
21 Refer to the square grid below and fill in the blanks with A, B, C, D or E.



Point _____ is north-east of Point _____.

(Go on to the next page)

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: $_____

(Go on to the next page)

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: _____

(Go on to the next page)

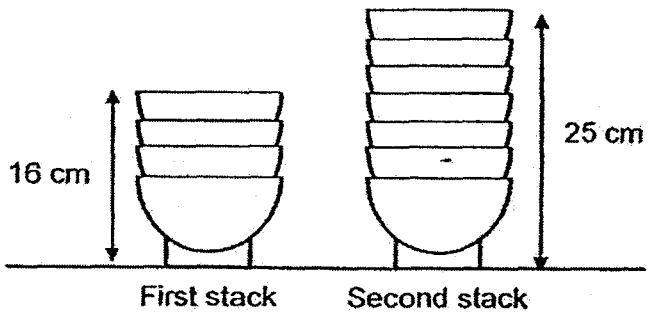
Questions **26** to **30** carry 2 marks each. Show your working clearly and write your answers the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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: _____

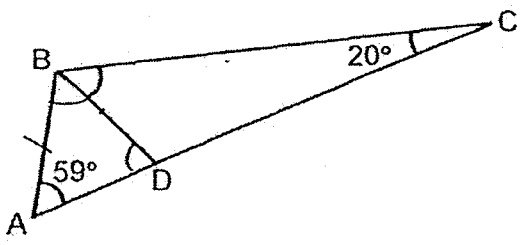
27 Some identical bowls are stacked vertically to save space. In the figure below, the height of the first stack of 4 bowls is 16 cm. The height of the second stack of 7 bowls is 25 cm. Find the height of one such bowl.



Ans: _____ cm

(Go on to the next page)

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

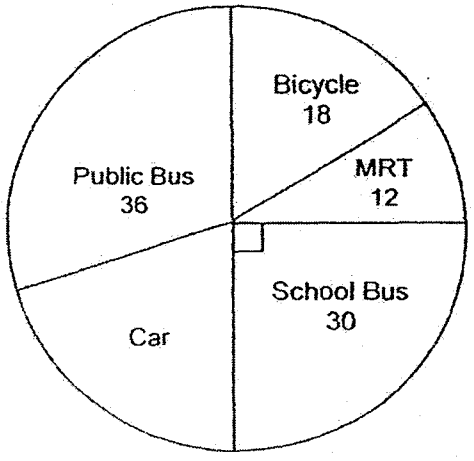


Ans: _____

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

Parent's signature

Name: _____

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

This booklet consists of 15 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 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.

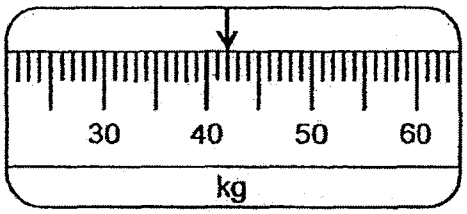


Figure 1

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

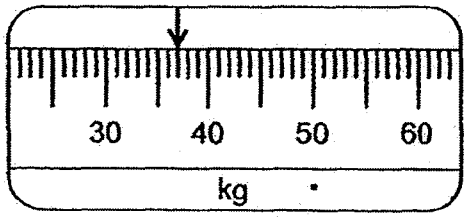


Figure 2

How heavy did Gillian's school bag weigh?

Ans: _____ kg

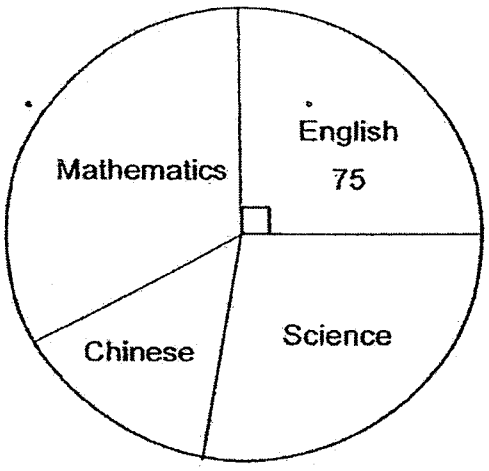
(Go on to the next page)

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: _____

(Go on to the next page)

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: _____

(Go on to the next page)

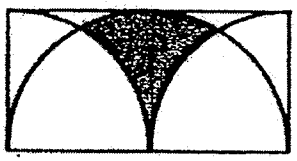
Questions **6** to **18** show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question. (50 marks)

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

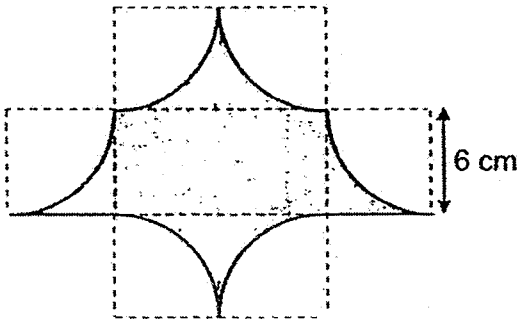


Ans: _____ [3]

(Go on to the next page)

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

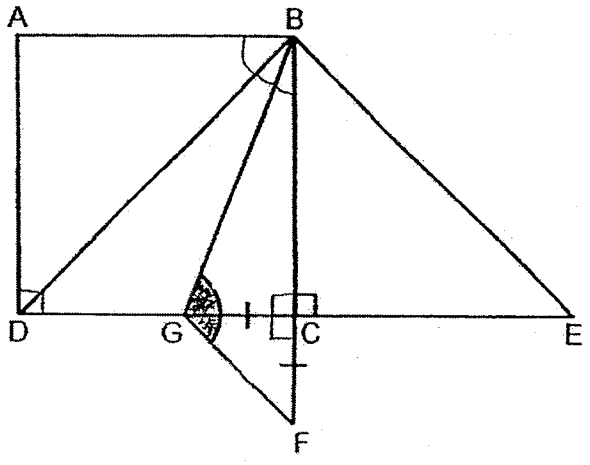


Ans: _____ [3]

(Go on to the next page)

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 $\overline{BCF}$ are straight lines. ∠DBG is equal to ∠GBC. Find ∠BGF.

Do not write in this space

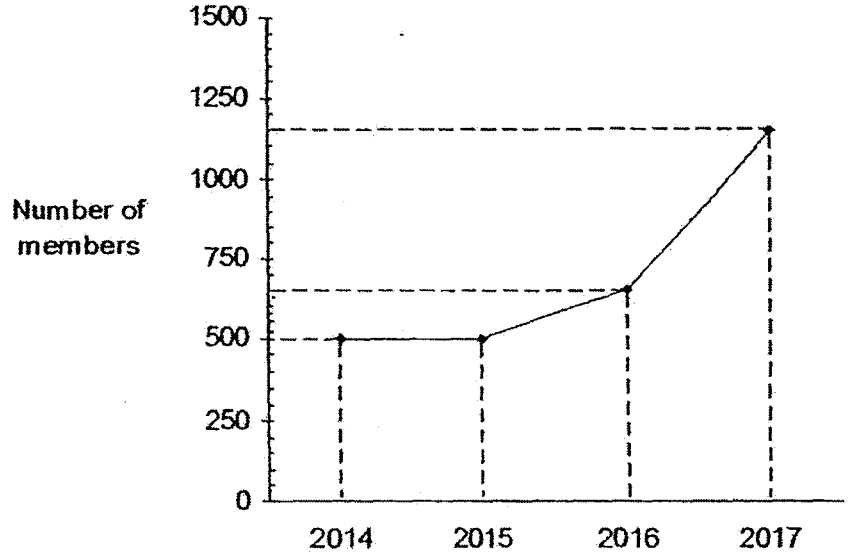


Ans: _____ [3]

(Go on to the next page)

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]

(Go on to the next page)

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]

(Go on to the next page)

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

Do not write in this space

$\frac{3}{8}$ 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.

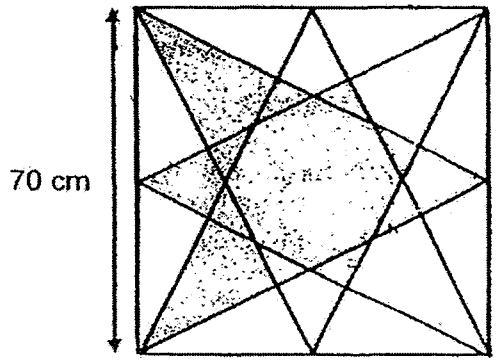
How many litres of water were in Pail C in the end?

Ans:_____ [4]

(Go on to the next page)

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

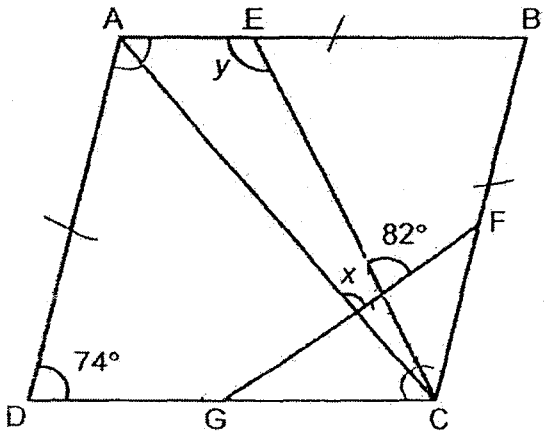


Ans: _____ [4]

(Go on to the next page)

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]

(Go on to the next page)

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]

(Go on to the next page)

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?

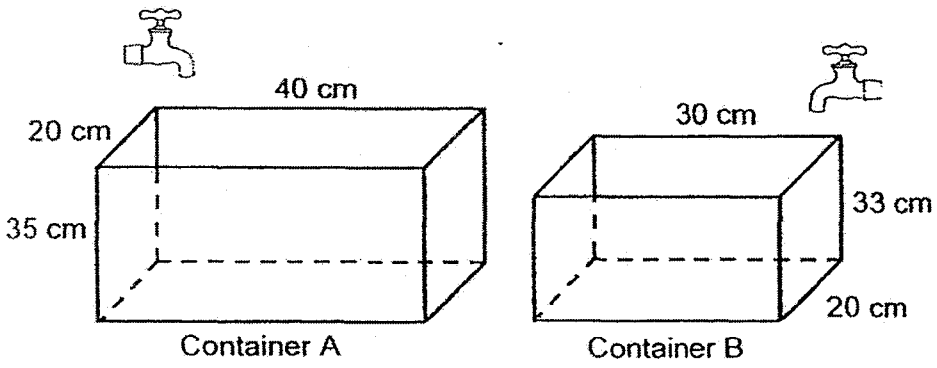
Do not write in this space

Ans: _____ [5]

(Go on to the next page)

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]

(Go on to the next page)

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.

(a) What was the original price of the present?

(b) How much did Osman pay in the end?

Do not write in this space

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:

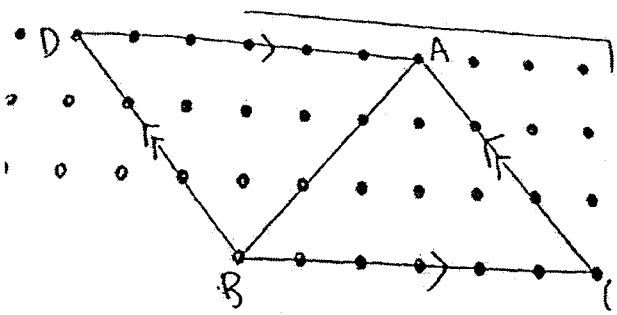
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	3	2	2	4	4	3	3	3	1
Q11	Q12	Q13	Q14	Q15					
3	2	2	3	4					

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→ 840

1u→840 ÷ 6 = 140

9u→140 x9= 1260

Answer: $1260

2) 42kg – 37kg= 5kg

Answer: 5kg

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

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

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

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

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 → 3x33= 99
Science: 99
C+M →300-99-75=126
Answer: 126

6) 5u+18+4= 4u+46
1u→46 -22 = 24
4u→24x4 = 96
G/total (A)= 96/142 = 48/71
Total (A) → 96+46= 142
Check
Girls in B → 120
96/120 = 4/5
Answer: 48/71

7) 35 ÷ 2 = 17.5
1/4 x 22/7 x 35 = 27.5
27.5 x 2 =55
Answer: 55cm

8)12 6 = 72
Area of boomerang → (6x6) – ¼ x π x 6x 6 = 7.7257
Area of boomerang → 7.7257x 6= 46.3542
Area of shaded part → (72 + 46.3542) = 118.35
Answer: 118.35cm^2

5) 1 packet → 15 sweets
bought 3c packets → 15 x 3c
= 45c sweets
Lynn gave away 20 sweets
left → 45c - 20
= 5(9c - 4) sweets

9)
∠CGF or ∠CFG → (180°- 90°) ÷2 = 45°
∠ABD → 90° ÷ 2 = 45
∠GBC → 45° ÷ 2 = 22.5
∠BGC → 180° - 22.5°- 90° = 67.5°
∠BGF → 45° + 67.5° = 112.5°
Answer: 112.5°

10)
5 gaps → 750-500= 250
1 gap → 250 ÷ 5 = 50
2016 → 500 + 150 = 650
2017 → 1000+150 = 1150
Increase → 1150-500 = 650
Increase/2015 = 650/500
650/500 x 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 → 3760-400= 3360
1u → 3360 ÷ 14 = 240
5u → 240 x 5 = 1200 (no. of girls at first)
9u → 240 x 9 = 2160
2160 + 400= 2560 (no. of boys at first)
2160 -1200= 1360 (Diff)
Answer: 1360 more

12)

Step 1

3/8 x 16= 6

A→ 16-6 = 10

C → 14+6= 20

Step 2

1/3 x 12 = 4

4 ÷ 2 = 2

B →12 – 4= 8

A → 10 + 2 = 12

C → 20 + 2 = 22

Step 3

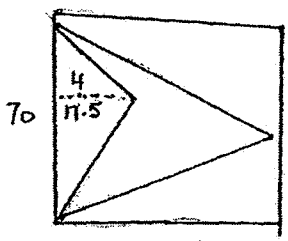
4/11 x 22= 8

C → 22- 8= 14

A → 12 + 8 = 20

Answer: 14L

13)



½ x 70 x70 = 2450

70 ÷ 4 = 17.5

½ x 70 x 17.5 = 1837.5

Answer: 1837.5 cm^2

14)
∠DCA or ∠DAC → (180° - 74°) ÷ 2 = 53°
∠Z → 180° - 82 ° = 98°
∠x + ∠y → 360° - 98°- 53° = 209°
Answer: 209°

15)
X I----------I Y
L I----------I C
60km/ h 57km 98km/h
Dist. Travelled by car more than lorry → 57x2= 114
Dist. Travelled by car more than lorry per hour → 98-60 = 38
114 ÷ 38 = 3 (time for car to travel extra dist.)
(98 + 60) x 3= 474
Answer: 474 km

16)
1p= 1u+320
3p= 3u+ 960
1u → 960-480 = 480
1p → 480+320= 800 (B-end)
3p → 800 x 3= 2400 (A-end)
Total: (A +B) → 2400+ 800= 3200
Answer: $3200

17)
Water level in A after 10min
→0.96x10x1000/ 20x 40 = 12
960/20 x40 = 1.2 (rise in water level in A per min)
1200/ 20x20= 2 (rise in water level in B per min)
2- 1.2= 0.8 (Every min, B catches up by 0.8cm)
12 ÷ 0.8 = 15 (no. of min for Tap B to turn on to catch up)
1200x 15/ 30x 20= 30
Answer: 30cm

18a)
1u X 13= 13u
7u X 5= 35u
13u X 5= 65u
20u X 5= 100u

47.25u → 94.5
1u → 94.5 ÷ 47.25 = 2
100u → 100x 2= 200
Answer (a): $200
18b)
Answer (b): 70.2u →2x 70.2 = 140.40

END