



**ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1
PRIMARY 6**

Name: _____

Register No. _____

Class: Pr 6 - _____

Date: 20 August 2018

Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

Booklet A

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Shade your answers in the Optical Answer Sheet (OAS) provided.
4. You are not allowed to use a calculator.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of 8 pages (including this cover page).

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Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

All diagrams in this paper are not drawn to scale unless stated otherwise.

(20 marks)

1. Round off 41 856 to the nearest thousands.

- (1) 41 000
- (2) 41 860
- (3) 41 900
- (4) 42 000

2. Arrange these distances from the longest to the shortest:

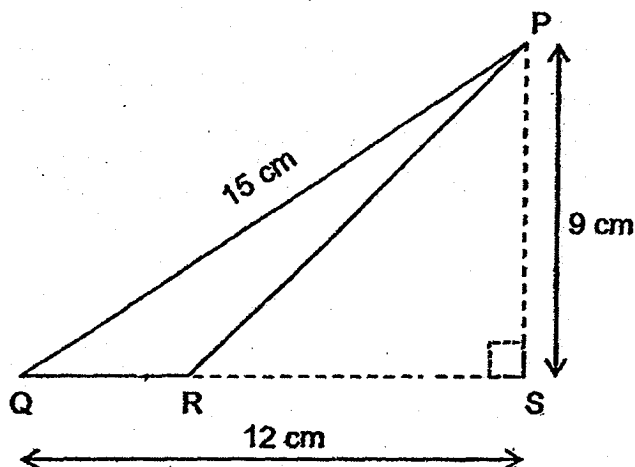
5.01 m,	0.55 km,	505 cm
---------	----------	--------

- | | <u>Longest</u> | | <u>Shortest</u> |
|-----|----------------|----------|-----------------|
| (1) | 0.55 km | , 505 cm | , 5.01 m |
| (2) | 0.55 km | , 5.01 m | , 505 cm |
| (3) | 505 cm | , 5.01 m | , 0.55 km |
| (4) | 5.01 m | , 505 cm | , 0.55 km |

3. Express $14m - 12 - 6m + 7m$ in its simplest form.

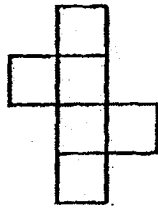
- (1) $3m$
- (2) $m + 2$
- (3) $m - 12$
- (4) $15m - 12$

4. In the figure below, $PS = RS$. Find the area of triangle PQR.

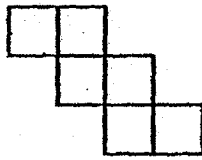


- (1) 13.5 cm^2
 - (2) 22.5 cm^2
 - (3) 54 cm^2
 - (4) 67.5 cm^2
5. Ali travelled at an average speed of 60 km/h from home to his work place. He took 20 min for the journey. What was the distance travelled?
- (1) 12 km
 - (2) 20 km
 - (3) 3 km
 - (4) 1200 km

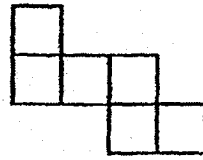
6. Which of the following nets can be folded to form a cube?



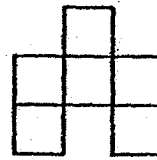
(A)



(B)



(C)

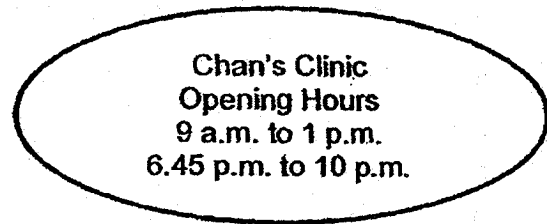


(D)

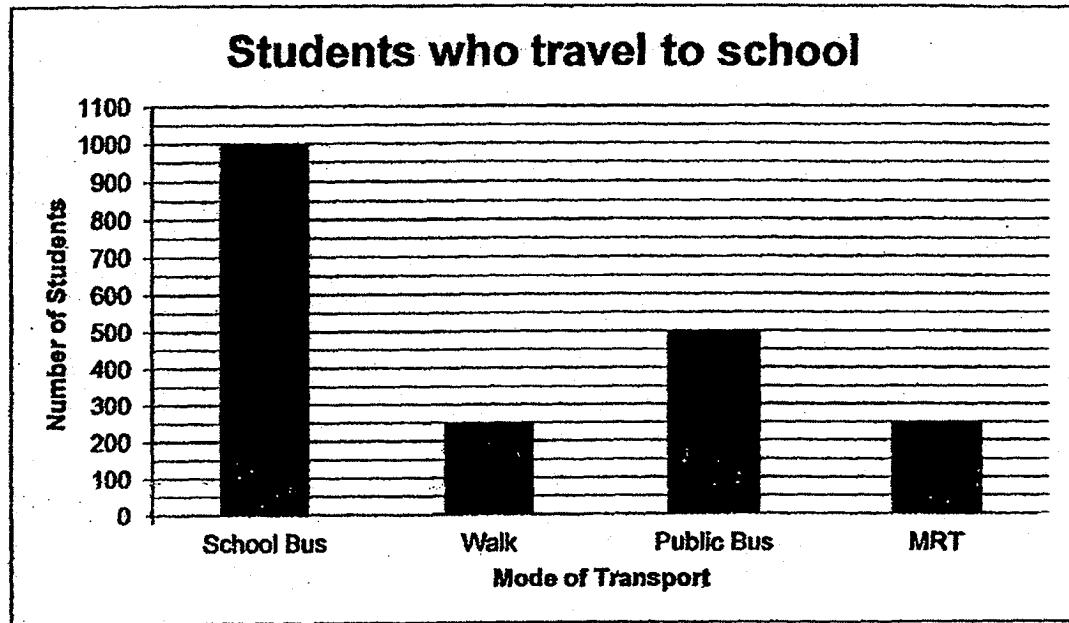
- (1) A and B only
- (2) A, B and C only
- (3) A, C and D only
- (4) All of the above

7. The opening hours of Chan's Clinic are shown below.
How long is the clinic open each day?

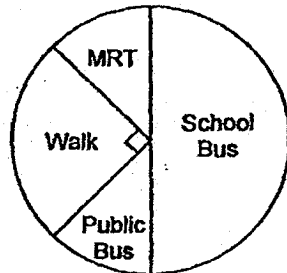
- (1) 6 h 15 min
- (2) 6 h 45 min
- (3) 7 h 15 min
- (4) 7 h 45 min



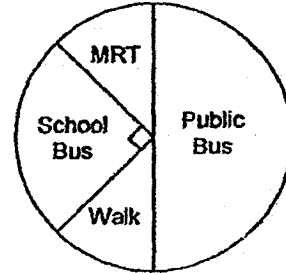
8. The table shows the number of students who travels to school using different modes of transport during school days. Which pie chart represents the data correctly?



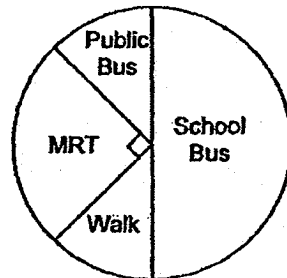
(1)



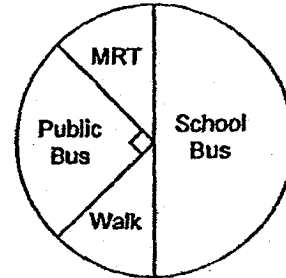
(2)



(3)



(4)

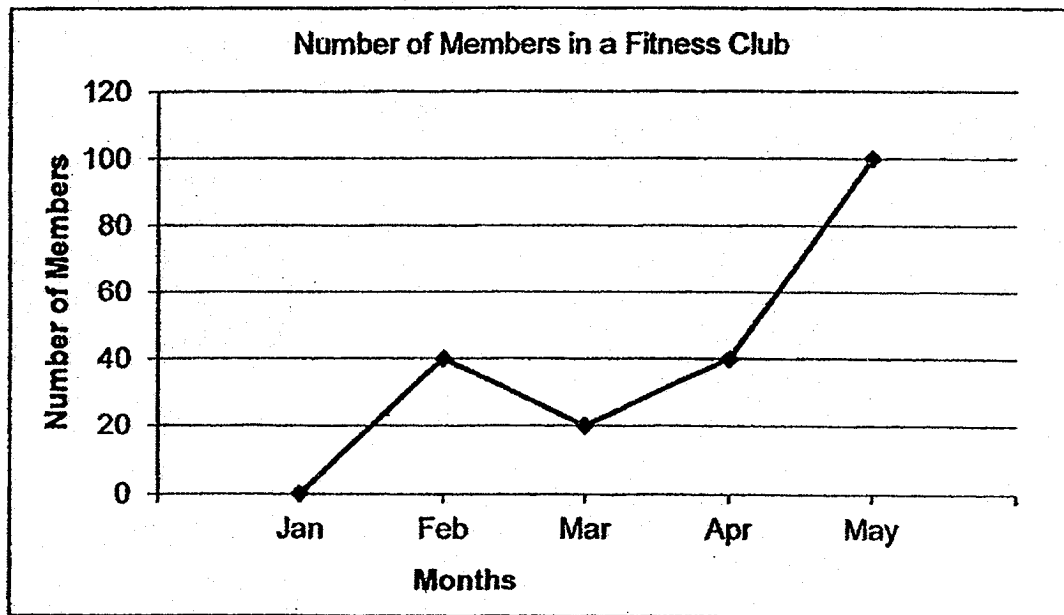


9. Read the following statements and decide whether the statement(s) is/are Not always True, True or False.

- A. All four-sided shapes can always be divided into 2 triangles.
- B. There are no parallel lines in a trapezium.
- C. Every square is a parallelogram.

	A	B	C
(1)	Not always true	True	False
(2)	True	False	Not always true
(3)	True	False	True
(4)	Not always true	False	Not always true

10. The graph below shows the number of members in a fitness club over a period of time.



Which month did the fitness club have the greatest increase in the number of members?

- (1) Jan to Feb
- (2) Feb to Mar
- (3) Mar to Apr
- (4) Apr to May

11. Mrs Tan had 15 kg of flour. She packed the flour equally into bags, each weighing $\frac{4}{5}$ kg. How much flour was left unpacked?

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

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

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

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

12. Thomas had a total of 600 red, blue and black pens. $\frac{2}{5}$ of the pens were red. $\frac{1}{5}$ of the remaining pens were blue. How many black pens were there?

(1) 72

(2) 192

(3) 240

(4) 288

13. In the equation below, find the number in the box.

$$0.5 \times 240 = \boxed{?} \times 1200$$

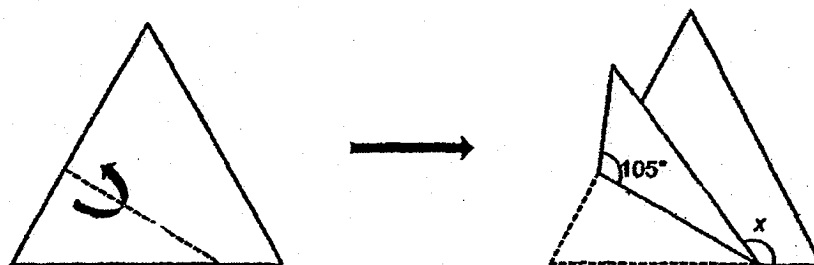
(1) 0.01

(2) 0.1

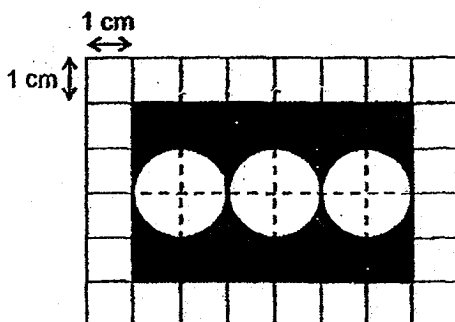
(3) 2.5

(4) 5

14. A piece of paper in the shape of an equilateral triangle is folded along the dotted line as shown below. Find $\angle x$.



- (1) 15°
 (2) 30°
 (3) 105°
 (4) 150°
15. The figure below is made up of a rectangle and 3 identical circles. Find the area of the shaded part. Leave your answer in terms of π .



- (1) $(24 - 3\pi) \text{ cm}^2$
 (2) $(24 - \pi) \text{ cm}^2$
 (3) $(6 - 3\pi) \text{ cm}^2$
 (4) $(6 - \pi) \text{ cm}^2$

Go on to Booklet B



**ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1
PRIMARY 6**

Name: _____

Register No. _____

Class: Pr 6 - _____ Group: _____

Date: 20 August 2018

Parent's Signature: _____

Total Time for Booklets A and B : 1 hour

Booklet B

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. You are not allowed to use a calculator.
4. Write your answers in the booklet.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	25	

* This booklet consists of 10 pages (including this cover page).

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

All diagrams in this paper are not drawn to scale unless stated otherwise.

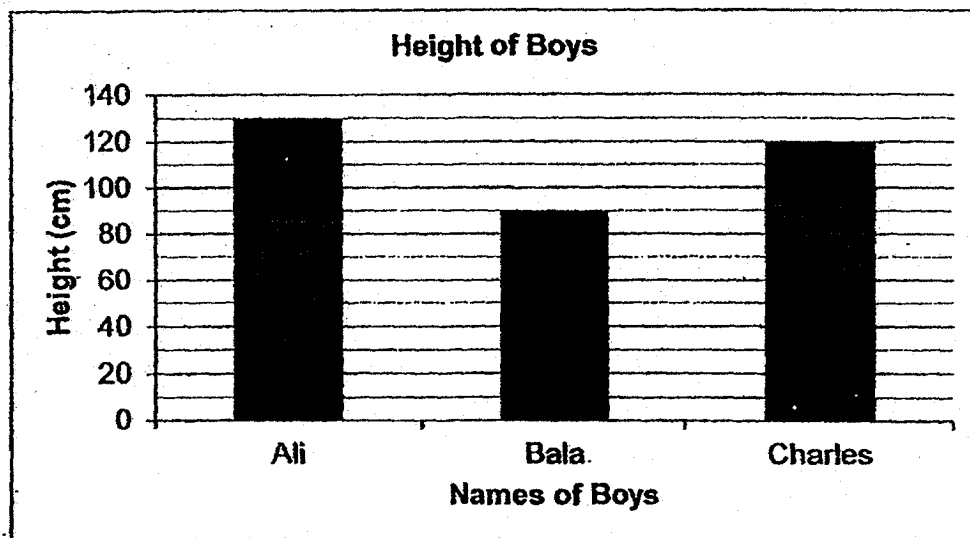
(5 marks)

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16. Find the sum of 3 tens, 33 hundredths and 300 thousandths.

Answer : _____

17. The graph below shows the height of 3 boys Ali, Bala and Charles. Find the total height of Ali and Charles.



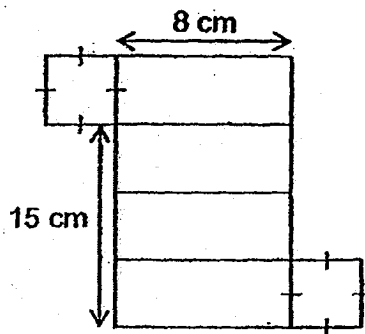
Answer : _____ cm

18. Find 0.5% of 500.

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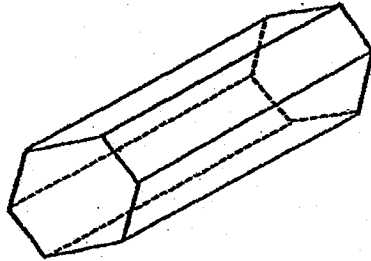
Answer : _____

19. The net shown below can be folded to form a cuboid.
What is the volume of the cuboid?



Answer : _____ cm³

20. How many faces does the following solid have?



Do not write
in this space

Answer : _____

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

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in this space

All diagrams in this paper are not drawn to scale unless stated otherwise.
(20 marks)

21. Find the value of $(87 - 23) \times 2 \div 4 - (36 - 24)$.

Answer : _____

22. The table below shows the parking charges of a carpark.

First hour	\$1.20
Every additional 10 minutes or part thereof	\$0.80

How much does it cost to park from 3 p.m. to 5:06 p.m.?

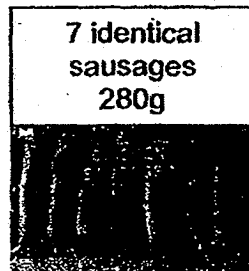
Answer : _____

23. In a class, every group of 4 boys was given 6 stickers and every group of 3 girls was given 8 stickers. The class teacher gave the stickers to an equal number of boys and girls. What was the minimum number of stickers needed?

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in this space.

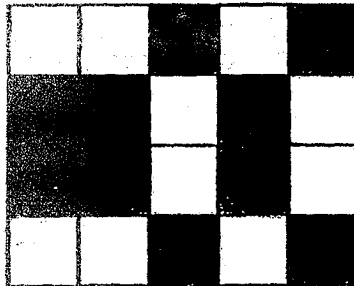
Answer : _____

24. A packet of sausages is shown below. Mrs Lee bought 1kg 400g of sausages. How many sausages did she buy?



Answer : _____

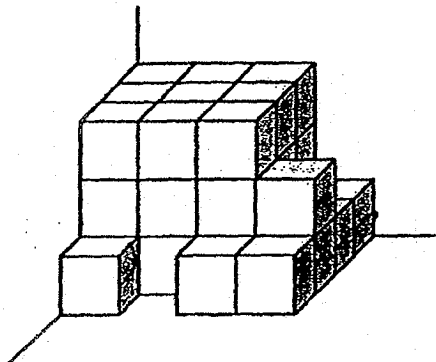
25. The figure below is made up of squares.
Shade two more squares so that the figure has a line of symmetry.



Do not write
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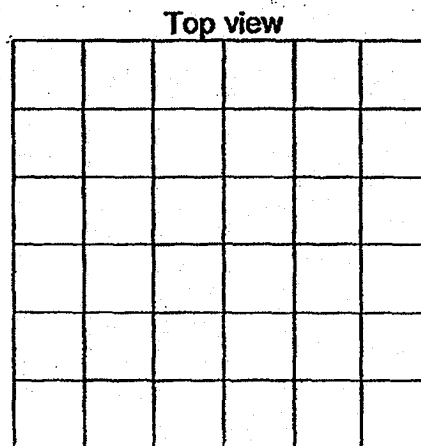
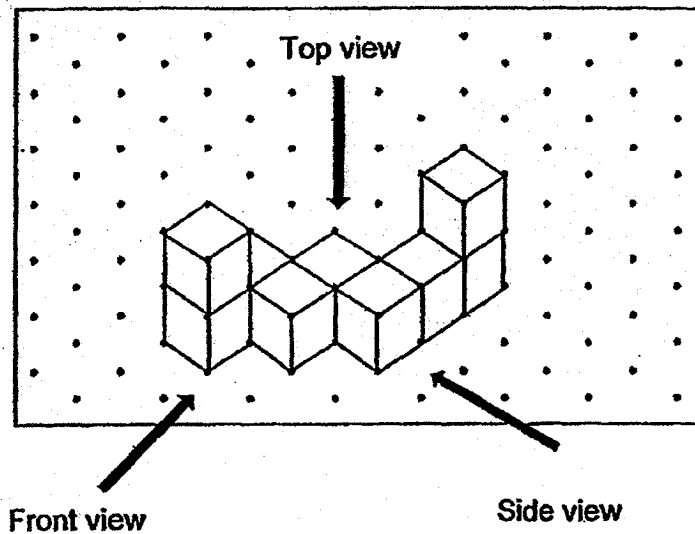
26. The figure below shows 1-cm unit cubes stacked against a corner. What is the least number of unit cubes that must be removed to form a cube?



Answer : _____



27. Draw the top view of the solid in the grid below.



Do not write
in this space

28. The total cost of 3 apples and 2 pears is $\$(5y + 3)$. The cost of 2 apples is \$2 more than the cost of 2 pears. What is the total cost of an apple and a pear? Express the answer in terms of y .

Answer : \$ _____

29. Figure A is made up of 8 identical squares. There are 3 squares removed from Figure A to form Figure B. The perimeter of Figure B is 120 cm. What is the perimeter of Figure A?

Do not write
in this space

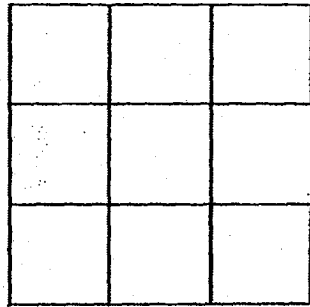


Figure A

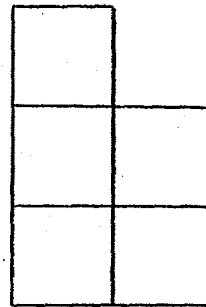


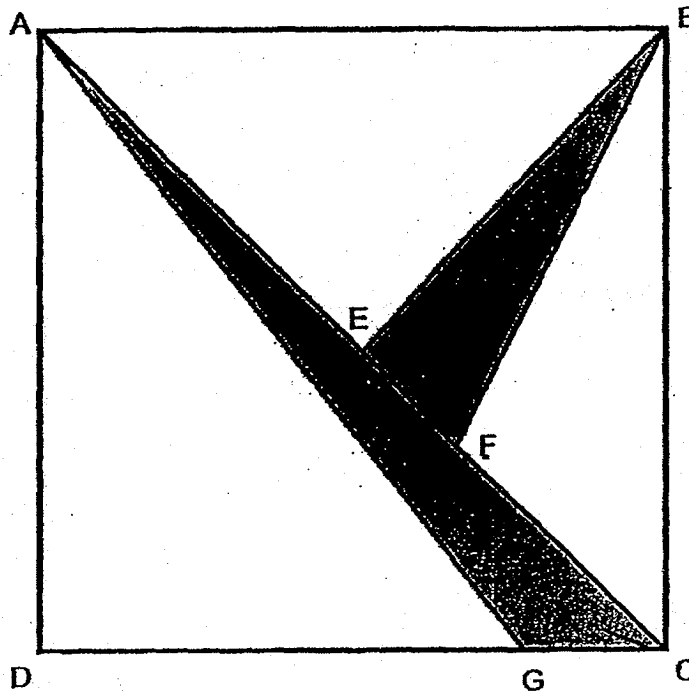
Figure B

Answer : _____ cm



30. The square ABCD was cut into 5 parts. Given that the ratio of BE : EC is 1 : 1, the ratio of EF : FC is 1 : 2 and the ratio of DG : GC is 3 : 1. What fraction of the square is shaded?

Do not write
in this space



Answer : _____



End of paper
Have you checked your work?



ROSYTH SCHOOL
2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 2
PRIMARY 6

Name: _____

Register No. _____

Class: Pr 6 - _____

Date: 20 August 2018

Parent's Signature: _____

Time: 1 h 30 min

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. **Show your workings clearly** as marks are awarded for correct working.
4. Write your answers in this booklet.
5. You are allowed to use a calculator.
6. Answer all questions.

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 17	45	

Section	Maximum Mark	Marks Obtained
Paper 1	45	
Paper 2	55	
Total	100	

* This booklet consists of 16 pages (including this cover page).
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Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

Do not write
in this space

1. Tricia had 70 chocolates. She gave $3w$ chocolates to her brother. Then she gave the rest equally to her 5 cousins. How many chocolates did each cousin receive? Leave your answer in terms of w .

Answer : _____

2. Mrs Pradeep bought some flour. She used $2\frac{1}{5}$ kg of the flour and gave $\frac{3}{7}$ of the remaining flour to her sister. In the end, she was left with $1\frac{3}{5}$ kg of the flour. How much flour did she buy at first?

Answer : _____ kg

3. Ariel was at a fun-fair. The table below shows the number of points which can be exchanged for tickets. Ariel wanted to win a soft-toy which required 80 tickets. How many points must Ariel get in order to exchange for her soft-toy?

Points	Tickets
885	300

Do not write
in this space

Answer : _____

4. Miss Lee gave away an almond on Day 1. She increased the number of almonds given away every day by 100%. Find the ratio of the number of almonds given on Day 7 to the number of almonds given on Day 3. Give your answer in the simplest form.

Answer : _____

5. The average of the odd numbers below is 7. What odd number must be added so that the average of all the numbers becomes 10?

1, 3, 5, 7, 9, 11, 13

Do not write
in this space

Answer : _____

For Questions 6 to 17, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question. For questions which require units, give your answers in the units stated.

(45 marks)

All diagrams in this paper are not drawn to scale unless stated otherwise.

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in this space

6. A crate was filled with an equal number of apples and oranges. The apples were sold for \$315 and the oranges were sold for \$225. Each apple cost \$0.20 more than each orange. How many oranges were sold?

Answer : _____ [3]



7. The ratio of the number of Dawn's stickers to the number of Evelyn's stickers was $1 : 4$. After Dawn and Evelyn gave away $\frac{1}{3}$ and $\frac{3}{4}$ of their stickers respectively, they were left with 90 stickers altogether. How many stickers did they have at first?

Do not write
in this space

Answer : _____ [3]



8. The average mass of 8 baskets of fruits at a zoo feeding station was 23 kg. Some baskets of fruits with an average mass of 20.4 kg were added. The average mass of all the baskets of fruits became 22 kg. How many baskets of fruits were added?

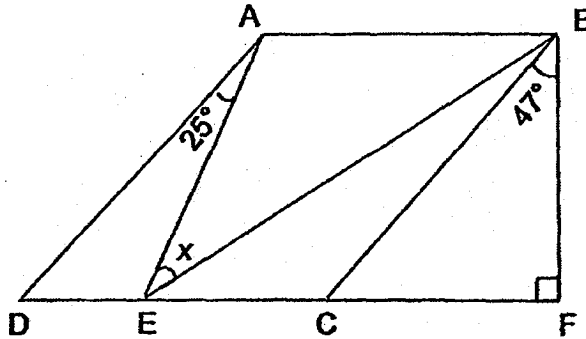
Do not write
in this space

Answer : _____ [3]



9. In the figure below, ABCD is a parallelogram and $AE = AB$. $\angle BFC$ is a right angle. $\angle FBC = 47^\circ$ and $\angle EAD = 25^\circ$. Find $\angle x$.

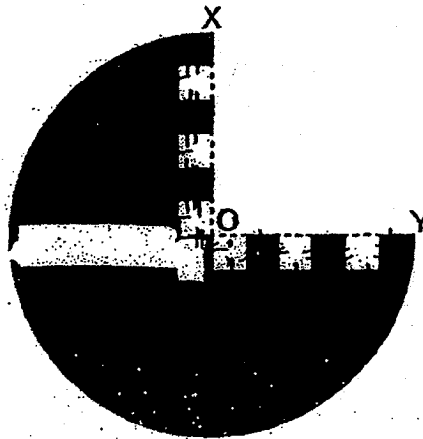
Do not write
in this space



Answer : _____ [3]



10. The figure below is made up of three quadrants and six identical squares. Each side of the squares is 1 cm. The length of OX is 6 cm. Find the perimeter of the shaded part. Take the calculator value of π and give your answer correct to 2 decimal places.



Do not write
in this space

Ans: _____ [3]



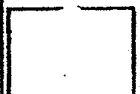
11. Amos and his sister shared \$1674. Amos spent 25% of his money and his sister spent 70% of her money. After that, Amos had twice as much money left as his sister.

- (a) How much did Amos have in the end?
(b) What was the percentage decrease in the total sum of money?

Do not write
in this space

Ans: a) _____ [3]

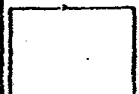
b) _____ [2]



12. A bakery sold durian, chocolate and strawberry puffs in the ratio of 3 : 4 : 2. Each durian, chocolate and strawberry puff was sold for \$5, \$3 and \$4. A total of \$560 was collected on a Sunday afternoon. Find the amount of money collected from the sale of durian puffs.

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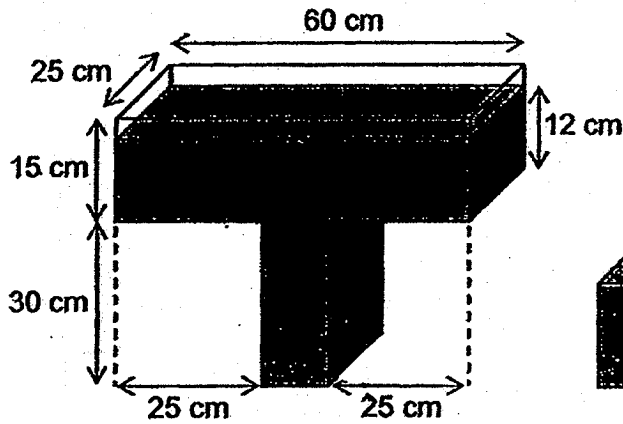
Ans : _____ [4]



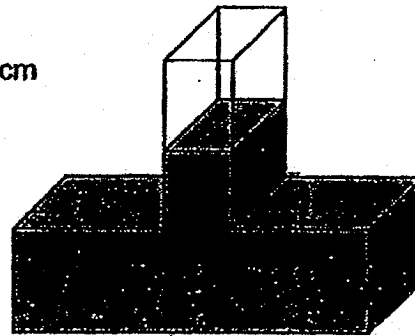
13. Two identical T-shaped containers, P and Q, are shown below. Both of them have the same amount of water in it.

Do not write in this space

- (a) Find the volume of the water in container P.
(b) Find the height of the water in container Q.



Container P



Container Q

Answer : a) _____ [2]

b) _____ [3]



14. In a donation drive, a class of 40 boys and girls helped to distribute some food items. Each boy distributed 4 bags while each girl distributed 3 bags. The boys distributed 62 more bags than the girls. How many boys were there?

Do not write
in this space

Answer : _____ [4]



15. Sam and Ben started swimming at the same time from the opposite ends of a 30-m swimming pool. Each boy would turn in the opposite direction and continue swimming upon reaching the end of the pool. The average speed of Sam was 1 m/s and the average speed of Ben was 0.6 m/s. How many times did they meet each other if they swam for 10 min? (Assuming that the turning time is neglected.)

Do not write
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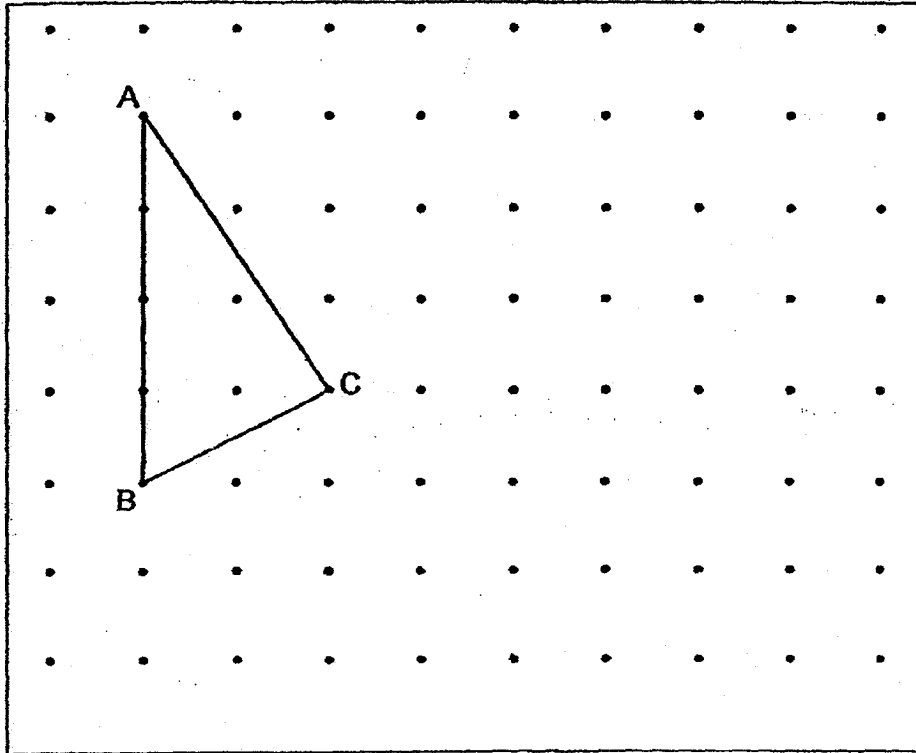
Answer : _____ [4]



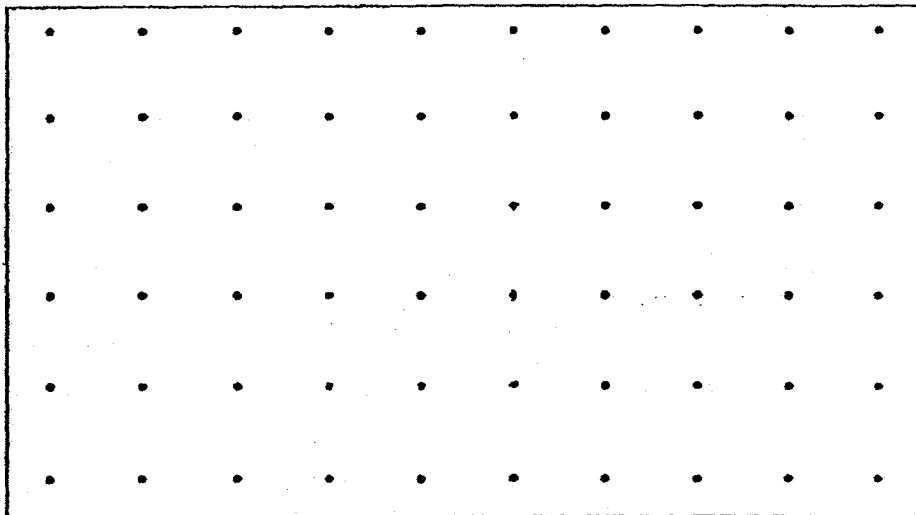
16. The figure below shows a triangle ABC drawn on a grid.

Do not write
in this space

- a) BCD is another triangle with the same area as triangle ABC. Draw BCD on the grid below such that BCD does not overlap with ABC. [2m]



- (b) Draw a 4-sided figure with the same area as triangle ABC in part (a). [2m]



17. 25% of Elle's money was spent on 5 files and 10 erasers. The cost of each file was twice the cost of each eraser. Elle bought some more erasers with 40% of her remaining money. How many erasers did she buy altogether?

Do not write
in this space

Ans : _____ [4]

☐

End of paper
Have you checked your work?

ANSWER KEY

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

PAPER 1 BOOKLET A

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

PAPER 1 BOOKLET B

Q16) 30.63

Q17) 250cm-

Q18) 2.5

Q19) 200cm³

Q20) 8 faces

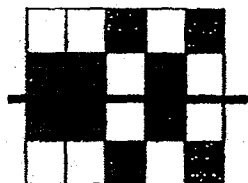
Q21) 20

Q22) \$6.80

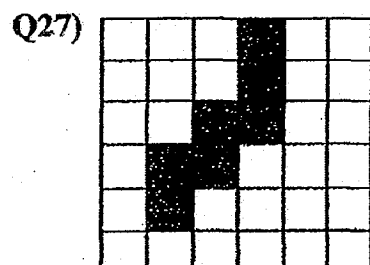
Q23) 50 stickers

Q24) 35 sausages

Q25)



Q26) 7 cubes



Q28) $(2y + 1)$

Q29) 168cm

Q30) $\frac{5}{24}$

PAPER 2

Q1) $(\frac{70-3w}{5})$

Q2) 5kg

Q3) 236 points

Q4) 16 : 1

Q5) 31

Solutions to Word Problems
Rosyth Paper 2
P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Difference in sale price between apples and oranges = $\$315 - \$225 = 90$
Difference in cost between one apple and orange = $\$0.20$

$$\text{Number of oranges} = 90 \div 0.20 = 450$$

Ans: 450

-
7. Ratio between number of Dawn's stickers vs number of Evelyn's stickers $\rightarrow$
 $1 : 4 \rightarrow 3 : 12 \rightarrow 3u : 12u$

After Dawn and Evelyn gave away $\frac{1}{3}$ and $\frac{3}{4}$ of their stickers respectively,

$$\text{Number of stickers Dawn has left} = 3u - 1u = 2u$$

$$\text{Number of stickers Evelyn has left} = 12u - 9u = 3u$$

$$2u + 3u = 90$$

$$5u = 90$$

$$u = 90 \div 5 = 18$$

$$\text{Number of stickers they had at first} = 3u + 12u = 15u = 15 \times 18 = 270$$

Ans: 270 stickers

8. Total mass of 8 baskets = $23 \times 8 = 184$ kg

Let n = number of fruit baskets added

Mass of additional fruit baskets = $20.4 \times n$

Total mass after adding additional baskets =
 $(8 + n) \times 22 = 184 + 20.4n$

$$176 + 22n = 184 + 20.4n$$

$$22n - 20.4n = 184 - 176$$

$$1.6n = 8$$

$$n = 8 \div 1.6 = 5$$

Number of additional fruit baskets = 5

Ans: 5 baskets

9. As AD is parallel to BC

$$\angle DAB = 47 + 90 = 137^\circ$$

$$\angle EAB = 137 - 25 = 112^\circ$$

$\triangle ABE$ is an isosceles triangle where $AE = BE$

$$X = (180 - 112) \div 2 = 34^\circ$$

Ans: 34°

10. radius = 6 cm

$$\text{Perimeter of 3 quadrants} = \frac{3}{4} \times \pi \times 6 \times 2 = 9\pi \text{ cm}$$

$$\text{Perimeter of jagged edge} = 4 \times 6 = 24 \text{ cm}$$

$$\text{Total perimeter} = 9 \times 3.142 + 24 = 52.274 \approx 52.27 \text{ cm}$$

Ans: 52.27 cm

11. a)

Let amount his sister had left = u

Amount Amos had left = 2u

$$75\% \rightarrow 2u$$

$$100\% \rightarrow 100 \div 75 \times 2u = \frac{8}{3}u = \text{amount Amos had at first}$$

$$30\% \rightarrow u$$

$$100\% \rightarrow 100 \div 30 \times u = \frac{10}{3}u = \text{amount his sister had at first}$$

$$\frac{8}{3}u + \frac{10}{3}u = 1674$$

$$6u = 1674$$

$$u = 1674 \div 6 = 279$$

$$\text{Amount Amos has in the end} = 2u = 2 \times 279 = \$558$$

b)

$$\text{Percentage decrease} = (6u - 3u) \div 6u = 50\%$$

Ans: (a) \$558

(b) 50%

:

- 12.** Ratio of number of durian, chocolate and strawberry puffs $\rightarrow 3u : 4u : 2u$
Ratio of total cost of durian, chocolate and strawberry puff $\rightarrow$
 $3u \times 5 : 4u \times 3 : 2u \times 4 \rightarrow 15u : 12u : 8u$

$$15u + 12u + 8u = 560$$

$$35u = 560$$

$$u = 560 \div 35 = 16$$

$$\text{Sale of durian puffs} = 15u = 15 \times 16 = \$240$$

Ans: \$240

-
- 13.** a)
Volume of container P = $10 \times 30 \times 25 + 60 \times 12 \times 25 = 25,500 \text{ cm}^3$
- b)
Volume of bottom part of container Q = $60 \times 15 \times 25 = 22,500 \text{ cm}^3$
- Volume of top part of container Q = $25,500 - 22,500 = 3000 \text{ cm}^3$
- Height of water in top part of container Q = $3000 \div (10 \times 25) = 12 \text{ cm}$
- Total height of water in container Q = $12 + 15 = 27 \text{ cm}$

Ans: (a) $25,500 \text{ cm}^3$

(b) 27 cm

- 14.** Let number of boys = u
Number of girls = $40 - u$

Number of bags distributed by boys = $4u$

Number of bags distributed by girls = $3 \times (40 - u) = 120 - 3u$

Difference in bags distributed = $4u - (120 - 3u) = 7u - 120 = 62$

$7u = 62 + 120 = 182$

$u = 26$

Number of boys = 26

Ans: 26 boys

-
- 15.** Number of seconds for Sam to swim one length of the pool = $30 \div 1 = 30\text{s}$
Number of seconds for Ben to swim one length of the pool = $30 \div 0.6 = 50\text{s}$

Number of laps Sam swim in 600 secs (10 mins) = $600 \div 30 = 20$ laps

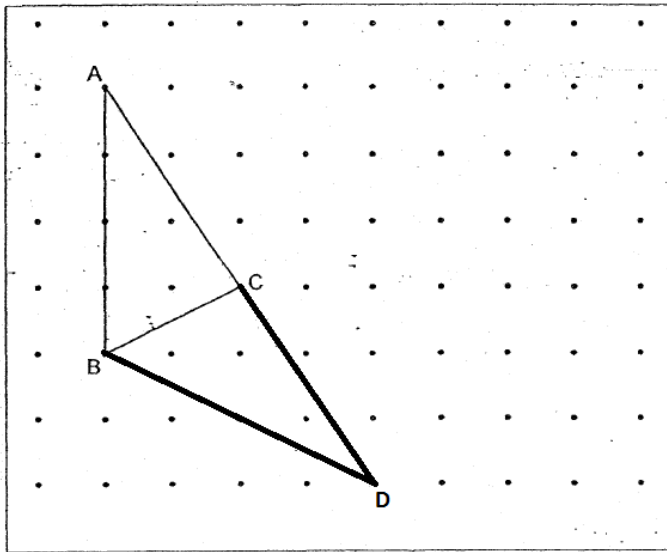
Number of laps Ben swim in 600 secs (10 mins) = $600 \div 50 = 12$ laps

The faster swimmer met slower swimmer exactly once per lap,
While slower swimmer met faster swimmer once or twice per lap, that is not exact.

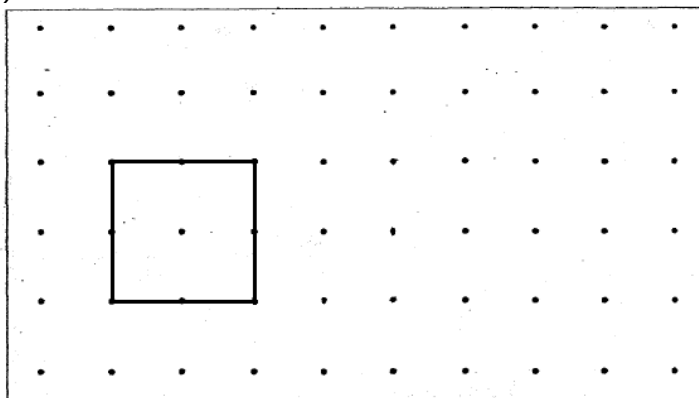
Therefore number of times they met = 20

Ans: 20

16. a)



b)



- 17.** Let Cost of 1 eraser = u
Cost of 1 file = $2u$
Cost of 5 files and 10 erasers = $5 \times 2u + 10 \times u = 20u$
25% of Elle's money = $20u$

40% of 75% Elle's money = 30%
30% of Elle's money = $30 \div 25 \times 20u = 24u$

Number of erasers she bought with $24u = 24u \div u = 24$

Total number of erasers bought = $10 + 24 = 34$

Ans: 34 erasers
