



De La Salle School



St. Anthony's Primary



St. Joseph's Institution Junior



St. Stephen's School

**CHRISTIAN BROTHERS' SCHOOLS
PRELIMINARY EXAMINATIONS**

2019

**PRIMARY 6
MATHEMATICS
PAPER 1
(BOOKLET A)**

NAME: _____ ()

CLASS: Primary 6 _____

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of calculators is **NOT** allowed.

This booklet consists of 7 printed pages.

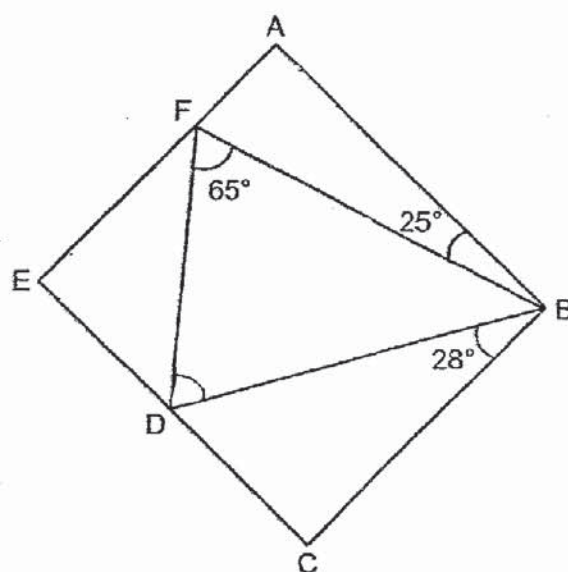
Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

- 1 Which of the following numbers when rounded to the nearest hundred is 4700?
- (1) 4649
 - (2) 4659
 - (3) 4762
 - (4) 4772
- 2 Which digit in 167.85 is in the tenths place?
- (1) 5
 - (2) 6
 - (3) 7
 - (4) 8
- 3 How many sixths are there in $4\frac{1}{3}$?
- (1) 13
 - (2) 26
 - (3) 30
 - (4) 42
- 4 A group of people attended a musical. The ratio of the number of men to the number of women was 2 : 3. The ratio of the number of women to the number of children was 2 : 5. What was the ratio of the number of men to the total number of people at the musical?
- (1) 1 : 5
 - (2) 1 : 6
 - (3) 4 : 21
 - (4) 4 : 25

- 5 A wheel of radius 5 cm made 3 complete turns. What was the distance the wheel travelled in terms of π ?

- (1) 15π cm
- (2) 25π cm
- (3) 30π cm
- (4) 50π cm

- 6 ABCE is a rectangle. Find $\angle BDF$.

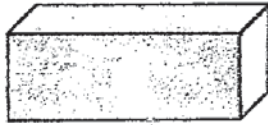


- (1) 40°
- (2) 65°
- (3) 78°
- (4) 87°

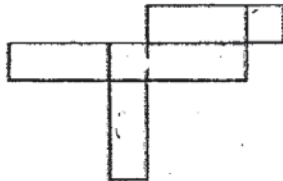
- 7 Find the value of $\frac{6y}{2} - y + 2$ when $y = 3$.

- (1) 8
- (2) 7
- (3) 6
- (4) 4

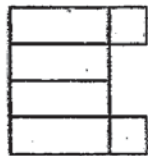
- 8 Which of the following is a net of a cuboid?



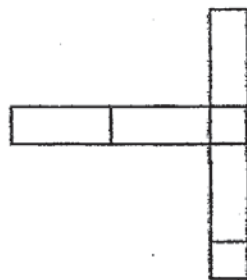
(1)



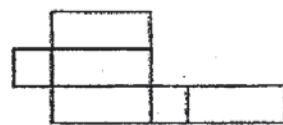
(2)



(3)



(4)



- 9 The average of 4 numbers is 75. The sum of three of the numbers is 270. What is the value of the fourth number?

- (1) 30
- (2) 45
- (3) 65
- (4) 71

- 10 The pie chart shows the amount of money Mr Lim spent on the different items on a trip. He spent the same amount on airfare and shopping. He spent a total of \$1600.



How much did Mr Lim spend on airfare and shopping altogether?

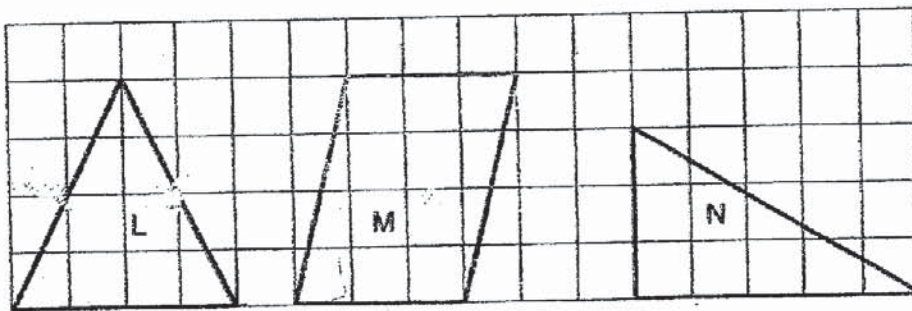
- (1) \$200
 - (2) \$600
 - (3) \$1000
 - (4) \$1200
- 11 In a supermarket, oranges are sold at 6 for \$3.50 or at \$0.60 each. What is the least amount Nadia will have to pay for 20 oranges?

- (1) \$10.50
- (2) \$11.70
- (3) \$12.00
- (4) \$14.00

- 12 Ben had a total of 50 red, blue and green pens. $\frac{2}{5}$ of the pens were red and $\frac{1}{5}$ of the remaining pens were blue. How many green pens did Ben have?

- (1) 24
(2) 20
(3) 6
(4) 4

- 13 In the square grid below, L is an isosceles triangle, M is a parallelogram and N is a right-angled triangle. Arrange L, M and N from the largest area to the smallest.

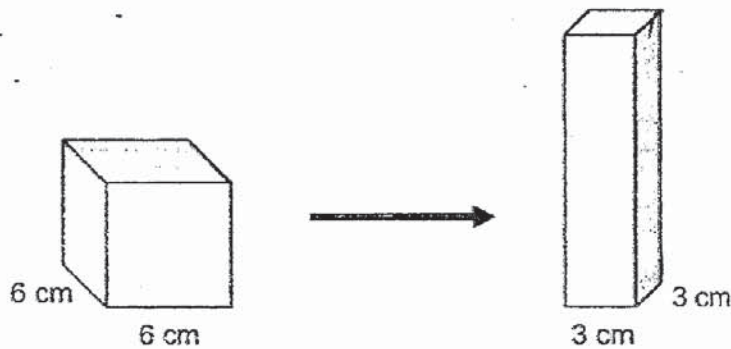


- | | <u>Largest</u> | | <u>Smallest</u> |
|-----|----------------|---|-----------------|
| (1) | N | L | M |
| (2) | M | N | L |
| (3) | M | L | N |
| (4) | L | M | N |

- 14 The number of stamps Jenny and Tim have are in the ratio 5 : 6. After Jenny used 45 stamps, the ratio became 7 : 12. How many stamps did Tim have?

- (1) 54
- (2) 90
- (3) 162
- (4) 180

- 15 A metal cube of edge 6 cm was melted and made into a cuboid. The cuboid has a square base of side 3 cm. Find the height of the cuboid.



- (1) 36 cm
- (2) 24 cm
- (3) 9 cm
- (4) 4 cm

(Go on to Booklet B)



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CHRISTIAN BROTHERS' SCHOOLS
PRELIMINARY EXAMINATIONS
2019
PRIMARY 6
MATHEMATICS
PAPER 1
(BOOKLET B)

NAME: _____ ()

CLASS: Primary 6 _____

Total Time for Booklets A and B : 1 hour

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of calculators is **NOT** allowed.

BOOKLET	MARKS	
	POSSIBLE	ACTUAL
A	20	
B	25	
TOTAL	45	

PARENT'S SIGNATURE: _____

This booklet consists of 8 printed pages.

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)

- 16 Find the value of $609 \div 700$.

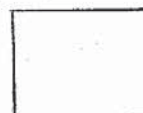
Ans: _____

- 17 Express $1\frac{5}{9}$ as a decimal.
Give your answer correct to 2 decimal places.

Ans: _____

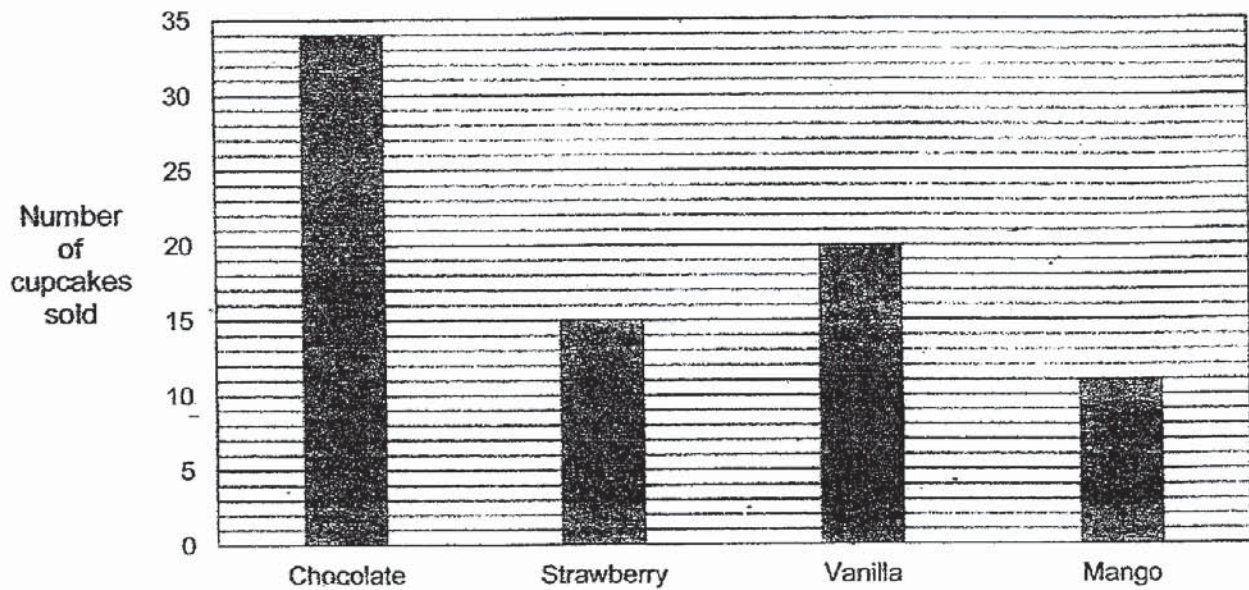
- 18 A jug has 1.4 l of juice. It can fill 8 glasses. If each glass contains the same amount of juice, how much juice is there in each glass? Give your answer in millilitres.

Ans: _____ ml



Use the information below to answer questions 19 and 20.

A bakery sold four types of cupcakes. The bar graph below shows the number of cupcakes sold in a week.

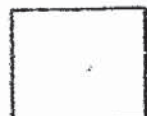


- 19 How many more chocolates cupcakes than mango cupcakes were sold ?

Ans: _____

- 20 What fraction of the cupcakes sold in the week was vanilla cupcakes?

Ans: _____



Questions 21 to 30 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. (20 marks)

- 21 Nisha had a roll of ribbon 2 m long. She cut the ribbon into smaller pieces of length w cm. How many cuts did Nisha make?
Express your answer in terms of w .

Ans: _____

- 22 Ryan has a rectangular piece of paper. The breadth of the paper is 27 cm. He cuts out the shaded part as shown in Figure 1 and folded along the dotted lines to form a closed cube as shown in Figure 2. Find the volume of the cube.



Figure 1

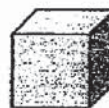


Figure 2

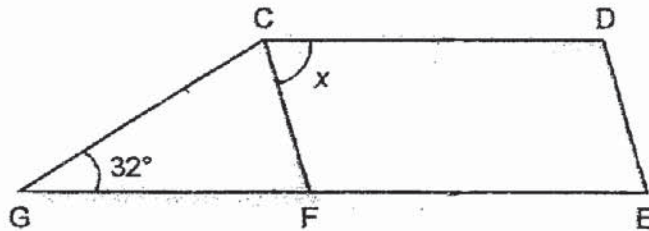
Ans: _____ cm^3



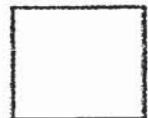
- 23 The average of three numbers is 13. After one of the numbers is changed to 6, the sum of the three numbers becomes 27. What is the original number that has been changed to 6?

Ans: _____

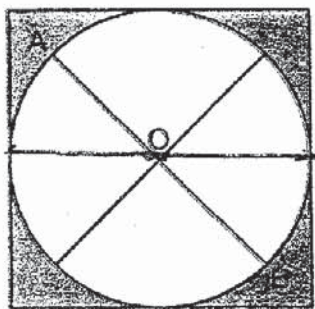
- 24 In the figure, CGF is an isosceles triangle. $GC = GF$ and $CD \parallel GE$. Find $\angle x$.



Ans: _____°

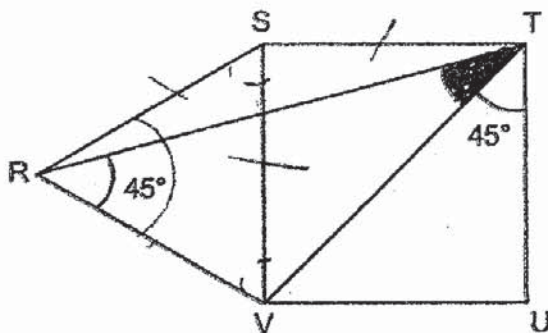


- 25 The figure below is made up of a square and a circle. O is the centre of the circle and the diameter $AOB = 14$ cm. Find the shaded area. Take $\pi = \frac{22}{7}$.

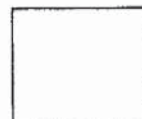


Ans: _____ cm^2

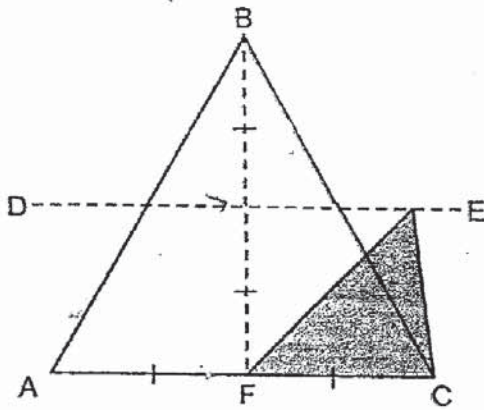
- 26 In the figure, $STUV$ is square and RSV is an equilateral triangle. $\angle TRV = 45^\circ$ and $\angle VTU = 45^\circ$. Find $\angle RTV$.



Ans: _____ $^\circ$



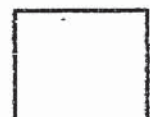
- 27 The area of triangle ABC below is $y \text{ cm}^2$.
 BF and DE are straight lines and $AC \parallel DE$.
 What is the area of the shaded triangle?



Ans: _____ cm^2

- 28 Marc cycled from his house at 5.50 p.m. and reached the library at 6.05 p.m.
 He cycled at an average speed of 20 km/h. Find the distance between his house
 and the library.

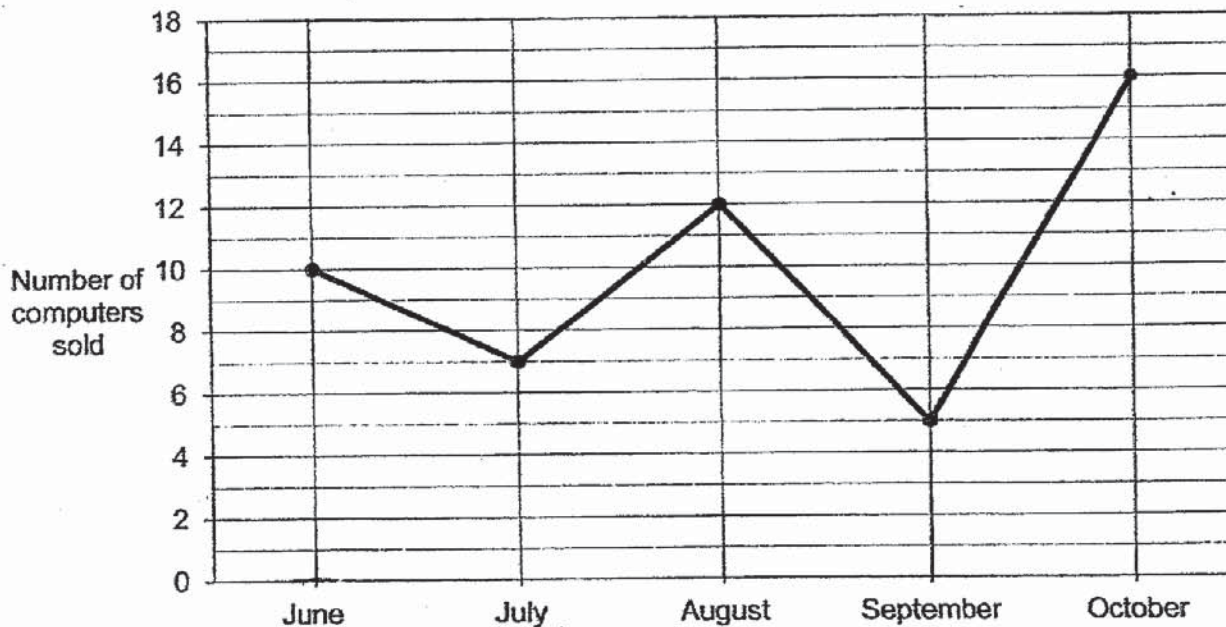
Ans: _____ km



- 29 Aziz wanted to start saving some money. For every \$4 saved by Aziz, his father added another \$2 to his savings. How much would Aziz have saved if he had a total of \$288 in his savings?

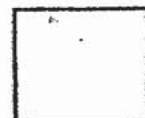
Ans: \$ _____

- 30 The line graph shows the number of computers sold by Mr Lee over 5 months.



In which month did he sell $\frac{1}{5}$ of the total number of computers he sold over the 5 months?

Ans: _____





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CHRISTIAN BROTHERS' SCHOOLS
PRELIMINARY EXAMINATIONS
2019
PRIMARY 6
MATHEMATICS
PAPER 2

NAME: _____ ()

CLASS: Primary 6 _____

Time : 1 h 30 min

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of an approved calculator is expected, where appropriate.

BOOKLET	MARKS	
	POSSIBLE	ACTUAL
PAPER 1	45	
PAPER 2	55	
TOTAL	100	

PARENT'S SIGNATURE: _____

This booklet consists of 15 printed pages.

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)

- 1 The number of people to a travel fair was 7820 on both Saturday and Sunday. On Sunday, there was a 30% increase in the number of people at the travel fair from Saturday. How many people were present at the travel fair on Saturday?

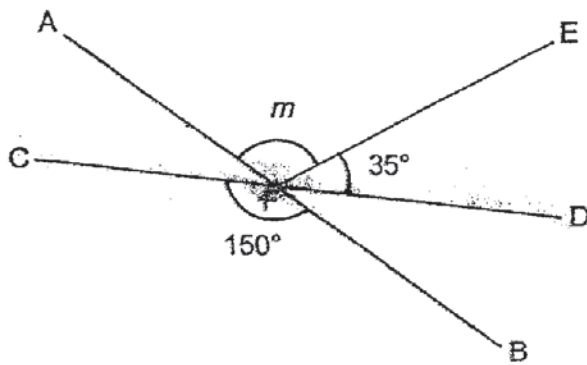
Ans: _____

- 2 Mr Ong cuts some cakes equally into a number of pieces. Each piece was $\frac{1}{4}$ of a cake. If he cuts them into pieces of $\frac{1}{7}$ of a cake each, there will be 42 more pieces. How many cakes did Mr Ong cut?

Ans: _____



- 3 In the figure, AB, CD and EF are straight lines. Find $\angle m$.



Ans: _____°

- 4 Three light bulbs flash at fixed intervals. The red bulb flashes every 3 minutes, the blue bulb flashes every 8 minutes and the green bulb flashes every 12 minutes. The three bulbs flashed together at 6 p.m. What time would all the bulbs flash together next?

Ans: _____



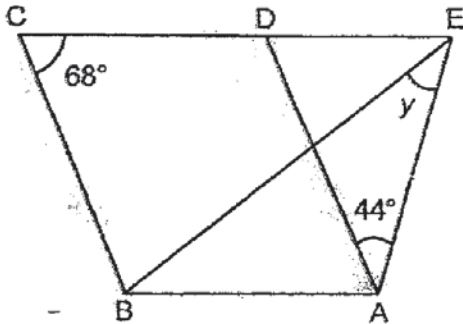
- 5 There are two numbers, A and B. Mabel shifted the decimal point of A thrice to the left and got B. The difference between A and B was 349.65. Find A.

Ans: _____



For questions 6 to 18, 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. (45 marks)

- 6 In the figure, ABCD is a rhombus and CDE is a straight line.
 $\angle BCD = 68^\circ$, $\angle DAE = 44^\circ$ and $AE = CD$. Find $\angle y$.



Ans: _____ [3]

- 7 Mr Tan bought a microwave oven for \$599 after a discount of 20%.
- (a) What was the price of the microwave oven before the discount?
- (b) He paid \$42 for a rice cooker. The total discount for the microwave oven and rice cooker was \$167.75. What was the percentage discount given for the rice cooker?

Ans: (a) _____ [1]

(b) _____ [2]

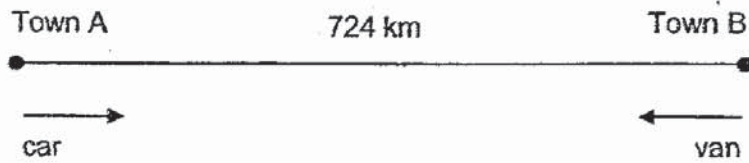


- 8 Elizabeth bought some books at an average cost of \$21. Kenston bought one more book than Elizabeth and paid \$57 more. On average, Kenston paid \$4 more than Elizabeth for each book. How many books did Kenston buy?

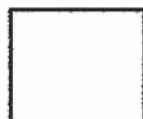
Ans: _____ [3]



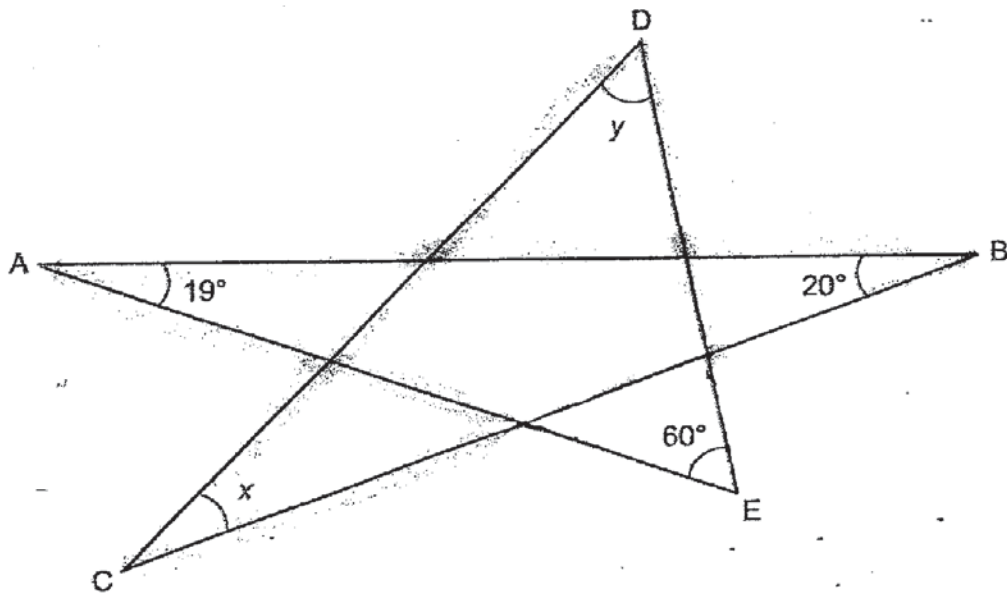
- 9 Town A and Town B are 724 km apart. A car departs from Town A and travels at an average speed of 96 km/h to Town B. At the same time, a van departs from Town B and travels at an average speed of 85 km/h to Town A. How far would the car have travelled when it meets the van on the way?



Ans: _____ [4]



- 10 In the figure, AB, BC, CD, DE and AE are straight lines. $\angle ABC = 20^\circ$, $\angle AED = 60^\circ$ and $\angle BAE = 19^\circ$. Find $\angle x + \angle y$.

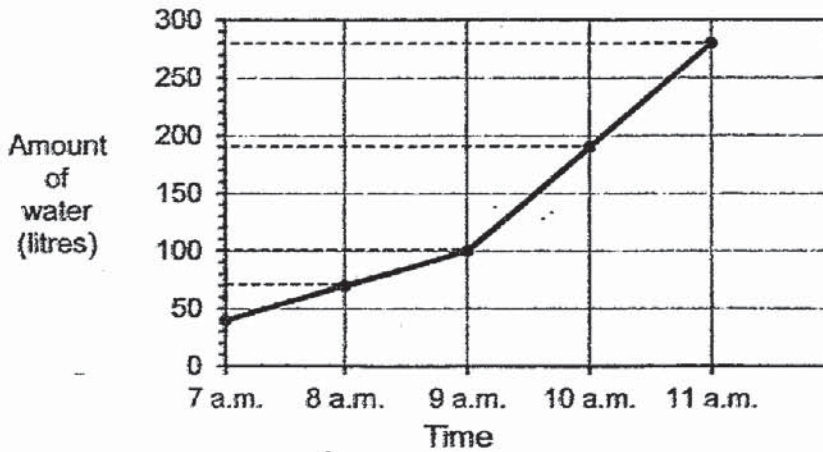


Ans: _____ [3]



- 11 A tank was $\frac{1}{8}$ filled with water. At 7 a.m., Tap A was turned on to fill the tank. Water flowed out from Tap A at the constant rate from 7 a.m. to 11 a.m. After 2 hours, Tap B was also turned on to fill the tank.

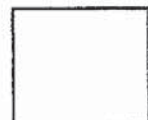
The graph below shows the volume of water in the tank from 7 a.m. to 11 a.m.



- (a) After the first 2 hours, what fraction of the whole tank was filled with water?
- (b) What was the amount of water that flowed out from Tap B from 9 a.m. to 11 a.m.?

Ans: (a) _____ [2]

(b) _____ [2]

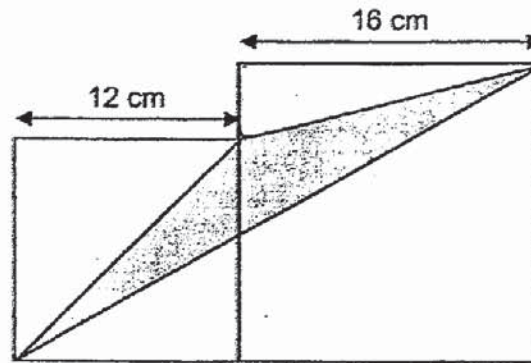


- 12 Mary spent $\frac{1}{6}$ of her money on 2 apples and 2 papayas.
The cost of one papaya is 3 times the cost of one apple.
She bought some more apples with $\frac{1}{4}$ of her remaining money.
How many apples did she buy altogether?

Ans: _____ [4]



- 13 The figure below is made up of two squares of side 12 cm and 16 cm and a shaded triangle. Find the area of the shaded triangle.



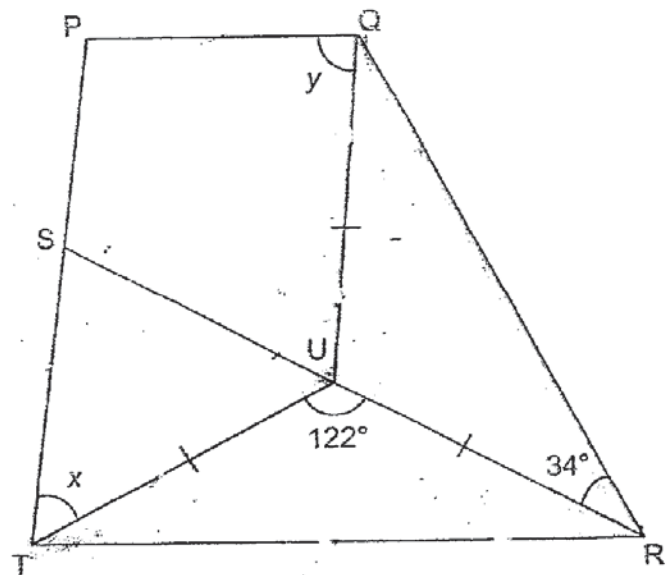
Ans: _____ [3]



- 14 In the figure, PQRT and PQUT are trapeziums. TRU and RUQ are isosceles triangles. $UT = UR = UQ$ and $PQ \parallel TR$ and $PT \parallel QU$. $\angle TUR = 122^\circ$ and $\angle QRU = 34^\circ$.

(a) Find $\angle x$.

(b) Find $\angle y$.

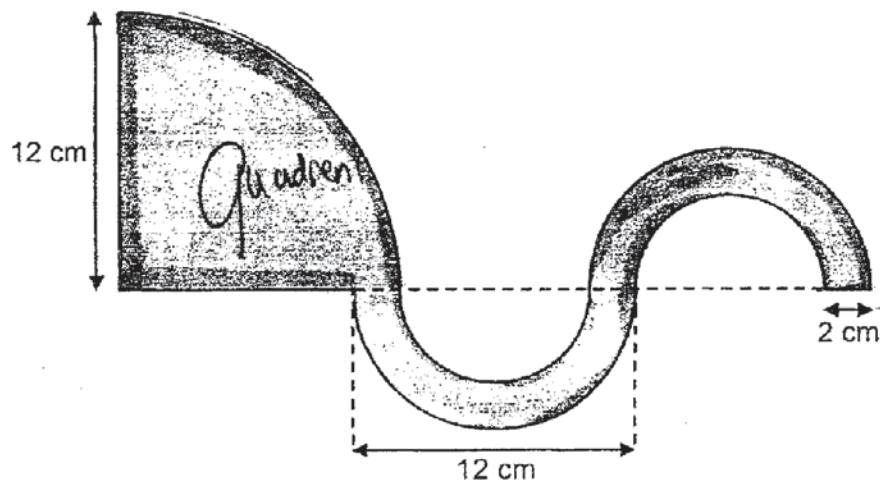


Ans: (a) _____ [3]

(b) _____ [2]



- 15 The figure below is formed by 1 large quarter circle, 2 identical large semicircles, 2 identical small semicircles and 3 straight lines.

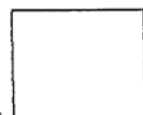


- (a) Find the area of the shaded figure.
 (b) Find the perimeter of the shaded figure.

Take $\pi = 3.14$

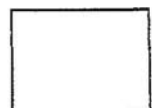
Ans: (a) _____ [2]

(b) _____ [2]

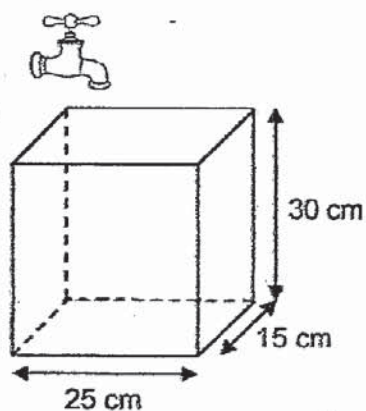


- 16 Box A contained 225 pens. Box B contained 320 rulers. Some pens were moved from Box A to Box B and some rulers were moved from Box B to Box A. In the end, $\frac{3}{10}$ of the items in Box A and $\frac{3}{5}$ of the items in Box B were pens. How many rulers were moved from Box B to Box A?

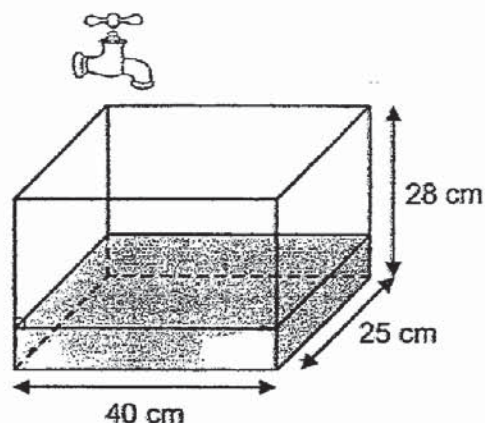
Ans: _____ [5]



- 17 Two rectangular tanks are shown below.



Tank A



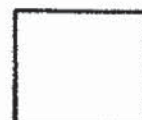
Tank B

At first, Tank A was empty and one quarter of Tank B was filled with water. Then both taps were turned on at the same time. Water from each tap flowed out at the rate of 3 litres per minute.

How long did it take for the height of the water level to be the same in both tanks?
Give your answer in minutes and seconds.
(1 litre = 1000 cm^3)

Ans: _____ [4]

END OF PAPER



ANSWER KEY

YEAR : 2019
 LEVEL : PRIMARY 6
 SCHOOL : Christian Brothers' School
 SUBJECT : Mathematics
 TYPE : Preliminary

Paper 1 (Booklet A)

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

Paper 1 (Booklet B)

Q16. 0.87

Q17. 1.56

Q18. 175

Q19. 23

Q20. $\frac{1}{4}$

Q21. $200/w - 1$

Q22. 729

Q23. 18

Q24. 74

Q25. 42

Q26. 30

Q27. $y/4$

Q28. 5

Q29. 192

Q30. June

Paper 2

Q1. $(7820/230) \times 100 = 3400$

Q2. $42/3 = 14$

Q3. $180 - 30 - 35 = 115$

Q4. 6.24pm

Q5. $0.35 \times 100 = 350$

Q6. $180 - 112 = 68$
 $68/2 = 34$

Q7.

- a) $(599/8) \times 10 = 748.75$
 b) $(18/60) \times 100\% = 30\%$

Q8. $32/4 = 8$
 $8 + 1 = 9$

Q9. $96 + 85 = 181$
 $724/181 = 4$
 $96 \times 4 = 384$

Q10. $180 - 39 - 60 = 81$

Q11.

- a) $5/16$
 b) $120L$

Q12. 12A

Q13. 72

Q14. (b) $\Delta URT = (180^\circ - 122^\circ) \div 2$
 $= 29^\circ$
 $\Delta y = 180^\circ - 29^\circ - 34^\circ - 34^\circ$
 $= 83^\circ$

(a) $\Delta QUR = (180^\circ - 34^\circ) \div 2$
 $\Delta QUT = 360^\circ - 122^\circ - 112^\circ$
 $= 126^\circ$
 $\Delta x = 180^\circ - 126^\circ = 54^\circ$

Q15. (a) Quarter

$\frac{1}{4} \times 12 \times 12 \times 3.14 = 113.04$

Large semicircles

$\frac{1}{2} \times 6 \times 6 \times 3.14 = 56.52$

Small semicircles

$\frac{1}{2} \times 4 \times 4 \times 3.14 = 25.12$

Large - small

$56.52 - 25.12 = 31.4$

$113.04 + 31.4 + 31.4 = 175.84m^2$

(b) $\frac{1}{4} \times 24 \times 3.14 = 18.84$

$(\frac{1}{2} \times 12 \times 3.14) \times 2 = 37.68$

$(\frac{1}{2} \times 8 \times 3.14) \times 2 = 25.12$

$18.84 + 37.68 + 25.12 + 10 + 12 + 2$
 $= 105.64cm$

Q16. 238 rulers moved from box B to box A
 102 pens moved from box A to box B

Q17. $3000 \div (40 \times 25) = 3cm$

$3000 \div (15 \times 25) = 8cm$

$8 - 3 = 5cm$

$7 \div 5 = 1\frac{2}{5} = 1min24sec$

2
 2nd.

