

Grade : 08

Year End Examination - 2019

32 E I

Mathematics

Time : Two Hours

Name / Index no.

.....  
 Invigilator's Signature

**Important**

For the use of examiners only

- The question paper contains 6 pages.
  - Write your Name / Index number correctly.
  - Answer all the questions in part I
  - Use the space provided under each question to write the answer and the working.
  - Answer only 6 questions in part II
  - Its compulsory to write the correct units and the relevant steps.
  - Marks are awarded as follows.
- Part I  
 2 marks for each correct answer for the questions from 1-20
- Part II  
 10 marks for the each question with correct answer.

Question number		Marks
Part - I	1-20	
Part - II	1	
	2	
	3	
	4	
	5	
	6	
	7	
Total		
..... Marked by		..... Code number
..... Checked by		..... Code number

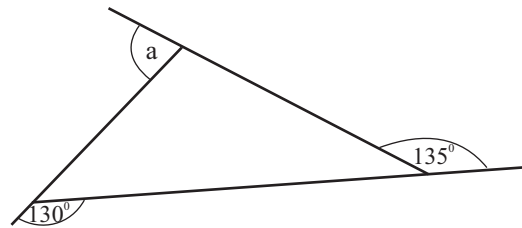
## Mathematics I

- Answer all the questions in the paper itself.

01. Find the 125<sup>th</sup> term of the number pattern 2, 4, 6, 8 .....

02. Find the value of  $3x + 4$  when  $x = 2$

03. Find the value of  $a$  in the figure.



04. Lebanon is situated in +2 time zone and Sri Lanka is in  $+5\frac{1}{2}$  time zone. Find the time in Lebanon when the time in Sri Lanka is 17:30.

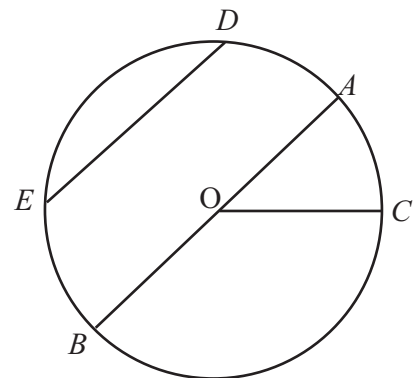
05. Write  $(2 \times 3)^2$  as product of powers and find the value.

06. Find the highest common factor of  $4x$ ,  $8xy$  and  $24xyz$ .

07.  $O$  is the centre of the circle given below.

i. Shade the minor segment

ii. Name the longest chord



08. Simplify :  $(+3) - (-5)$ .

09. If the statements, given regarding the platonic solids, are correct mark it as ( $\checkmark$ ) and if incorrect mark it as ( $\times$ ) in the boxes provided.

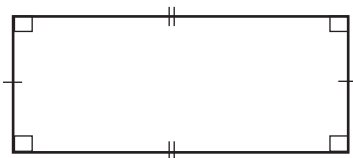
1. All the faces are identical.	
2. The number of faces and the number of edges are equal.	
3. The number of faces and number of edges meet at a vertex are equal.	

10. The area of a square flower bed is  $121 \text{ m}^2$ .

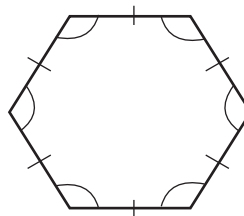
i. Find the length of a side.

ii. Find the perimeter of the flower bed.

11. Write the order of rotational symmetry of each of the plane figures given below.



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12. Nimal spends 15% of the salary for his children's education. If he spends Rs. 17 500 for the above purpose, find his salary.

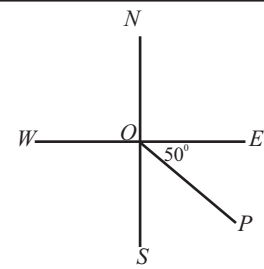
13. The mass of sugar stored in a container is  $5 \text{ t } 400 \text{ kg}$ . Find the total mass of sugar stored in 7 such containers.

14.  $A = \{ \text{Prime numbers less than } 10 \}$

i. List out the elements of the set  $A$ .

ii. Find  $n(A)$ .

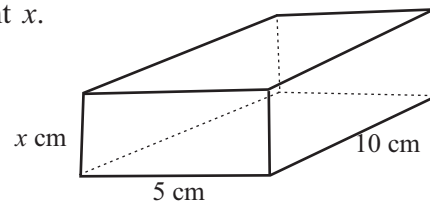
15. Write the direction of  $P$  from  $O$ .



16. Solve:  $\frac{x}{2} = 3$

17. When preparing a sweet, sugar and flour are mixed in the ratio 2:3 and flour and butter are mixed in the ratio 3:1. If 200 g of sugar is used, find the mass of butter used to make the sweet.

18. The total surface area of the cuboid, is  $220 \text{ cm}^2$ . Find the height  $x$ .



19. Underline the answer which includes the polygons that can be used to create pure tessellations.

- i. Equilateral triangle, regular pentagon, square
- ii. Regular hexagon, Equilateral triangle, Regular pentagon
- iii. Regular hexagon, square, Equilateral triangle
- iv. Regular hexagon, Regular octagon, Square.

20. In a bag, there are 3 red balls, 2 blue balls and 5 yellow balls which are equal in size. Find the probability of a ball being taken out randomly,

- i. Is a blue one.
  
- ii. Is a red or a yellow one.

## Part - II

❖ Answer six questions only.

(01) The following stem and leaf diagram shows the number of students, from different schools, who visited Dehiwala zoo on a certain day.

stem	leaf
4	5 6 7 8 8
5	0 0 8 9 9
6	0 3 6 6 6 7
7	1 3 3 7 9

Key : 4|7 means 47

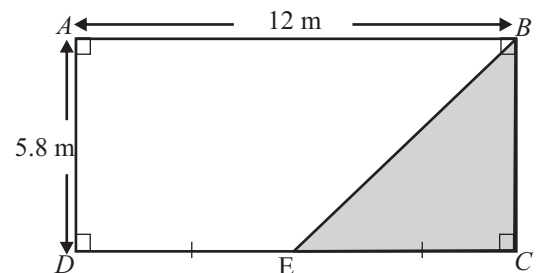
- i. How many schools visited the zoo on that day?
- ii. Find the range of the distribution
- iii. What is the mode?
- iv. Write the number of schools which more than 50 students visited as a fraction of the total number of schools. and write it in the simplest form.
- v. Hence, show that the percentage of the school which more than 50 students visited is more than 65%.

(02) a) i. Simplify :  $\frac{2}{5} \times 1\frac{7}{8}$

ii. Find how many pieces of rope of length  $1\frac{1}{2}$  m can be cut from a rope of length 9 m.

b) The diagram shows a rectangular lawn  $ABCD$ . A turf is laid on the shaded area.

- i. Find the area of the lawn ,  $ABCD$ .
- ii. Find the turfed area.
- iii. How many times is the area of the rectangular lawn as the turfed area?



(03) a) i. Remove brackets of  $3(2a + 5b)$

ii. Write  $15pq - 25pr$  as a product of two factors.

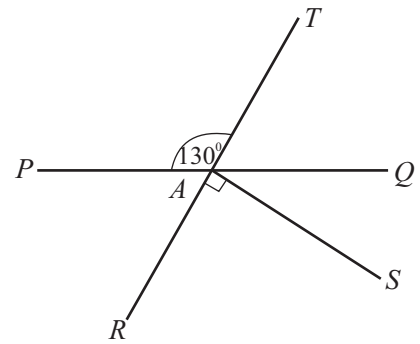
b) There are  $x$  number of books that worth Rs. 35 each and 5 books worth Rs. 30 each in a parcel prepared as a gift. The value of two such parcels is Rs. 580.

- i. Build up an equation using the above information.
- ii. Find the value of  $x$  by solving the equation.

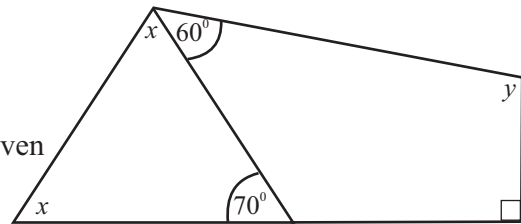
(04) a) In the diagram the straight lines  $PQ$  and  $RT$  intersect at  $A$ .

$\hat{P}AT = 130^\circ$  and  $\hat{R}AS = 90^\circ$

- Name a pair of supplementary adjacent angles.
- Find the value of  $\hat{SAQ}$ .
- Giving reasons, name an angle equal to  $\hat{PAR}$ .



- b) Find the values of  $x$  and  $y$  using the information given in the diagram.

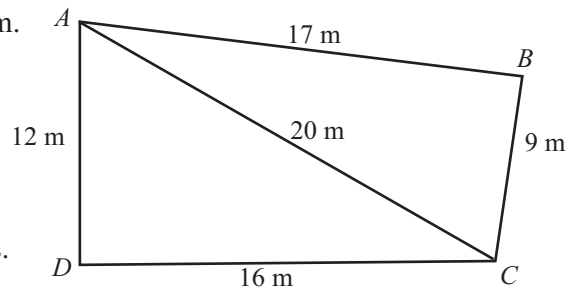


(05) A tank in the shape of a cuboid, of length 1.5 m, breadth 1 m and height 80 m is completely filled with water.

- Find the volume of water in the tank.
- Find the capacity of the tank in liters.
- When  $\frac{1}{4}$  of the water in the tank was used, write the remaining volume of water in liters.
- Find the height of the water level in the tank.

(06) A rough sketch of the land  $ABCD$  is shown in the diagram.

- Find the perimeter of the land  $ABCD$ .
- A wire fence of 4 strand is to be constructed around the land, find the length of the wire needed.
- Draw the scale diagram of  $ABCD$  taking the scale 1:200 using the knowledge of construction of triangles.
- Using the scale diagram, find the actual shortest distance between  $B$  and  $D$ .



- Plot the points  $A(5,5)$ ,  $B(5,1)$ ,  $C(-1,1)$  and  $D(-1,5)$  on a cartesian plane.
- Join the points in order such that a closed plane figure is obtained.
- Draw the axes of symmetry of the above figure.
- Write the equations of the axes of symmetry.
- Write the co-ordinates of the point of intersection of the axes of symmetry.

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