



Grade
08

### Third Term Test -2019

#### Mathematics - I, II

School : .....

Name of the Student Index No: .....

Time: 02 hrs.

### Part I

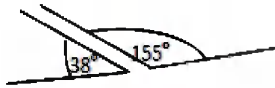
- Answer all the questions.

01. Write the special name of shaded part.



02. Find the value of  $(-3) - (-4)$

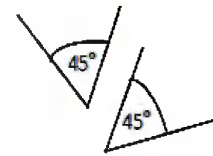
03. Underline the pairs of complementary angles from followings.



A



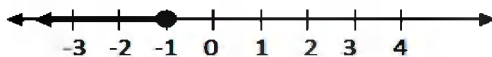
B



C

04. What is the 9<sup>th</sup> term of the triangular number pattern starting from 1 and written in ascending order.

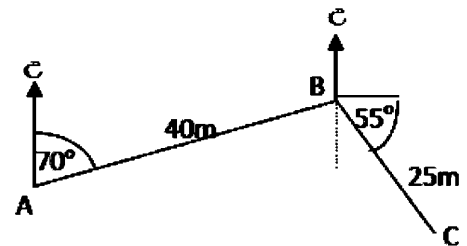
05. Write the inequality represented on the number line in algebraic form.



06. Simplify,  $3\frac{1}{2} \times \frac{3}{7} \div \frac{3}{4}$

07. Find the probability of getting a prime number when rolling an unbiased die with its faces marked from 1 to 6.

08. Describe the location of B from A.



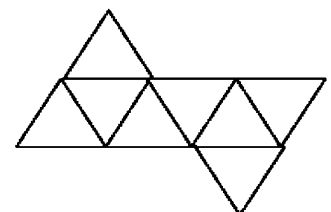
09. Express  $169x^2$  as a power of a product.

10. Name the plane figure which has no symmetrical axis and 2 Order of rotational symmetry.

11.  $\sqrt{2^4 \times 3^2 \times 5^2}$  Find the value.

12.  $16 - 4n + 24n^2$   
Write the above expression as a product of two factors.

13. Write the number of vertices of the solid which can be made by following net figure.



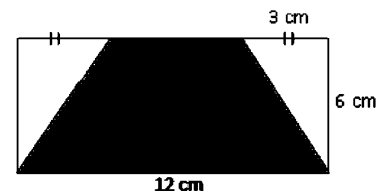
14. The mass of cement loaded in a lorry is 5t. Find the mass of remaining part, after removing 2t 750kg from it.

15. Solve the equation  $\frac{y}{4} - 1 = 5$

16. Find the median of following numbers 15 , 10 ,12 , 8 , 20 , 3 , 7 , 19 , 16

17. Find the time and date in Osaka, Japan when time in Sri Lanka is 22:00 on 2019.09.25.  
(Sri Lanka is located on the  $+5\frac{1}{2}$  time zone and Osaka is located on +9 time zones)

18. Find the area of shaded part.



19. Express 5% as a ratio in simplest form.

20. To make an alloy, copper and iron are mixed in the ratio 1:3 and iron and aluminum are mixed in the ratio 2:5. Find the ratio of copper to iron to aluminum.

## Part II

- Answer the first question and four other questions
- Answer five questions in all.

01.

- a) The number of units of electricity consumed by 30 families during one month is given below.
- 76 , 59 , 43 , 30 , 41 , 51 , 61 , 75 , 80 , 35 ,  
82 , 32 , 44 , 45 , 56 , 61 , 77 , 85 , 37 , 46 ,  
53 , 64 , 71 , 58 , 65 , 74 , 68 , 69 , 72 , 61 ,
- Represent this data in a stem and leaf diagram (04)
  - What is the minimum number of units that consumed? (01)
  - What is the maximum number of units that consumed? (01)
  - Find the range of this data. (01)
  - Write the number of houses which has consumed less than 50 units as a fraction from the total number of houses. (02)
  - An extra payment should be given by houses which consumed greater than 50 units. Show that there are 70% of houses should pay an extra payment. (02)
- b)  $A = \{\text{multiples of 3 less than 20}\}$   
 $B = \{\text{the even numbers of 3579}\}$
- Write the sets A and B with their elements. (02)
  - $10 \underline{\hspace{1cm}}$  A, put a suitable symbol in the blank. (01)
  - Write  $n(A)$  and  $n(B)$ . (02)

02.

- Draw a Cartesian plane where x- axis and the y- axis are marked from +6 to -6. (02)
- Mark the points with following coordinates and join all the points in the given order.  
 $(-2,4)$  ,  $(6,4)$  ,  $(4,0)$  ,  $(6,-4)$  ,  $(-2,-4)$  ,  $(0,0)$  (04)
- Draw the axes of symmetry on the figure and write their equations. (03)
- Write the coordinates of the point which the axes of symmetry are intersected each other. (02)

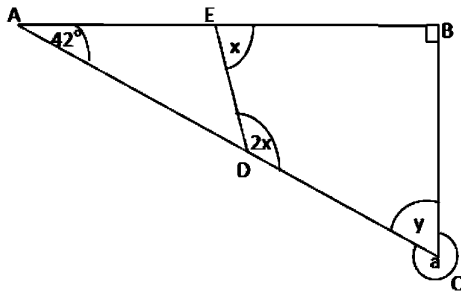
03.

- Construct the ABC triangle , with side lengths  $AB = 6\text{cm}$  ,  $BC = 8\text{cm}$  and  $AC = 10\text{cm}$  (03)
- Write the magnitude of  $\hat{A}BC$  (01)
- Write the name of the triangle due to the angle  $\hat{A}BC$  (01)
- Mark the midpoint of AC as O (01)
- Draw a circle by taking OA as the radius. (02)
- Write the special name of AC according to the circle. (01)
- Colour a sector of the circle  $BOC$  on the circle that you constructed. (02)

04. The length, breadth and height of a cuboids shaped vessel are 45cm, 20cm and  $y$  cm.  $\frac{1}{3}$  of vessel is filled with water and that volume is  $9000\text{cm}^3$ .

- i. When  $\frac{1}{3}$  of the vessel filled with water ,write the amount water using “ $y$ ” (02)
- ii. Find the height of the vessel in cm (03)
- iii. Find the maximum volume of the vessel in  $l$  (02)
- iv. If the vessel is completely filled with water, how many 500ml bottles can be filled from the water in the vessel. (02)
- v. The production cost of a500ml water bottle is Rs.15.00 and its selling price is Rs.40.00, Find the profit gained by selling all the bottles. (02)

05.



i. Find the magnitude of following angles by giving reasons according to the given information from the figure.

Y = \_\_\_\_\_ (02)

X = \_\_\_\_\_ (02)

a = \_\_\_\_\_ (01)

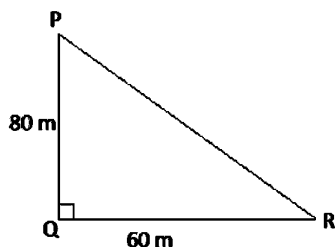
- ii. Find the magnitude of  $\widehat{EDA}$  by giving resonous. (02)
- iii. Name a pair of complementary angles from the triangle ABC (02)
- iv. If  $AB = 9\text{cm}$  ,  $BC = 8\text{cm}$  and  $AC = 12.04\text{ cm}$  , Find the area of the triangle ABC (02)

06.

a)Raheem’s mother gave Rs.450 to him and told him to spend,  $\frac{1}{3}$ on food, 10% on transport and remaining amount for buying a paper set.

- i. Find the amount of money spent on food. (01)
- ii. How much he spent for travelling? (02)
- iii. Write the amount of money which spent to buy the paper set as a percentage form the money that mother gave in a nearest whole number. (03)

b)



Above figure shows a sketch of the locations of  $P$ ,  $Q$  and  $R$

- i. Draw a scale diagram of the triangle  $PQR$  representing 20m by 1  $cm$  . (03)
- ii. Find the actual length of  $PR$  by using the Scale diagram. (02)