



Zonal Education Office - Vadamaradchy
Second Term Examination - 2018

Grade : 09

Mathematics

Time: 2 hours 30 minutes

Index No.:

Part- I

♦ Answer all questions.

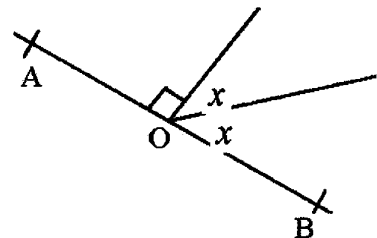
01. Solve. $x + 2 = 5$

02. Factorise. $4x^2 + 2x$

03. Find $\frac{1}{4}$ of Rs.64

04. Remove the bracket and simplify
 $4(m - 3)$

05. In the given figure,
AOB is straight line. Find the value of x



06. Give $3m^3$ in millilitres.

$$6 \times 1 = 6$$

07. Monthly salary of a person who works in abroad is 1000 American Dollars. Find his monthly in Sri Lankan rupees. (1 American Dollar = Rs.155.50)

08. Roundoff 12.678 to the nearest second decimal place

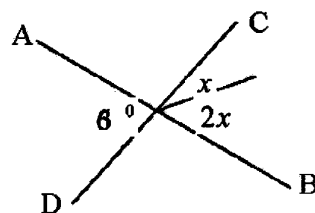
09. Express 101_{two} as a decimal number.

10. In a number pattern which common term is $56 - 4n$. Which term is 0 in the pattern.

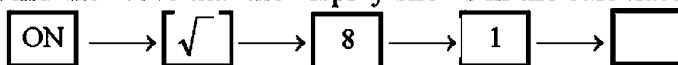
11. Simplify. $\frac{1}{4} + \left(2\frac{1}{3} \times \frac{2}{7}\right)$

12. Find the factors of. $r^2 - 3r - 0$

13. In the given figure, AB and CD are straight lines.
Find the value of x .

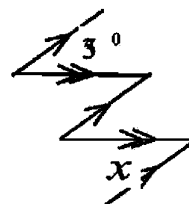


14. Find the value that the display shows in the calculator.



$$8 \times 2 = 6$$

15. Find the value of x in the given figure.

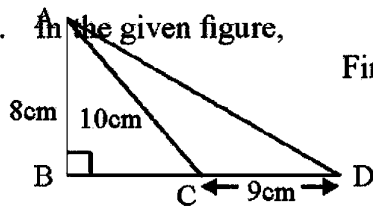


16. Simplify. $(x^{\frac{1}{2}}y^{-\frac{1}{2}})^2$

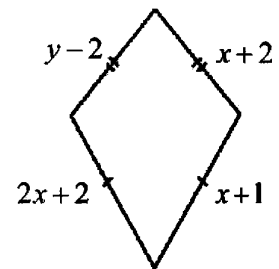
17. Make r as a subject of the formulae $E = C(R + r)$

18. Express $2x^{-3}$ as a positive index.

19. In the given figure, Find the length of AD.



20. Write the perimeter of the given kite as a whole number



$$6 \times 3 = 18$$

Part - II

♦ Answer five questions including question number one.

01. Using a pair of compasses and a straight edge only, draw the following constructions.
- Draw a straight line segment of length 10cm and name it as AB
 - Mark the point C such that $\hat{BAC} = 60^\circ$ and $AC = 6\text{cm}$.
 - Draw the locus of the point moving at 3cm of distance from AB which lies on the same side in which the point C is to the straight line AB
 - Draw the locus of the point moving equi distant from the sides AB and AC and mark the point of intersection to two loci as P.
 - Draw a perpendicular to the line AB from P. Name the point in which the perpendicular meets the line AB as Q.
 - Draw a circle of centre P and radius of PQ.
 - Write the radius of the circle.

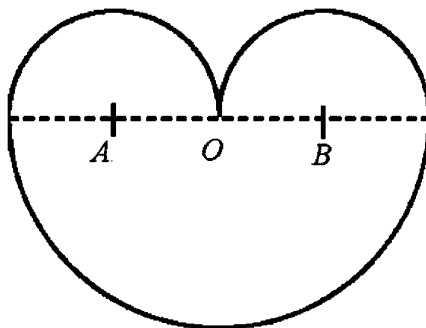
(2+3+2+2+3+2+2 marks)

02. A trader purchases a bicycle at Rs 12,000, and he marks the price to sell by keeping the profit of 20%.

- Find the marked price of the bicycle.
- If 8% of discount is given when selling that bicycle, find the selling price.
- Find the profit he gains by selling bicycle.
- Find the profit percentage.

(3+3+2+3 marks)

03. The figure shows a wall decoration made by using iron rods.

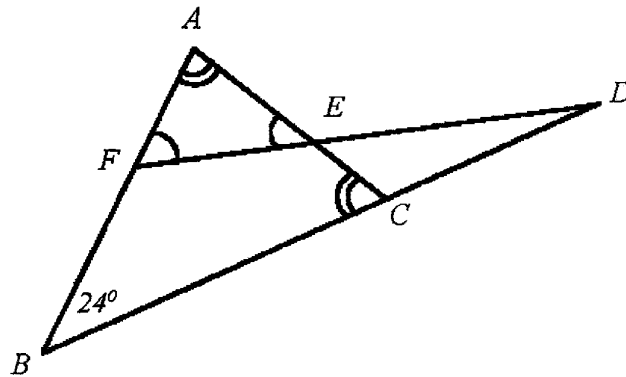


The decoration has been drawn, such that two semi circles of radius 7cm lie on the diameter of the large semi circle.

- Find the circumference of a small semi circle.
- Find the circumference of the large semi circle.
- Find the perimeter of the given figure.
- Show that, the perimeter of the figure is twice the circumference of the large semi circle.

(2+3+3+3 marks)

04. In the given figure $\hat{BAC} = \hat{ACB}$, $\hat{AFE} = \hat{AEF}$ Find the magnitude of the given angles and mention the reasons also.



- i) \hat{ACB}
- ii) \hat{AFE}
- iii) \hat{CDE}

(3+4+4 marks)

05. An incomplete table is given with values for drawing the graph of the function $y = 3x + 1$

x	-2	-1	0	1	2
y	-5	—	1	—	7

- (i) Fill in the blanks in the given table.
- (ii) Draw the graph of the given function in a suitable co-ordinate plane
- (iii) If the point $(-3, a)$ lies on the given straight line find the value of a .
- (iv) Write an equation which is parallel to the straight line drawn in question (ii) and goes through the origin.

(2+4+2+3 marks)

06.(i) Solve. $2(x-3)=8$

- (ii) Siva and Bala have a certain amount of money. When adding twice the amount Bala has with the amount Siva has, Rs.110 is received. When adding twice the amount Bala has with thrice the amount Siva has, Rs. 210 is received.

Taking the amount of money Siva has as Rs. x and the money Bala has as Rs. y ,

- a) Construct a pair of simultaneous equations in x and y .
- b) Solve the above simultaneous equations and find the amount of money Siva and Bala has separately.
- c) Find the amount of money Siva has more than the amount of money Bala has.

(3+3+3+2 marks)