SA-1 MATHEMATICS PAPER-01

MADHU.R 8095226364

I.**Choose the correct answer**: **8X1=8**

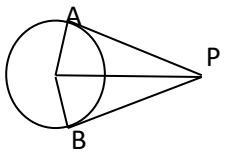
1.In ΔABC DE‖BC then which of the following is correct?

A)$\frac{AE}{EC}=\frac{AE}{AC}$ B) $\frac{AE}{EC}=\frac{AE}{EC}$ c) $\frac{AD}{AB}=\frac{AE}{AC}$ D) $\frac{AE}{DB}=\frac{AD}{EC}$

2.The graphical representation of two linear equation when they satisfy the condition $a_1/a_2 \neq b_1/b_2$ is ……

A)Coincident lines B)Intersecting lines C)Parallel lines D)Curved lines

3.In the figure ,if ∠APB=40^0 then the value of ∠AOP = ……..



4.If the perimeter and area of a circle are numerically equal then the radius of the circle is ……

A)2 units B)4 units C)& units D)∏ Units

5.The coordinate of a point A which lies on X-axis is ……

A)(5,3) B)(-4,2) c)(-3,-5) D)(-2,0)

6.The relation of Euclid's division lemma for integers ……

A)a=bqr B)a=bq+r C)a=b+Zr D)a=(b-q)r

7.If 6,x,10 are in AP then the value of 'x' is ……..

A)3 B)10 C)8 D)6

8.If two circles touches each other internally and distance between their centers is 2cm and radius of one circle is 3cm then radius of another circle is ……

A)1cm B)2cm C)6cm D)3cm

II. **Answer the following questions**: **8X1=8**

9.State Pythagoras theorem

10.How many solutions are there for a linear equations in two variables?

11.The length of a tangent from a point 5cm from the centre of a circle is 4cm.Find diameter of the circle.

12.If the vertices of the triangle are collinear ,then what is the area of the triangle?

13.State Euclid's division lemma.

14.Write the formula to find the sum of an arithmetic series if the first term is 'a' and last term is 'l'.

15.What are concentric circles?

16.What is a secant?

III. **Answer the following questions**: **2X8=16**

17.Which term of the AP is 17 if its third term is 38 and 8^{th} term is 23.

18.A ladder 10m long reaches a window 8m above the ground. Find the distance between the foot of the ladder from the base of the wall.

19.Solve x+y=10 and x-y =12.

20.Prove that tangents drawn at the ends of diameter are parallel.

21.Ina circle of radius 14cm an arc subtends an angle of 60^0 at the centre. Find the length of the arc.

22.Divide the line segment KL=12cm in the ratio 5:7

23.Find the coordinates of point on X-axis which are at a distance of 5 units from the point (6,-3).

24.Is (7x11x13+13) is a composite number? **MADHU.R 8095226364**

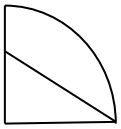
IV. **Answer the following questions**: **3x9=27**

25.Check whether the vertices P(1,-3) Q(-3,10) R(4,1) forms an right isosceles triangle.

26.Construct a tangent of length 4cm from a point which is a t a distance of 5cm from the centre of the circle.

[hint:$d^2=r^2+t^2$]

27.In the figure OACB is a quadrant of a circle with centre 'O' and radius 3.5cm.If OD=2cm,find the area of shaded region.

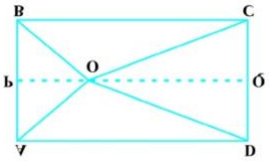


D B

28.Prove that the lengths of tangent drawn from an external point to a circle are equal.

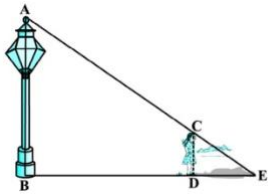
29.The ratio of income of two persons is 9:7 and the ratio of this expenditure is 4:3.If each of them manages to save Rs 2000 per month, find their income.

30.'O' is any point inside a rectangle ABCD. prove that $OB^2+OD^2=OA^2+OC^2$.



31.if the sum of first 7terms of an AP is 49 and that of 17 terms is 289,find the sum of first n terms.

32.A girl of height 90cm is walking away from the base of a lamp post at a speed of 1.2m/s.If the lamp is 3.6m above the ground ,find the length of her shadow after 4sec.



33.Thecost of fencing a circular field at the rate of Rs24 per meter is Rs5280.The field is to be ploughed at the rate of Rs0.50 per m^2,find the cost of ploughing the field.

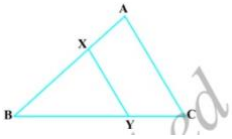
V. **Answer the following questions**: **4x4=16**

34.Prove "if a straight line drawn parallel to a side of a triangle divides other two sides proportionally".

35.Solve graphically 2x-y=2 and 4x-y=4.

36.If the first term of an AP is 3 ,the sum of the first 5 terms is $\frac{1}{11}$ th of the sum of next 5terms.Find the 20^{th} term.

37.The line segment XY is parallel to side AC of ΔABC and it divides the triangle into 2 parts of equal areas. Find AX/AB.



VI. **Answer the following questions**: **5x1=5**

38.An AP consists of 37 terms. The sum of three middle most term is 225 and the sum of the last three term is 429.Find the AP