

The circle passing through (1, -2) and touching the axis of x at (3, 0) also passes through the point:

- (a) (-5, 2) (b) (2, -5) (c) (5, -2) (d) (-2, 5)

Answer: (c)

Solution: The equation of circle passing through the point (p,q) and having radius r is $(x - p)^2 + (y - q)^2 = r^2$

Since given circle touches the x-axis at (3, 0) and passes through the point (1, -2).

$$\text{So, } (1 - 3)^2 + (r + 2)^2 = r^2$$

$$4 + r^2 + 4 + 4r - r^2 = 0$$

$$\Rightarrow r = 2$$

$$\text{So, circle is } (x - 3)^2 + (y + 2)^2 = 4$$

Point (5, -2) satisfy the equation.