Circles - Class XI

Related Questions with Solutions

Questions

Quetion: 01

The radius of the circle passing through the points (2, 3), (2, 7) and (5, 3) is k, find $2k$.

Solutions

Solution: 01

Let the equation of circle be

$x^2 + y^2 + 2gx + 2fy + c = 0$

Since circle passes through [2, 3], [2, 7] and [5, 3]

$\therefore 2^2 + 3^2 + 2(2)g + 2(3)f + c = 0$

$\Rightarrow 4g + 6f + c = -13$ .....[i]

Similarly, $4g + 14f + c = -53$ ...[ii]

and $10g + 6f + c = -34$ ...[iii]

On solving [i], [ii] and [iii], we get $g = \frac{-7}{2}, f = -5, c = 31$

$\therefore$ Radius $= \sqrt{g^2 + f^2 - c}$

$= \sqrt{\left(\frac{-7}{2}\right)^2 + (-5)^2 - 31} = \frac{5}{2}$ units $= k$

$\Rightarrow 2k = 5$

Correct Options

Answer:01

Correct Answer: 5