Circles - Class XI

Past Year JEE Questions

Questions

Quetion: 01

The lines 2x - 3y = 5 and 3x - 4y = 7 are diameters of a circle having area as 154 sq. units. Then the equation of the circle is

A. $x^2 + y^2 - 2x + 2y = 62$

B. $x^2 + y^2 + 2x - 2y = 62$

C. $x^2 + y^2 + 2x - 2y = 47$

D. $x^2 + y^2 - 2x + 2y = 47$

Solutions

Solution: 01

Explanation

$\pi r^2 = 154 \Rightarrow r = 7$

For center on solving equation

$2x - 3y = 5 \& 3x - 4y = 7$

we get $x = 1,\ y = -1$

$\therefore$ center $= (1, -1)$

Equation of circle,

$(x - 1)^2 + (y + 1)^2 = 7^2$

$x^2 + y^2 - 2x + 2y = 47$