

Equation of a Circle

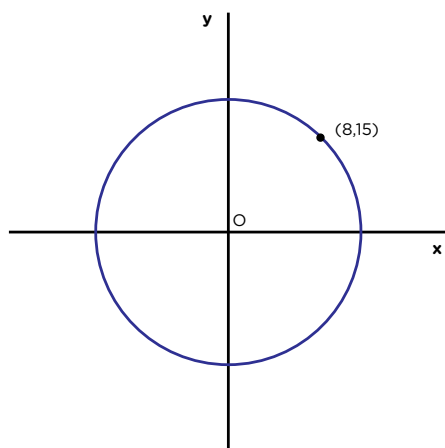
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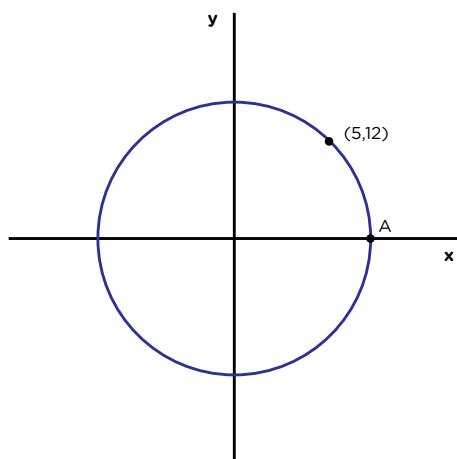
1. Write the equation of the circle with a centre at $(0, 0)$ and a radius of 6.

2. A circle with its centre at $(0, 0)$ has equation $x^2 + y^2 = 81$. Find the length of its diameter.

3. The diagram shows a circle with centre O and the point $(8, 15)$ which lies on the circle.
Write the equation of this circle.



4. Find the coordinates of the point A knowing that the circle has its centre at $(0, 0)$ and that the point $(5, 12)$ lies on the circle.



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5. Find the equation of the tangent to $x^2 + y^2 = 100$ at the point $(8, 6)$.
6. The line $y = -2x + 10$ is a tangent to the circle $x^2 + y^2 = 20$ at the point P. Find the coordinates of point P.