

Topic Test 1 (20 minutes)

Equation of a circle - Higher

Assume any lengths are in centimetres.

1	The equation of a circle is	$x^2 + y^2 = 2$

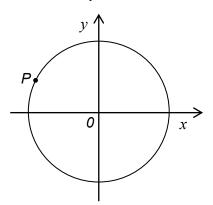
2 A circle has centre (0, 0) and a radius of 3 Circle the equation. [1 mark]

[1 mark]
$$x^2 + y^2 = 9 x^2 + y^2 = 3 x^2 + y^2 = \sqrt{3} x^2 + y^2 = 6$$

3 The area of circle centred on the origin is 25π Work out the equation of the circle. [2 marks]

Answer

4 P(-5, 1) is a point on the circle $x^2 + y^2 = 26$



Not drawn accurately

Work out the equation of the tangent to the circle at *P*.

[4 marks]

Answer

The circle $x^2 + y^2 = 13$ and the line 5y + x = 13 intersect at points A and B. 5 y Not drawn accurately 0 **5 (a)** Work out the length of the chord *AB*. [6 marks] Answer units Show that angle $AOB = 90^{\circ}$ 5 (b) [2 marks]

6	Show that the line $y = -3x + 10$ is a tangent to the circle $x^2 + y^2 = 10$	[4 marks]