THE CIRCLE (Q 3, PAPER 2)

1997

3	(a)	 The equation of a circle is x² + y² = 49. Write down (i) its radius length (ii) the coordinates of the points where it intersects the x-axis.
	(b)	Prove that the line $x - 2y + 10 = 0$ is a tangent to the circle whose equation is $x^2 + y^2 = 20$.
	(c)	<i>C</i> is the circle with centre $(-1, 2)$ and radius 5. Write down the equation of <i>C</i> . The circle <i>K</i> has equation $(x-8)^2 + (y-14)^2 = 100$. Prove that the point $p(2, 6)$ is on <i>C</i> and on <i>K</i> . Show that <i>p</i> lies on the line which joins the centres of the two circles.

Answers

3 (a) (i) r = 7 (ii) (-7, 0), (7, 0) (c) $(x+1)^2 + (y-2)^2 = 25$