CIRCLE (Q 1, PAPER 2)

LESSON NO. 1: THE THREE CIRCLE EQUATIONS

2006

1 (a) $a(-1, -3)$ and $b(3, 1)$ are the end-points of a diameter of a circle. Write down the equation of a circle.

2004

1 (a) A circle has centre $(-1, 5)$ and passes through the point $(1, 2)$. Find the equation of the circle.

2002

1 (b) The points $a(-2, 4)$, $b(0, -10)$ and $c(6, -2)$ are the vertices of a triangle.

    (i)   Verify the the triangle is right-angled at c.

    (ii) Hence, or otherwise, find the equation of the circle that passes through the points a, b and c.

2001

1 (a) A circle with centre $(-3, 7)$ passes through the point $(5, -8)$. Find the equation of the circle.

ANSWERS

2006 1 (a) $(x-1)^2 + (y+1)^2 = 8$ or $x^2 + y^2 - 2x + 2y - 6 = 0$

2004 1 (a) $(x+1)^2 + (y-5)^2 = 13$ or $x^2 + y^2 + 2x - 10y + 13 = 0$

2002 1 (b) (ii) $x^2 + y^2 + 2x + 6y - 40 = 0$

2001 1 (a) $(x+3)^2 + (y-7)^2 = 289$ or $x^2 + y^2 + 6x - 14y - 231 = 0$