THE CIRCLE (Q 3, PAPER 2)

2010

- 3 (a) A circle with centre (0, 0) passes through the point (5, -12).
 - (i) Find the radius of the circle.
 - (ii) Write down the equation of the circle.
 - (b) The circle *c* has equation $x^2 + y^2 = 17$. *l* is the line x - 4y - 17 = 0. The line *l* is a tangent to *c* at the point *T*.
 - (i) Find the co-ordinates of *T*.
 - (ii) The point *T* is one end-point of a diameter of *c*.Find the co-ordinates of the other end-point.
 - (c) A circle has equation $x^2 + (y-7)^2 = 100$.
 - (i) Write down the co-ordinates of the centre of the circle and the radius of the circle.
 - (ii) The point (6, h) is on the circle. Find the two possible values of h.

Answers 3 (a) (i) 13 (ii) $x^2 + y^2 = 169$ (b) (i) T(1, -4) (ii) (-1, 4) (c) (i) Centre (0, 7), r = 10(ii) h = -1, 15