THE CIRCLE (Q 3, PAPER 2)

1999

- 3 (a) *C* is a circle with centre (0, 0) passing through the point (8, 6). Find
 - (i) the radius length of C
 - (ii) the equation of *C*.
 - (b) The points (−1, −1) and (3, −3) are the end points of a diameter of a circle S.
 (i) Find the coordinates of the centre of S.
 - (ii) Find the radius length of *S*.
 - (iii) Find the equation of *S*.
 - (c) A circle K has equation x² + y² = 13.
 T is a tangent to K at (-2, -3).
 Find the equation of T.
 Find the equation of the other tangent to K which is parallel to T.

Answers 3 (a) (i) 10 (ii) $x^2 + y^2 = 100$ (b) (i) (1, -2) (ii) $\sqrt{5}$ (iii) $(x-1)^2 + (y+2)^2 = 5$ (c) 2x+3y+13=0; 2x+3y-13=0