



SPTA

Higher Homework

The Circle (A)



1. A circle has a centre of (3,-6) and a radius of $\sqrt{23}$. Write down the equation of this circle. (2)
2. A circle has the equation $x^2 + y^2 - 2x + 6y - 1 = 0$
What are the radius and the centre of this circle? (2)
3. The line with equation $y = 2x$ intersects the circle with equation $x^2 + y^2 = 5$ at the points P and Q.
What are the x-coordinates of P and Q? (2)
4. The point A(-1, 2) lies on the circle with equation $x^2 + y^2 - 6x - 8y + 5 = 0$
What is the equation of the tangent at A? (4)
5. Show that the line $y = -3x - 10$ is a tangent to the circle $x^2 + y^2 - 8x + 4y - 20 = 0$ and
find the point of contact. (4)
6. (a) The line $y = x - 4$ intersects the circle with equation $x^2 + y^2 - 2x - 2y - 56 = 0$ at two points A and B.

Find the coordinates of A and B. (4)

(b) Find the equation of the circle which has AB as its diameter. (4)

