

11 The circle with equation $(x - 7)^2 + (y + 2)^2 = 5$ has centre C .

11 (a) (i) Write down the radius of the circle.

[1 mark]

11 (a) (ii) Write down the coordinates of C .

[1 mark]

11 (b) The point $P(5, -1)$ lies on the circle.

Find the equation of the tangent to the circle at P , giving your answer in the form

$$y = mx + c$$

[4 marks]

11 (c) The point $Q(3, 3)$ lies outside the circle and the point T lies on the circle such that QT is a tangent to the circle. Find the length of QT .

[4 marks]