

11 The equation of a circle with centre C is $x^2 + y^2 - 8x + 4y - 5 = 0$.

(a) Find the radius of the circle and the coordinates of C .

[3]

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

The point $P(1, 2)$ lies on the circle.

(b) Show that the equation of the tangent to the circle at P is $4y = 3x + 5$.

[3]

[illegible]

The point Q also lies on the circle and PQ is parallel to the x -axis.

- (c) Write down the coordinates of Q . [2]

The tangents to the circle at P and Q meet at T .

- (d)** Find the coordinates of T . [3]

[illegible]