

11 A circle with centre C has equation $x^2 + y^2 + 8x - 12y = 12$

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

[3 marks]

11 (b) The points P and Q lie on the circle.

The origin is the midpoint of the chord PQ .

Show that PQ has length $n\sqrt{3}$, where n is an integer.

[5 marks]