

10 In this question you must show detailed reasoning.

The points P, Q and R have coordinates $(-3, 7)$, $(11, 5)$ and $(9, -9)$ respectively.

(a) Show that PQ is perpendicular to QR. **[3]**

A circle passes through P, Q and R.

(b) Determine the coordinates of the centre of the circle. **[3]**