

**5** In this question you must show detailed reasoning.

Points  $A$ ,  $B$  and  $C$  have coordinates  $(0, 6)$ ,  $(7, 5)$  and  $(6, -2)$  respectively.

**(a)** Find an equation of the perpendicular bisector of  $AB$ . **[3]**

**(b)** Hence, or otherwise, find an equation of the circle that passes through points  $A$ ,  $B$  and  $C$ . **[5]**