

7 Three points A , B and C have coordinates $A(8, 17)$, $B(15, 10)$ and $C(-2, -7)$

7 (a) Show that angle ABC is a right angle.

[3 marks]

7 (b) A , B and C lie on a circle.

7 (b) (i) Explain why AC is a diameter of the circle.

[1 mark]

7 (b) (ii) Determine whether the point $D(-8, -2)$ lies inside the circle, on the circle or outside the circle.

Fully justify your answer.

[4 marks]