

8 The points A and B have coordinates $(-6, 8)$ and $(12, 2)$ respectively.

- (a) Find an equation of the straight line passing through A and B in the form $ax + by + c = 0$, where a , b and c are integers to be found.

(3)

- (b) Find the exact length of AB

(2)

The point X with coordinates (m, n) lies on AB such that $AX:XB = 1:2$

- (c) Find the value of m and the value of n

(2)

The line L passes through the point X and is perpendicular to AB

The point C with coordinates (p, q) lies on L where $p > 0$ and $q > 0$

Given that AB is a diameter of a circle and C also lies on the circumference of the circle,

- (d) find

(i) the exact value of p

(ii) the exact value of q

(7)

- (e) Find the exact area of triangle ABC

(3)

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Question 8 continued

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Question 8 continued

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(Total for Question 8 is 17 marks)

