

- 6 The line l passes through the point A with coordinates $(-2, 2)$ and the point B with coordinates $(3, 12)$

The point C with coordinates (p, q) lies on l such that $AC : CB = 3 : 2$

- (a) Find the value of p and the value of q

(2)

The line k is perpendicular to l and passes through the point C

- (b) Show that an equation of k is $2y + x - 17 = 0$

(4)

The line k crosses the x -axis at the point D

- (c) Find the exact length of CD

(3)

The point X with coordinates (m, n) lies on l such that

$$\text{area of triangle } DXC = 80 \text{ units}^2$$

Given that $m > 0$

- (d) find the value of m and the value of n

(7)

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Question 6 continued

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Question 6 continued

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(Total for Question 6 is 16 marks)

