

3

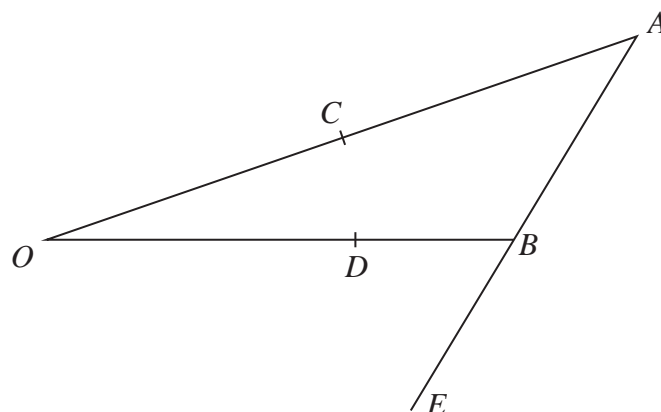
Diagram **NOT**
accurately drawn

Figure 1

In Figure 1, $\vec{OA} = \mathbf{a}$ and $\vec{OB} = \mathbf{b}$

The point C is the midpoint of OA and the point D divides OB in the ratio $2:1$

(a) Find \vec{CD} in terms of \mathbf{a} and \mathbf{b}

(2)

The point E lies on AB produced such that $\vec{OE} = 2\mathbf{b} - \mathbf{a}$

(b) Find \vec{CE} in terms of \mathbf{a} and \mathbf{b}

(2)

(c) Hence show that C , D and E are collinear.

(2)

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Question 3 continued

Handwriting practice area with horizontal dotted lines.

(Total for Question 3 is 6 marks)

