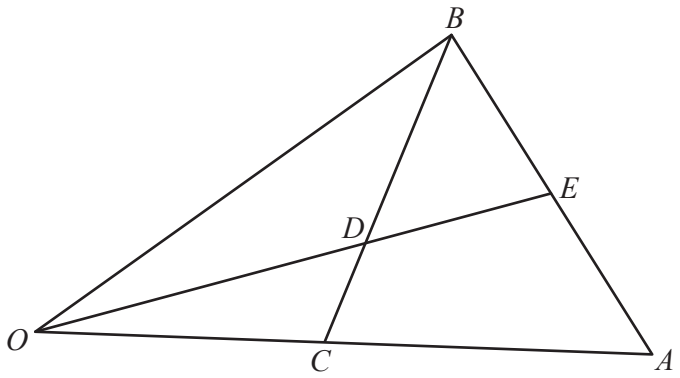
10



The diagram shows a triangle OAB. The point C is the mid-point of OA. The point D lies on CB such that $CD : DB = 2 : 3$.

$$\overrightarrow{OC} = \mathbf{c} \qquad \overrightarrow{CB} = \mathbf{b}$$

The point E lies on AB such that $\overrightarrow{OE} = \lambda\overrightarrow{OD}$ and $\overrightarrow{AE} = \mu\overrightarrow{AB}$ where λ and μ are scalars.
Find two expressions for $\overrightarrow{OE}$, each in terms of **b**, **c** and a scalar, and hence find $AE : EB$. [8]

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Continuation of working space for Question 10.

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