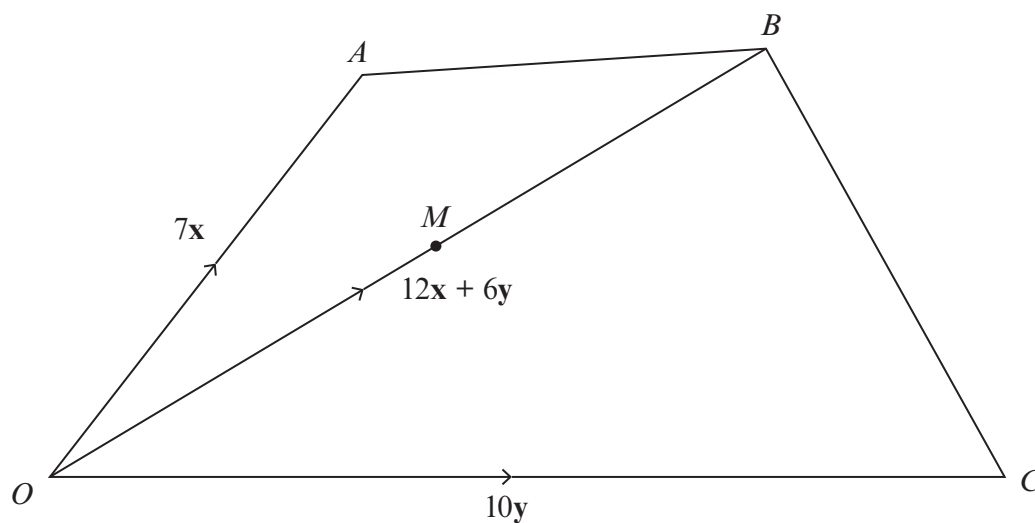


13. The diagram shows a quadrilateral $OABC$.



In the quadrilateral $OABC$, the vectors \mathbf{OA} , \mathbf{OB} and \mathbf{OC} are given by $\mathbf{OA} = 7\mathbf{x}$, $\mathbf{OB} = 12\mathbf{x} + 6\mathbf{y}$ and $\mathbf{OC} = 10\mathbf{y}$.

(a) Express \mathbf{AC} in terms of \mathbf{x} and \mathbf{y} .

.....

.....

[1]

(b) \mathbf{M} is the mid-point of \mathbf{OB} .
Express each of the following in terms of \mathbf{x} and \mathbf{y} in their simplest form.

(i) \mathbf{MO}

.....

.....

.....

[1]

(ii) \mathbf{MC}

.....

.....

.....

[1]