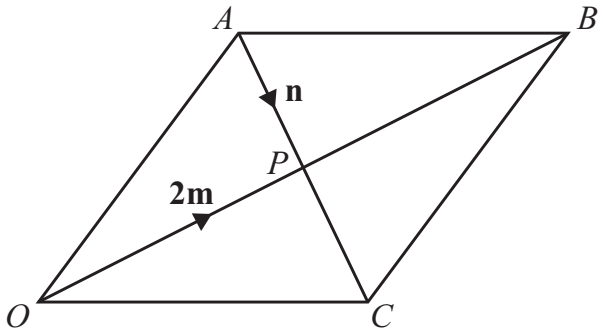
**21**




NOT TO SCALE

$OABC$ is a rhombus and $O$ is the origin.
The diagonals of the rhombus intersect at $P$.
$\overrightarrow{OP} = 2\,\mathbf{m}$ and $\overrightarrow{AP} = \mathbf{n}$.

**(a)** Find, in terms of **m** and **n**, in its simplest form

**(i)** $\overrightarrow{OA}$

$\overrightarrow{OA} =$ ..... [1]

**(ii)** $\overrightarrow{OC}$.

$\overrightarrow{OC} =$ ..... [1]

**(b)** $D$ is the point such that $\overrightarrow{AD} = 10\mathbf{m} - 3\mathbf{n}$.

Show that $OADC$ is a trapezium.

[3]