

**MX**  
**SP****2**  
Band

The diagram shows a grid of equally spaced lines.

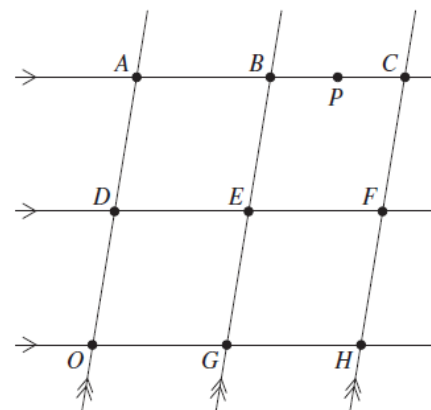
The vector  $\vec{OH} = \vec{h}$  and the vector  $\vec{OA} = \vec{a}$ .The point  $P$  is halfway between  $B$  and  $C$ .Which expression represents the vector  $\vec{OP}$ ?

A.  $-\frac{1}{2}\vec{a} - \frac{1}{4}\vec{h}$

B.  $\frac{1}{4}\vec{a} - \frac{1}{2}\vec{h}$

C.  $\vec{a} + \frac{1}{4}\vec{h}$

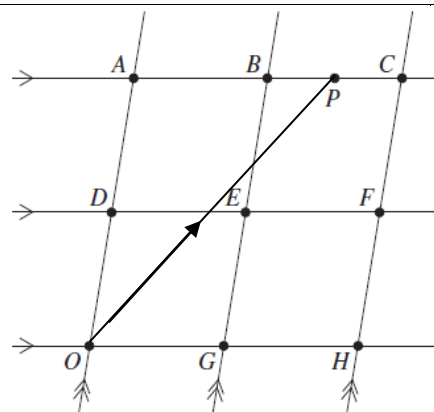
D.  $\vec{a} + \frac{3}{4}\vec{h}$

**1****D**

$$\vec{OA} = \vec{a}.$$

$$\text{As } \vec{OH} = \vec{h}, \text{ then } \vec{OP} = \frac{3}{4}\vec{h}.$$

$$\therefore \vec{OP} = \vec{a} + \frac{3}{4}\vec{h}$$

\* These solutions have been provided by [projectmaths](http://projectmaths.com.au) and are not supplied or endorsed by NESA.Looking for **Mathematics Extension 1** Topic Revision?Go to our [MathsFit](#) page for downloads – just \$2.95