

Vector diagrams involving midpoints

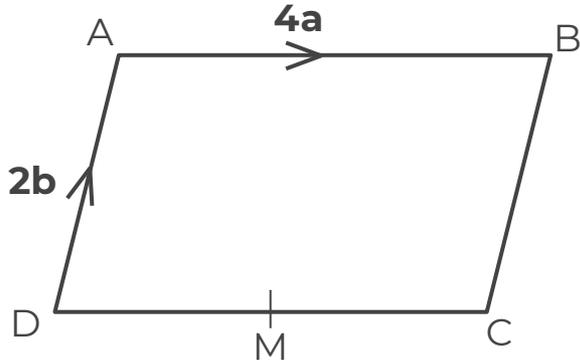
Maths

Miss Davies



Vector diagrams involving midpoints

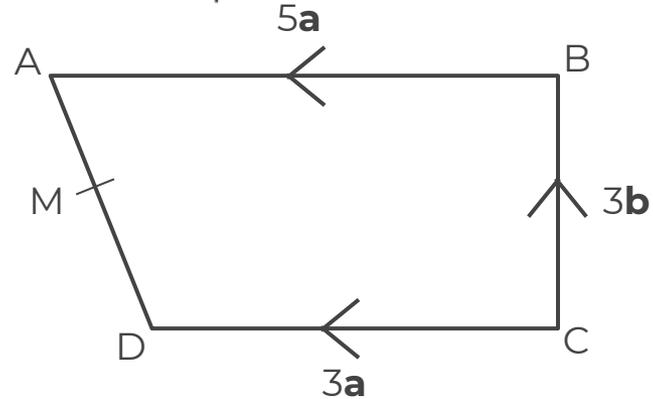
1. The diagram shows a parallelogram. M is the midpoint of CD.



Write the following vectors in terms of \mathbf{a} and \mathbf{b} .

- a) \overrightarrow{DM} b) \overrightarrow{MC} c) \overrightarrow{MB} d) \overrightarrow{AM}

2. The diagram shows a trapezium. M is the midpoint of AD.



Write the following vectors in terms of \mathbf{a} and \mathbf{b} .

- a) \overrightarrow{DA} b) \overrightarrow{DM} c) \overrightarrow{AM}



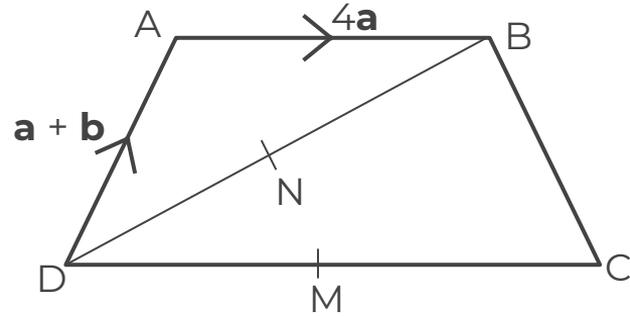
Vector diagrams involving midpoints

3. The diagram shows a trapezium.

$$DC = 2AB$$

M is the
midpoint of CD

N is the
midpoint of BD



Write the following vectors in terms of \mathbf{a} and \mathbf{b} .

- a) \overrightarrow{DM} b) \overrightarrow{DN} c) \overrightarrow{MN} d) \overrightarrow{AM}

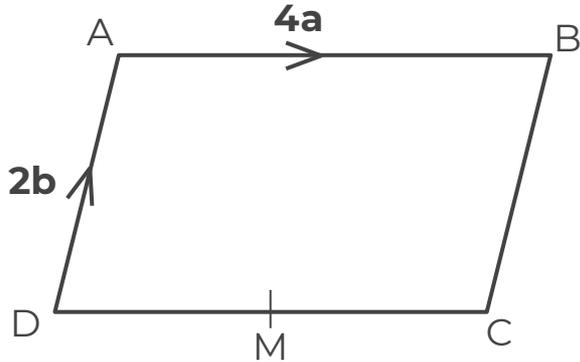


Answers



Vector diagrams involving midpoints

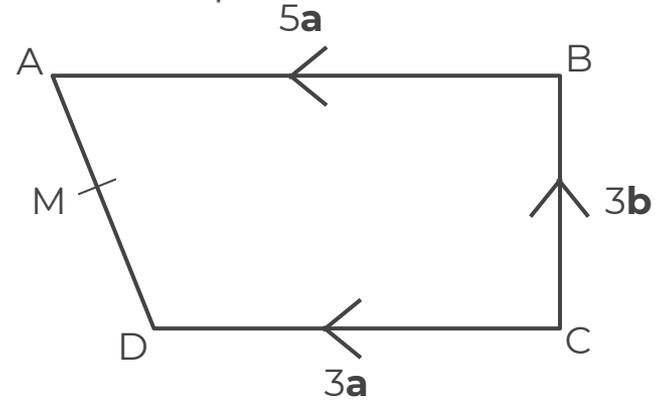
1. The diagram shows a parallelogram. M is the midpoint of CD.



Write the following vectors in terms of a and b.

- a) \overrightarrow{DM} $2a$ b) \overrightarrow{MC} $2a$ c) \overrightarrow{MB} $2a + 2b$ d) \overrightarrow{AM} $2a - 2b$

2. The diagram shows a trapezium. M is the midpoint of AD.



Write the following vectors in terms of a and b.

- a) \overrightarrow{DA} $2a + 3b$ b) \overrightarrow{DM} $a + \frac{3}{2}b$ c) \overrightarrow{AM} $-a - \frac{3}{2}b$



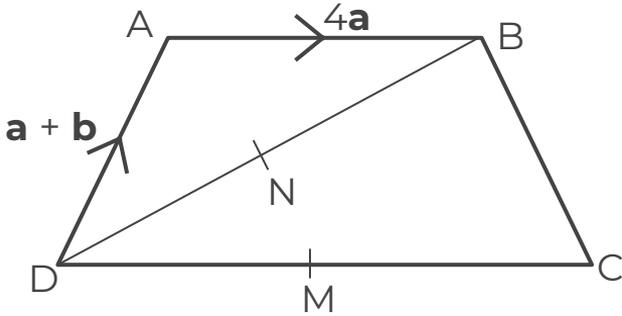
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3. The diagram shows a trapezium.

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Write the following vectors in terms of \mathbf{a} and \mathbf{b} .

- a) \overrightarrow{DM} b) \overrightarrow{DN} c) \overrightarrow{MN} d) \overrightarrow{AM}
 $4\mathbf{a}$ $\frac{5}{2}\mathbf{a} + \frac{1}{2}\mathbf{b}$ $\frac{1}{2}\mathbf{b} - \frac{3}{2}\mathbf{a}$ $3\mathbf{a} - \mathbf{b}$

