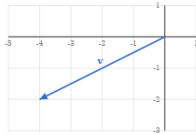




Add and subtract vectors

1

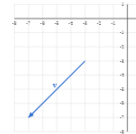
Write the vector shown on the grid in row matrix form.



- | | | | |
|---|------------|---|-----------|
| A | $[4, -2]$ | B | $[4, 2]$ |
| C | $[-4, -2]$ | D | $[-4, 2]$ |

2

Write the vector shown on the grid in row matrix form.

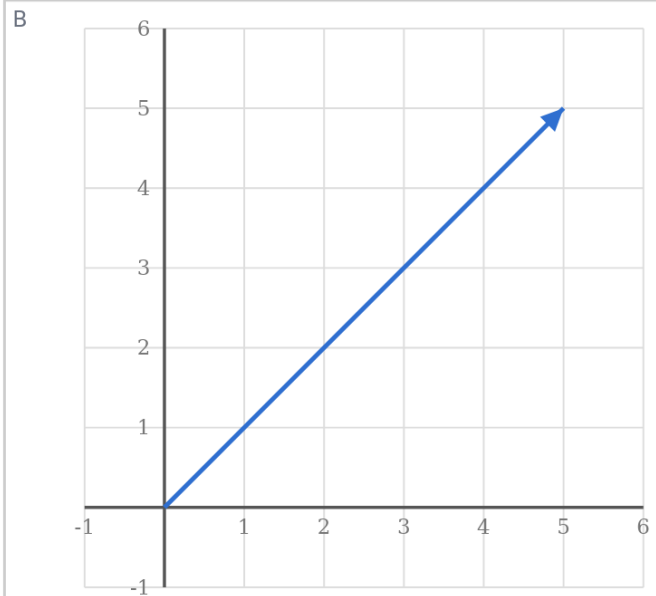
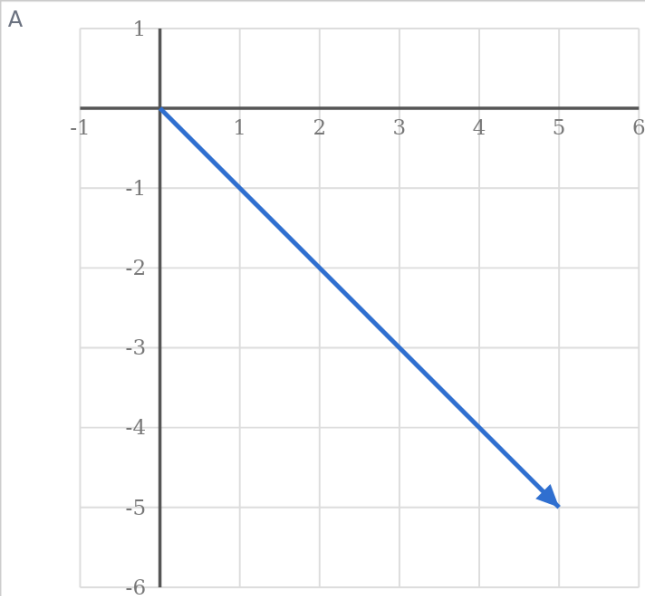


- | | | | |
|---|------------|---|-----------|
| A | $[4, -4]$ | B | $[4, 4]$ |
| C | $[-4, -4]$ | D | $[-4, 4]$ |

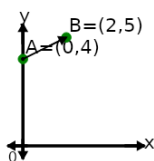
3

Choose the grid that shows this vector with its base at the origin.

$$\vec{v} = [5, 5]$$

**4**

Find the (x,y) change to go from point A to point B on the diagram



- | | | | | | |
|---|-----------|---|----------|---|----------|
| A | $(2, -1)$ | B | $(3, 1)$ | C | $(2, 1)$ |
| D | $(2, 2)$ | E | $(1, 2)$ | F | $(2, 0)$ |

5Choose the grid that shows u and v tip to tail with $u + v$ as a dashed vector.

$$\vec{u} = [1, 2], \quad \vec{v} = [-1, -1]$$





Add and subtract vectors

6Write $u + v$ as a single vector expression.

$$\vec{u} = \begin{bmatrix} 3 \\ -3 \end{bmatrix}, \quad \vec{v} = \begin{bmatrix} -4 \\ 3 \end{bmatrix}$$

A

$$\vec{u} + \vec{v} = \begin{bmatrix} 3 + 3 \\ -3 + -4 \end{bmatrix}$$

B

$$\vec{u} + \vec{v} = \begin{bmatrix} 3 - -4 \\ -3 - 3 \end{bmatrix}$$

C

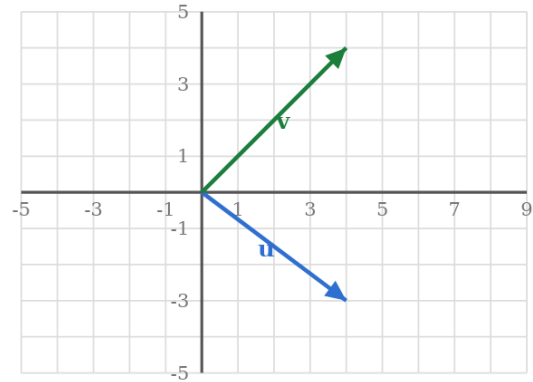
$$\vec{u} + \vec{v} = \begin{bmatrix} 3 + -4 \\ -3 - 3 \end{bmatrix}$$

D

$$\vec{u} + \vec{v} = \begin{bmatrix} 3 + -4 \\ -3 + 3 \end{bmatrix}$$

7

Use the grid to find the sum of the two vectors.



A

$$\vec{u} + \vec{v} = [4 + 4, -3 + 4]$$

B

$$\vec{u} + \vec{v} = [4 - 4, -3 - 4]$$

C

$$\vec{u} + \vec{v} = [4 + 4, -3 - 4]$$

8Write $u - v$ as a single vector expression.

$$\vec{u} = [-4, -4], \quad \vec{v} = [1, -2]$$

A

$$\vec{u} - \vec{v} = [-4 + 1, -4 + -2]$$

B

$$\vec{u} - \vec{v} = [-4 - -2, -4 - 1]$$

C

$$\vec{u} - \vec{v} = [-4 - 1, -4 - -2]$$

D

$$\vec{u} - \vec{v} = [-4 - 1, -4 + -2]$$

9Choose the grid that shows u and v tip to tail with $u - v$ as a dashed vector.

$$\vec{u} = \begin{bmatrix} -1 \\ 2 \end{bmatrix}, \quad \vec{v} = \begin{bmatrix} -2 \\ 1 \end{bmatrix}$$

A



B



C



D

**10**Find the sum $u + v$.

$$\vec{u} = [3, 2], \quad \vec{v} = [2, -4]$$

A

$$\vec{u} + \vec{v} = [-2, 5]$$

B

$$\vec{u} + \vec{v} = [5, 2]$$

C

$$\vec{u} + \vec{v} = [-5, 2]$$

D

$$\vec{u} + \vec{v} = [5, -2]$$

11Find the difference $u - v$.

$$\vec{u} = [-1, -3], \quad \vec{v} = [-1, 2]$$

A

$$\vec{u} - \vec{v} = [0, 5]$$

B

$$\vec{u} - \vec{v} = [1, -6]$$

C

$$\vec{u} - \vec{v} = [0, -5]$$

D

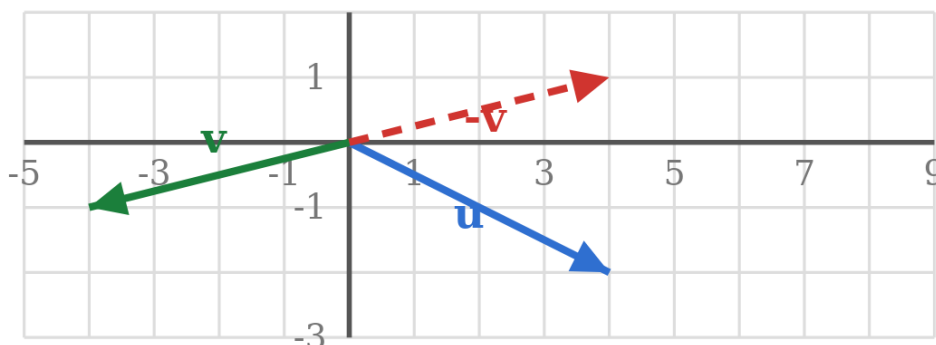
$$\vec{u} - \vec{v} = [-5, 0]$$



Add and subtract vectors

12

Use the grid to find the difference of the two vectors.



A

$$\vec{u} - \vec{v} = \begin{bmatrix} 4 + -4 \\ -2 + -1 \end{bmatrix}$$

B

$$\vec{u} - \vec{v} = \begin{bmatrix} 4 - -4 \\ -2 - -1 \end{bmatrix}$$

C

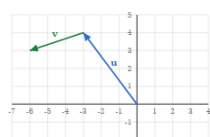
$$\vec{u} - \vec{v} = \begin{bmatrix} 4 - -1 \\ -2 - -4 \end{bmatrix}$$

D

$$\vec{u} - \vec{v} = \begin{bmatrix} 4 - -4 \\ -2 + -1 \end{bmatrix}$$

13

Use the grid to find the sum of the two vectors.



A $\vec{u} + \vec{v} = [6, 3]$

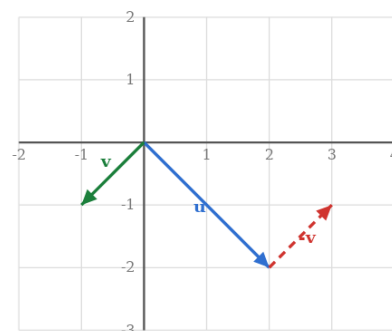
B $\vec{u} + \vec{v} = [-5, 2]$

C $\vec{u} + \vec{v} = [-6, -3]$

D $\vec{u} + \vec{v} = [-6, 3]$

14

Use the grid to find the difference of the two vectors.



A

$$\vec{u} - \vec{v} = \begin{bmatrix} 3 \\ 1 \end{bmatrix}$$

B

$$\vec{u} - \vec{v} = \begin{bmatrix} 4 \\ -2 \end{bmatrix}$$

C

$$\vec{u} - \vec{v} = \begin{bmatrix} 3 \\ -1 \end{bmatrix}$$

D

$$\vec{u} - \vec{v} = \begin{bmatrix} -3 \\ 1 \end{bmatrix}$$