Name

Apply a transformation matrix to coordinate points

1 Which expression gives the value of the highlighted entry of Av?

A

$$(-8)\cdot 0+(-3)\cdot(-1)$$

B

$$5\cdot 0+(-6)\cdot(-1)$$

2 Which expression gives the value of the highlighted entry of Av?

A

$$0\cdot(-2)+8\cdot 0$$

B

$$(-5)\cdot(-2)+(-9)\cdot 0$$

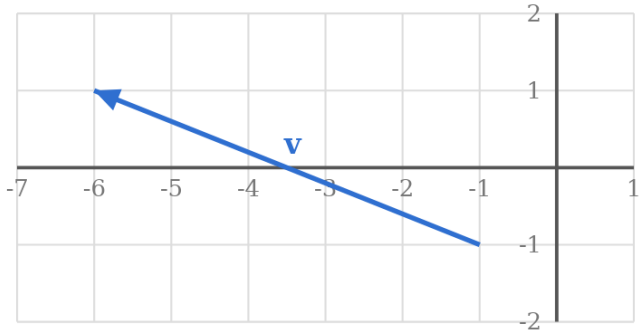
3 Is the matrix-vector product Av defined?

$$A=\begin{bmatrix}-6 & 4\\ -5 & 1\\ 7 & 8\\ -1 & 6\end{bmatrix}$$

$$[8pt]v=(-9,\ 4)$$

A	B
Yes	No

4 Write the vector shown on the grid in column matrix form.



A $\begin{bmatrix}-5\\-2\end{bmatrix}$

B $\begin{bmatrix}-5\\2\end{bmatrix}$

C $\begin{bmatrix}-4\\1\end{bmatrix}$

D $\begin{bmatrix}5\\-2\end{bmatrix}$

5 Is the matrix-vector product Av defined?

$$A=\begin{bmatrix}2 & -1\\ -5 & -3\end{bmatrix}$$

$$[8pt]v=\begin{bmatrix}0\\-9\end{bmatrix}$$

A	B
No	Yes

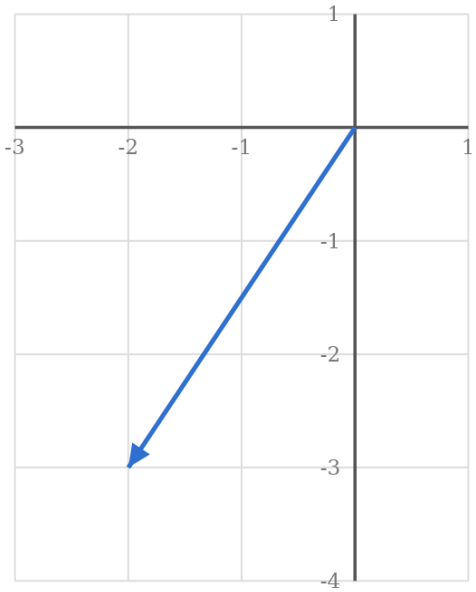
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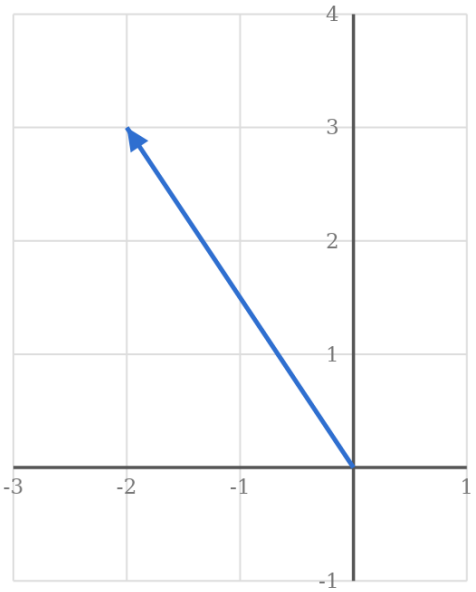
6 Choose the grid that shows this vector with its base at the origin.

$$\vec{v} = \begin{bmatrix} -2 \\ -3 \end{bmatrix}$$

A



B



7 Find the matrix-vector product Av.

$$A = \begin{bmatrix} 0 & 7 \\ -2 & -7 \\ 3 & 6 \end{bmatrix}$$

$[8pt] v = (-4,\ -1)$

$[8pt] Av = [?]$

A

$(7,\ -15,\ 18)$

B

$(-7,\ 14,\ -18)$

C

$(-18,\ 15,\ -7)$

D

$(-7,\ 15,\ -18)$

8 Find the matrix-vector product Av.

$$A = \begin{bmatrix} -4 & 3 \\ 1 & -2 \\ -1 & 0 \\ 4 & 5 \end{bmatrix}$$

$[8pt] v = \begin{bmatrix} 0 \\ -4 \end{bmatrix}$

$[8pt] Av = [?]$

A

$\begin{bmatrix} -12 \\ 8 \\ 0 \\ -21 \end{bmatrix}$

B

$\begin{bmatrix} 12 \\ -8 \\ 0 \\ 20 \end{bmatrix}$

C

$\begin{bmatrix} -12 \\ 8 \\ 0 \\ -20 \end{bmatrix}$

D

$\begin{bmatrix} -20 \\ 0 \\ 8 \\ -12 \end{bmatrix}$