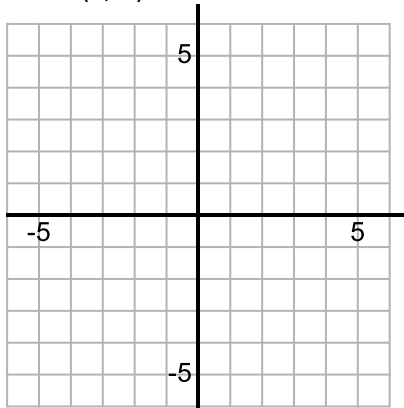


Given P(1,4)
Q(2,-3)



1. State the direction of this vector in all three forms if we are travelling from P to Q

$$\left[\quad \right] = \langle \quad, \quad \rangle = \text{---} \mathbf{i} + \text{---} \mathbf{j}$$

2. State the exact magnitude of this vector

3. State the unit vector related to this vector PQ

4. Determine the directional angle of this vector

The angle formed with the positive x axis and a vector drawn with same direction drawn from the origin is approximately _____°

Given $\vec{a} = \begin{bmatrix} -4 \\ 4 \end{bmatrix}$ and $\vec{b} = \begin{bmatrix} 5 \\ -2 \end{bmatrix}$

Perform the following vector operations

5. $4\vec{a} + 3\vec{b}$

6. $-\frac{1}{2}\vec{a} + \frac{2}{5}\vec{b}$

7. $|6\vec{a}|$

Vector is said to parallel to another vector if it is a scalar multiple of another vector

$$\vec{c} = \begin{bmatrix} -20 \\ 30 \end{bmatrix} \text{ is parallel to } \vec{a} = \begin{bmatrix} -2 \\ 3 \end{bmatrix}$$

8. Write a vector that is parallel to vector b that travels in the OPPOSITE direction

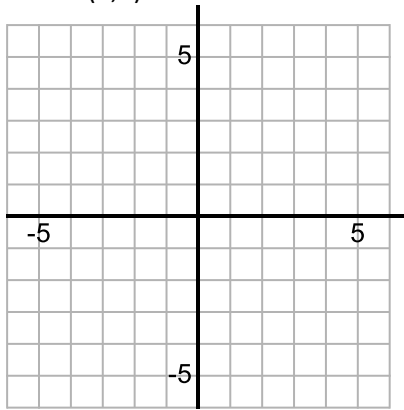
9. Write the unit vector related to $4\vec{a} + 3\vec{b}$

A resultant vector is the result of a set of operations on a vector

$$\text{Let } \vec{d} = \frac{-1}{2}\vec{a} + \frac{2}{5}\vec{b}$$

10. Write \vec{d} in unit vector form (hint: a vector in unit vector form does not have to have length 1, but a unit vector does!)

Given T(-2,-5)
W(4,2)



1. State the direction of this vector in all three forms if we are travelling from T to W

$$\left[\quad \right] = \langle \quad , \quad \rangle = \text{---} \mathbf{i} + \text{---} \mathbf{j}$$

2. State the exact magnitude of this vector

3. State the unit vector related to this vector TW

4. Determine the directional angle of this vector

The angle formed with the positive x axis and a vector drawn with same direction drawn from the origin is approximately _____°

Given $\vec{a} = \begin{bmatrix} -3 \\ 6 \end{bmatrix}$ and $\vec{b} = \begin{bmatrix} -5 \\ -5 \end{bmatrix}$

Perform the following vector operations

7. $|7\vec{b}|$

Vector is said to parallel to another vector if it is a scalar multiple of another vector

$$\vec{c} = \begin{bmatrix} -20 \\ 30 \end{bmatrix} \text{ is parallel to } \vec{w} = \begin{bmatrix} -2 \\ 3 \end{bmatrix}$$

8. Write a vector that is parallel to vector b that travels in the OPPOSITE direction

6. $-\frac{5}{3}\vec{a} + \frac{4}{5}\vec{b}$

9. Write the unit vector related to $-2\vec{a} - 5\vec{b}$

A resultant vector is the result of a set of operations on a vector

$$\text{Let } \vec{d} = \frac{-5}{3}\vec{a} + \frac{4}{5}\vec{b}$$

10. Write \vec{d} in unit vector form (hint: a vector in unit vector form does not have to have length 1, but a unit vector does!)