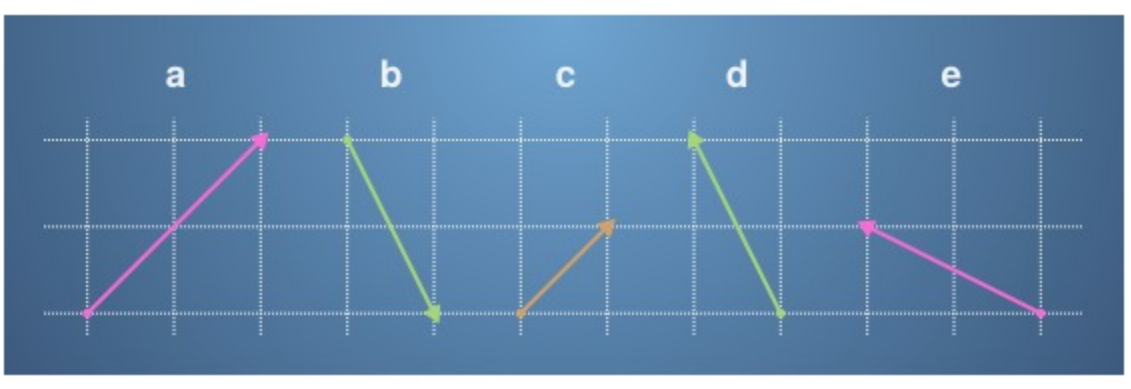
Congratulations! You passed!

Next Item

1. This quiz will be to familiarise yourself with vectors and some basic vector operations.

1 / 1 points

For the following questions, the vectors $\mathbf{a}$, $\mathbf{b}$, $\mathbf{c}$, $\mathbf{d}$ and $\mathbf{e}$ refer to those in this diagram:



What is the numerical representation of the vector $\mathbf{a}$?

- [x] $\begin{bmatrix}2\\2\end{bmatrix}$

Correct
You can get the numerical representation by following the arrow along the grid.

- [ ] $\begin{bmatrix}2\\1\end{bmatrix}$
- [ ] $\begin{bmatrix}1\\1\end{bmatrix}$
- [ ] $\begin{bmatrix}1\\2\end{bmatrix}$

2. Which vector corresponds to $\begin{bmatrix}-1\\2\end{bmatrix}$?

1 / 1 points

- [ ] Vector $\mathbf{a}$
- [ ] Vector $\mathbf{b}$
- [ ] Vector $\mathbf{c}$
- [x] Vector $\mathbf{d}$

Correct
You can get the numerical representation by following the arrow along the grid.

3. What vector is $2\mathbf{c}$?

1 / 1 points

Please select all correct answers.

- [ ] $\begin{bmatrix}-2\\2\end{bmatrix}$

Un-selected is correct

- [x] $\mathbf{a}$

Correct
Multiplying by a positive scalar is like stretching out a vector in the same direction.

- [x] $\begin{bmatrix}2\\2\end{bmatrix}$

Correct
A scalar multiple of a vector can be calculated by multiplying each component.

- [ ] $\mathbf{e}$

Un-selected is correct

4. What vector is $-\mathbf{b}$?

1 / 1 points

Please select all correct answers.

- [x] $\begin{bmatrix}-1\\2\end{bmatrix}$

Correct
A scalar multiple of a vector can be calculated by multiplying each component.

- [x] $\mathbf{d}$

Correct
Multiplying by a negative changes the direction of the vector.

- [ ] $\begin{bmatrix}-2\\1\end{bmatrix}$

Un-selected is correct

- [ ] $\mathbf{e}$

Un-selected is correct

5. What is the vector $\mathbf{b}+\mathbf{e}$?

1 / 1 points

- [ ] $\begin{bmatrix}2\\-1\end{bmatrix}$
- [ ] $\begin{bmatrix}-1\\2\end{bmatrix}$
- [x] $\begin{bmatrix}-1\\-1\end{bmatrix}$

Correct
You add vectors entry by entry.

- [ ] $\begin{bmatrix}1\\3\end{bmatrix}$

6. What is the vector $\mathbf{d}-\mathbf{b}$?

1 / 1 points

- [ ] $\begin{bmatrix}-4\\2\end{bmatrix}$
- [ ] $\begin{bmatrix}2\\-4\end{bmatrix}$
- [x] $\begin{bmatrix}-2\\4\end{bmatrix}$

Correct
Remember that vectors add by attaching the end of one to the start of the other.

- [ ] $\begin{bmatrix}4\\-2\end{bmatrix}$