

# Linear Algebra

## Unit 1: Vectors and Vector Spaces

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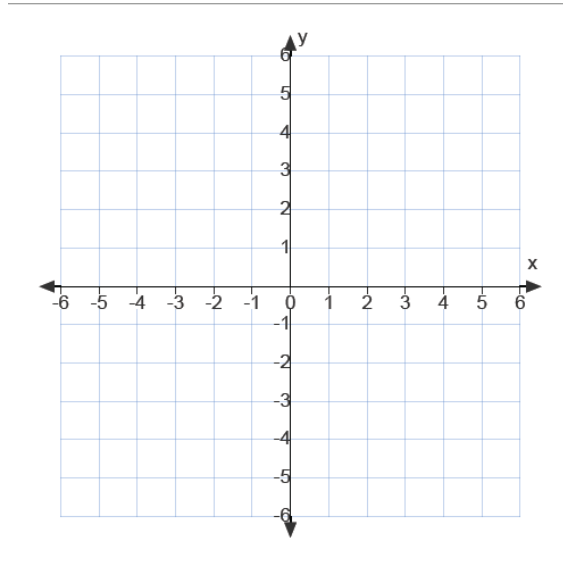
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You have heard of vectors from physics and pre-calculus. How would you define a vector?  
Think about a definition and write it in the space below:

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Discuss your definition with your neighbor and make any edits you see fit to make.  
On the graph below, graph the directed line segment:

- (A) from  $(0, 0)$  to  $(3, 4)$
- (B) from  $(-1, 1)$  to  $(2, 5)$
- (C) from  $(-5, -3)$  to  $(1, 5)$
- (D) from  $(5, -2)$  to  $(2, -6)$
- (E) from  $(0, 0)$  to  $(0, 5)$



Make sure to draw an arrow at the end of the line segment to indicate its direction.  
These are all examples of representatives of vectors.  
Would you consider any of these directed line segments the same as vectors? Why or why not?