

## WebAssign

## Hw 2 (12.2): Vectors (Homework)

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MA 162 Spring 2012, section 321, Spring 2012

Instructor: Jonathan Montano

Current Score : 20 / 20 Due : Tuesday, January 17 2012 11:55 PM EST

The due date for this assignment is past. Your work can be viewed below, but no changes can be made.

**Important!** Before you view the answer key, decide whether or not you plan to request an extension. Your Instructor may *not* grant you an extension if you have viewed the answer key. Automatic extensions are not granted if you have viewed the answer key.

[View Key](#)

1. 2.5/2.5 points | [Previous Answers](#)

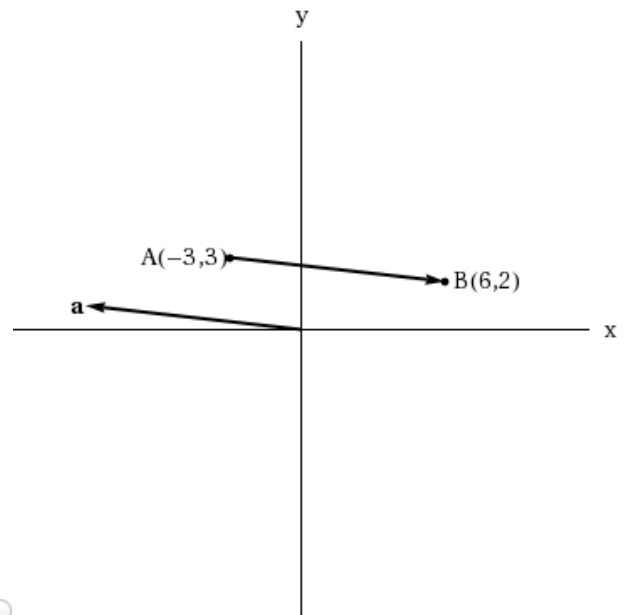
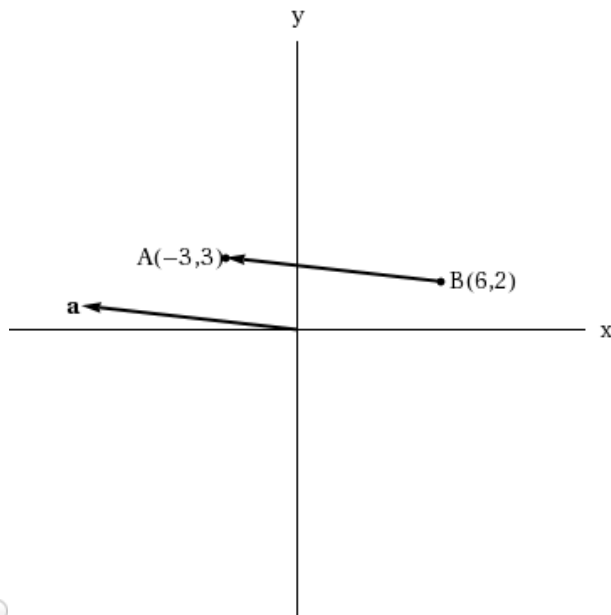
SCalcET7 12.2.011.MI.

Find a vector  $\mathbf{a}$  with representation given by the directed line segment  $\overrightarrow{AB}$ .

$A(-3, 3)$ ,  $B(6, 2)$



Draw  $\overrightarrow{AB}$  and the equivalent representation starting at the origin.



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 $A(-3,3)$  $\mathbf{a}$  $x$  $y$  $A(-3,3)$  $B(6,2)$  $\mathbf{a}$  $x$  $y$ 2. 2.5/2.5 points | [Previous Answers](#)

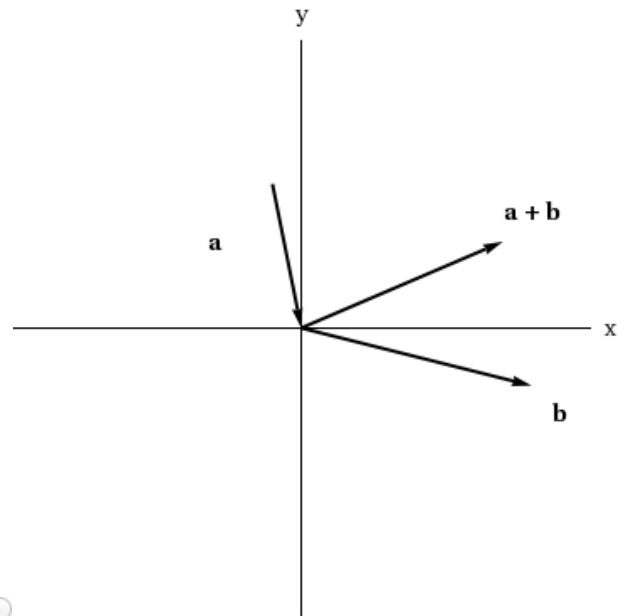
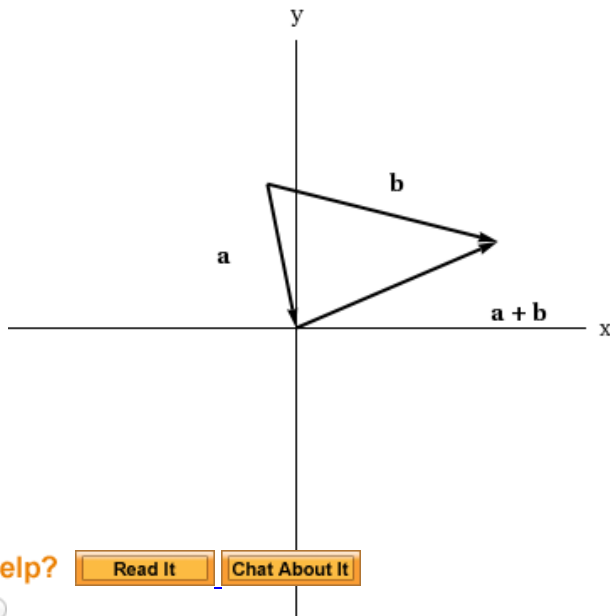
Find the sum of the given vectors.

$$\mathbf{a} = \langle -1, 5 \rangle, \quad \mathbf{b} = \langle 8, -2 \rangle$$

$$\mathbf{a} + \mathbf{b} = \checkmark$$

Illustrate geometrically.

 $\mathbf{a}$  $\mathbf{a} + \mathbf{b}$  $\mathbf{b}$  $x$  $y$  $\mathbf{a}$  $\mathbf{b}$  $\mathbf{a} + \mathbf{b}$  $x$  $y$



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3. 2.5/2.5 points | [Previous Answers](#)

SCalcET7 12.2.019.

Find  $\mathbf{a} + \mathbf{b}$ ,  $2\mathbf{a} + 3\mathbf{b}$ ,  $|\mathbf{a}|$ , and  $|\mathbf{a} - \mathbf{b}|$ .

$$\mathbf{a} = \langle 3, -4 \rangle, \quad \mathbf{b} = \langle -3, 4 \rangle$$

$$\mathbf{a} + \mathbf{b} = \checkmark$$

$$2\mathbf{a} + 3\mathbf{b} = \checkmark$$

$$|\mathbf{a}| = \checkmark$$

$$|\mathbf{a} - \mathbf{b}| = \checkmark$$

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4. 2.5/2.5 points | [Previous Answers](#)

SCalcET7 12.2.021.

Find  $\mathbf{a} + \mathbf{b}$ ,  $2\mathbf{a} + 3\mathbf{b}$ ,  $|\mathbf{a}|$ , and  $|\mathbf{a} - \mathbf{b}|$ .

$$\mathbf{a} = \mathbf{i} + 4\mathbf{j} - 2\mathbf{k}, \quad \mathbf{b} = -5\mathbf{i} - \mathbf{j} + 7\mathbf{k}$$

$$\mathbf{a} + \mathbf{b} = \checkmark$$

$$2\mathbf{a} + 3\mathbf{b} = \checkmark$$

$$|\mathbf{a}| = \checkmark$$

$$|\mathbf{a} - \mathbf{b}| = \checkmark$$

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5. 2.5/2.5 points | [Previous Answers](#)

SCalcET7 12.2.023.MI.

Find a unit vector that has the same direction as the given vector.

$$-5\mathbf{i} + 9\mathbf{j}$$



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6. 2.5/2.5 points | [Previous Answers](#)

SCalcET7 12.2.024.

Find a unit vector that has the same direction as the given vector.

$\langle -4, 2, 4 \rangle$



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7. 2.5/2.5 points | [Previous Answers](#)

SCalcET7 12.2.026.

Find a vector that has the same direction as  $\langle -6, 4, 2 \rangle$  but has length 6.



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8. 2.5/2.5 points | [Previous Answers](#)

SCalcET7 12.2.035.

A woman walks due west on the deck of a ship at 4 mi/h. The ship is moving north at a speed of 25 mi/h. Find the speed and direction of the woman relative to the surface of the water. (Round your answers to one decimal place.)

speed   mi/h

direction N   °W

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