← MA2009, section GRUPO4, Fall 2019

Tarea 0 Vectores semana 1 (Homework)

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Current Score

QUESTION	1	2	3	4	5	6	7	8	9
POINTS	4/4 ✓	1/1 ✓	1/1 ✓	4/4 ✓	2/2 ✓	4/4 ✓	1/1 ✓	2/2 ✓	1/1 ✓

TOTAL

21/21	100.0%

Due Date

Past Due

AGO. 18 11:59 P. M.

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Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by questions.

Assignment Scoring

Your best submission for each entire question is used for your score.

The due date for this assignment has passed.

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.

Request Extension | View Key

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1. **4/4 points** **Previous Answers** SCalcET8M 12.2.019. 1/5 Submissions Used

My Notes | Ask Your Teacher

Find $\mathbf{a} + \mathbf{b}$, $7\mathbf{a} + 9\mathbf{b}$, $|\mathbf{a}|$, and $|\mathbf{a} - \mathbf{b}|$. (Simplify your answer completely.)

$\mathbf{a} = \langle -3, 4 \rangle, \quad \mathbf{b} = \langle 9, -1 \rangle$

$\mathbf{a} + \mathbf{b} =$ $$\langle 6,3 \rangle

$7\mathbf{a} + 9\mathbf{b} =$ $$\langle 60,19 \rangle

$|\mathbf{a}| =$ $$5

$|\mathbf{a} - \mathbf{b}| =$ $$13

Need Help? Read It

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

$-4\mathbf{i} + 3\mathbf{j} - \mathbf{k}$

$$-4\sqrt{26}i+3\sqrt{26}j-1\sqrt{26}k

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Find the vector that has the same direction as $\langle 6, 9, -2 \rangle$ but has length 2.

$$\langle 1211,1811,-411 \rangle$$

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

$\mathbf{a} = 3\mathbf{i} + \mathbf{j}, \quad \mathbf{b} = \mathbf{i} - 2\mathbf{j}$

$$4i-j

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

$$9i-4j

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

$$\sqrt{10}

$|\mathbf{a}| =$

$$\sqrt{13}

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

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Find the angle between the vectors. (First find an exact expression and then approximate to the nearest degree.)

$\mathbf{a} = \langle 2, 2 \rangle, \quad \mathbf{b} = \langle 3, -1 \rangle$

$$cos−1(1√5)

exact

approximate 63 °

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Determine whether the given vectors are orthogonal, parallel, or neither.

(a) $\mathbf{a} = \langle 9, 3 \rangle$, $\mathbf{b} = \langle -2, 6 \rangle$

- (●) orthogonal
- ( ) parallel
- ( ) neither

✔

(b) $\mathbf{a} = \langle 4, 5, -2 \rangle$, $\mathbf{b} = \langle 3, -1, 5 \rangle$

- ( ) orthogonal
- ( ) parallel
- (●) neither

✔

(c) $\mathbf{a} = -6\mathbf{i} + 3\mathbf{j} + 9\mathbf{k}$, $\mathbf{b} = 4\mathbf{i} - 2\mathbf{j} - 6\mathbf{k}$

- ( ) orthogonal
- (●) parallel
- ( ) neither

✔

(d) $\mathbf{a} = 4\mathbf{i} - \mathbf{j} + 4\mathbf{k}$, $\mathbf{b} = 3\mathbf{i} + 4\mathbf{j} - 2\mathbf{k}$

- (●) orthogonal
- ( ) parallel
- ( ) neither

✔

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Find a unit vector that is orthogonal to both $\mathbf{i} + \mathbf{j}$ and $\mathbf{i} + \mathbf{k}$.

$$1\sqrt{3}\cdot(i-j-k)$$

Need Help? Read It Watch It

If $\mathbf{a} = \langle 2, -1, 4 \rangle$ and $\mathbf{b} = \langle 3, 2, 1 \rangle$, find the following.

$\mathbf{a} \times \mathbf{b} =$

$$-9i+10j+7k$$

$\mathbf{b} \times \mathbf{a} =$

$$9i-10j-7k$$

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Find the area of the parallelogram with vertices $A(-3, 0)$, $B(-1, 4)$, $C(6, 3)$, and $D(4, -1)$.

$$30$$

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Find the volume of the parallelepiped determined by the vectors $\mathbf{a}$, $\mathbf{b}$, and $\mathbf{c}$.

$\mathbf{a} = 4\mathbf{i} + 3\mathbf{j} - 4\mathbf{k}$, $\mathbf{b} = 2\mathbf{i} - 2\mathbf{j} + 4\mathbf{k}$, $\mathbf{c} = -4\mathbf{i} + 4\mathbf{j} + 3\mathbf{k}$

154 cubic units

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Question 1 of 10 View Next Question

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