

Dot product

Practice Quiz, 5 questions

5/5 points (100%)

✓ **Congratulations! You passed!**

Next Item



1 / 1
point

1.

Compute the length of $\mathbf{x} = \begin{bmatrix} 1 \\ -1 \\ 3 \end{bmatrix}$ using the dot product. Do the exercises using pen and paper.



3



$\sqrt{3}$



$\sqrt{11}$

Correct

Well done!



$\sqrt{5}$



$\sqrt{13}$



11



1 / 1
point

2.

Compute the angle (in rad) between $\mathbf{x} = \begin{bmatrix} 3 \\ 4 \end{bmatrix}$ and $\mathbf{y} = \begin{bmatrix} 1 \\ -1 \end{bmatrix}$ using the dot product. Do the exercises using pen and paper, but you will need a calculator at some point.

When you are asked to enter numerical answers, please use decimal numbers (e.g., 1.4 or 1.41 instead of $\sqrt{2}$)

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Correct Response

Good job!



1 / 1
point

3.

Compute the distance between $\mathbf{x} = \begin{bmatrix} 3 \\ 4 \end{bmatrix}$ and $\mathbf{y} = \begin{bmatrix} 1 \\ -1 \end{bmatrix}$. Do the exercises using pen and paper. Enter your answer as a decimal number (calculator is fine to get it).

5.39

Correct Response



1 / 1
point

4.

Write a piece of code that computes the length of a given vector x .

```
1 import numpy as np
2
3 def length(x):
4     """Compute the length of a vector"""
5     length_x = np.linalg.norm(x) # <--- compute the length of a vector x here.
6
7     return length_x
8
9 print(length(np.array([1,0])))
```

Run

Reset

Correct Response

Good job!



1 / 1
point

5.

We are given two vectors

Dot product

Practice Quiz 5 questions

5/5 points (100%)

$$\mathbf{x} = \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}, \quad \mathbf{y} = \begin{bmatrix} -1 \\ 0 \\ 8 \end{bmatrix}$$

Compute the angle (in rad) between \mathbf{x} and $\mathbf{x} - \mathbf{y}$.

Do the exercises using pen and paper, but you will need a calculator at some point.

2.00

Correct Response

