

Congratulations! You passed!

Next Item



1/1 point

1

What is the mean of the dataset $\mathcal{D} = \{1,2,3\}$?

Do the exercises using pen and paper.



2

Correct

That's it. Good job!



6



3



1/1 point

2.

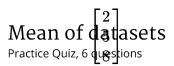
Compute the mean of the following dataset:

$$\mathcal{D} = \left\{ \begin{bmatrix} 1\\4\\7 \end{bmatrix}, \begin{bmatrix} 2\\5\\8 \end{bmatrix}, \begin{bmatrix} 3\\6\\9 \end{bmatrix} \right\}$$

Do the exercises using pen and paper.







Correct

Well done!

 $\begin{bmatrix} 6 \\ 15 \\ 24 \end{bmatrix}$

/

1/1 point

3.

What is the mean of the following dataset, **after** multiplying each sample in the dataset by 2?

$$\mathcal{D} = \left\{ \begin{bmatrix} 1\\2\\3 \end{bmatrix}, \begin{bmatrix} 3\\4\\5 \end{bmatrix}, \begin{bmatrix} 5\\3\\1 \end{bmatrix} \right\}$$



 $\begin{bmatrix} 6 \\ 6 \\ 6 \end{bmatrix}$

Correct

Well done!

 $\begin{bmatrix} 3 \\ 3 \\ 3 \end{bmatrix}$

 $\begin{bmatrix} 18 \\ 18 \\ 18 \end{bmatrix}$



1/1 point

4

$$\mathcal{D} = \left\{ \begin{bmatrix} 1\\2\\3 \end{bmatrix}, \begin{bmatrix} 3\\4\\5 \end{bmatrix}, \begin{bmatrix} 5\\3\\1 \end{bmatrix} \right\}$$

- $\begin{bmatrix} 2 \\ 1 \\ 0 \end{bmatrix}$

Correct Well done!

1/1 point

5.

Assuming that we know the mean $ar{x}_{n-1}$ of a dataset \mathcal{D}_{n-1} with n-1 data points. Now, suppose that we collect another data point, which we denote by $x_st.$ Select the correct formula that computes the correct new mean $ar{x}_n$ of the full data set $\mathcal{D}_n=\mathcal{D}_{n-1}\cup\{x_*\}$, i.e., we add x_* to the dataset \mathcal{D} .

- $ar{x}_n = ar{x}_{n-1} + rac{1}{n+1} \left(ar{x}_{n-1} x_*
 ight)$
- igcirc $ar{x}_n = ar{x}_{n-1} + rac{1}{n} (x_* ar{x}_{n-1})$

Correct

Excellent!

- $igcap ar{x}_n = ar{x}_{n-1} + rac{1}{n+1} \left(x_* ar{x}_{n-1}
 ight)$
- $igcap ar{x}_n = ar{x}_{n-1} + rac{1}{n-1} \left(x_* ar{x}_{n-1}
 ight)$



ractice Quiz, 6 qu 6.

Assuming you are given an image as a two dimensional array of shape 28×28 . Write a small piece of python code to reshape this image to a vector of length 784 (= 28×28).

Hint: This can be a one-liner.

```
import numpy as np

def reshape(x):

"""return x_reshaped as a flattened vector of the multi-dimensional array x"""

x_reshaped = np.reshape(x, (-1,))

return x_reshaped

Reset

Reset
```

Correct Response

Good job!



