Non-square matrix multiplication

Practice Quiz, 5 questions

5/5 points (100.00%)

Congratulations! You passed!

Next Item

1. In this quiz, you will practice multiplying together matrices which are not square.

1 / 1 point

Calculate the product:

$$\begin{bmatrix}2 & 4 & 5 & 6\end{bmatrix}\begin{bmatrix}1\\3\\2\\1\end{bmatrix}$$

- 29
- 30

Correct

This is another way to define the scalar product of two vectors!

- 31
- 32

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2. Calculate the product:

1 / 1 point

$$\begin{bmatrix}1\\3\\2\\1\end{bmatrix}\begin{bmatrix}2 & 4 & 5 & 6\end{bmatrix}$$

- [x] $\begin{bmatrix} 2 & 4 & 5 & 6 \\ 6 & 12 & 15 & 18 \\ 4 & 8 & 10 & 12 \\ 2 & 4 & 5 & 6 \end{bmatrix}$

Correct
Well done.

- [ ] 32
- [ ] 30
- [ ] $\begin{bmatrix} 2 & 4 & 5 & 6 \\ 6 & 15 & 12 & 18 \\ 8 & 4 & 12 & 10 \\ 2 & 4 & 6 & 5 \end{bmatrix}$

✔ 3. Calculate the product:

1 / 1 point

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 1 \\ 1 & 0 & 1 \end{bmatrix}$$

- [ ] $\begin{bmatrix} 3 & 5 & 4 \\ 4 & 1 & 5 \end{bmatrix}$
- [ ] $\begin{bmatrix} 5 & 4 & 3 \\ 1 & 4 & 5 \end{bmatrix}$
- [ ] $\begin{bmatrix} 1 & 4 & 3 \\ 5 & 4 & 1 \end{bmatrix}$
- [x] $\begin{bmatrix} 4 & 3 & 5 \\ 5 & 4 & 1 \end{bmatrix}$

Correct
Well done!

✔

1 / 1 point

4. Calculate the product:

$$\begin{bmatrix} 2 & -1 \\ 0 & 3 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} 0 & 1 & 4 & -1 \\ -2 & 0 & 0 & 2 \end{bmatrix}$$

- $\begin{bmatrix} 2 & 2 & -8 & 4 \\ -6 & 0 & 0 & -6 \\ 0 & -1 & -1 & -4 \end{bmatrix}$
- $\begin{bmatrix} 2 & 2 & 8 & -4 \\ -6 & 0 & 0 & 6 \\ 0 & 1 & 4 & -1 \end{bmatrix}$

Correct
Well done!

- $\begin{bmatrix} -2 & 2 & 8 & 4 \\ -6 & 0 & 6 & 6 \\ 0 & 4 & 4 & 1 \end{bmatrix}$
- $\begin{bmatrix} 2 & -2 & 8 & -4 \\ 6 & 0 & 0 & 0 \\ 6 & -1 & 4 & 1 \end{bmatrix}$

✔

1 / 1 point

5. Calculate the product:

$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

- $\begin{bmatrix} 6 & 1 & 3 \\ 4 & 5 & 2 \end{bmatrix}$
- $\begin{bmatrix} 1 & 3 & 5 \\ 2 & 4 & 6 \end{bmatrix}$
- $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$

Correct
Well done!

$$\begin{bmatrix} 5 & 1 & 6 \\ 4 & 3 & 2 \end{bmatrix}$$