Linear Algebra

5/5 points (100.00%)

Practice Quiz, 5 questions

Congratulations! You passed!

Next Item



1/1 points

Let two matrices be

$$A = egin{bmatrix} 4 & 3 \ 6 & 9 \end{bmatrix}, \qquad B = egin{bmatrix} -2 & 9 \ -5 & 2 \end{bmatrix}$$

$$B = \begin{bmatrix} -2 & 9 \\ -5 & 2 \end{bmatrix}$$

What is A + B?





Correct

To add two matrices, add them element-wise.

$$\begin{bmatrix} 6 & -6 \\ 11 & 7 \end{bmatrix}$$

$$\begin{bmatrix}
6 & 12 \\
11 & 11
\end{bmatrix}$$

$$\begin{bmatrix}
2 & 9 \\
1 & 2
\end{bmatrix}$$

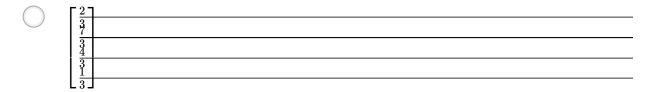


1/1 points

2.

5/5 points (100.00%)

What is 3 * x?





Correct

To multiply the vector x by 3, take each element of x and multiply that element by 3.



1/1 points

3.

Let u be a 3-dimensional vector, where specifically

$$u = egin{bmatrix} 2 \ 1 \ 8 \end{bmatrix}$$

What is u^{T} ?

$$\begin{bmatrix} 8 \\ 1 \\ 2 \end{bmatrix}$$

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$$\begin{bmatrix} 8 & 1 & 2 \end{bmatrix}$$

5/5 points (100.00%)

Practice Quiz, 5 questions

$$\begin{bmatrix} 2 \\ 1 \\ 8 \end{bmatrix}$$



4

Let u and v be 3-dimensional vectors, where specifically

$$u = egin{bmatrix} 4 \ -4 \ -3 \end{bmatrix}$$

and

$$v = egin{bmatrix} 4 \ 2 \ 4 \end{bmatrix}$$

What is $u^T v$?

(Hint: \boldsymbol{u}^T is a

1x3 dimensional matrix, and v can also be seen as a 3x1

matrix. The answer you want can be obtained by taking

the matrix product of \boldsymbol{u}^T and \boldsymbol{v} .) Do not add brackets to your answer.

-4

Correct Response



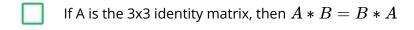
1/1 points

5/5 points (100.00%)

Practice Quiz, 5 questans

Let A and B be 3x3 (square) matrices. Which of the following

must necessarily hold true? Check all that apply.



Correct

Even though matrix multiplication is not commutative in general ($A*B \neq B*A$ for general matrices A,B), for the special case where A=I, we have A*B=I*B=B, and also B*A=B*I=B. So, A*B=B*A.

Correct

We add matrices element-wise. So, this must be true.

Un-selected is correct

Un-selected is correct







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Practice Quiz, 5 questions