(!) Students have either already taken or started taking this quiz, so take care when editing it. If you change any quiz questions in a significant way, you might want to consider re-grading students' quizzes who took the old version of the quiz.
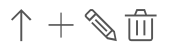
Points 100 ✅ **Published** ⋮

Details   Questions

☐ Show question details

Group 1

| Group Name | Pick 2 questions, 5 pts per question Pick ☐ questions, ☐ pts per question |

↑ + ✎ 🗑

Cancel   Update

Question 1 pts
✎ ✕

Find the additive inverse of matrix A= $\begin{bmatrix} 1 & -1 \\ 2 & 1 \end{bmatrix}$

○ $\begin{bmatrix} -1 & 1 \\ -2 & -1 \end{bmatrix}$

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

○ $\begin{bmatrix} 1 & -1 \\ 2 & -1 \end{bmatrix}$

○ None of the given

Question 1 pts
✎ ✕

If A= $\begin{bmatrix} 4 & x+2 \\ 2x-3 & x+1 \end{bmatrix}$ is symmetric then what is the value of x?

○ 5

○ 4

○ 3

○ -5

Question 1 pts

✎ ✕

Which of the following matrices is the transpose of $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$?
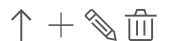
○ $\begin{bmatrix} 1 & 4 & 7 \\ 2 & 5 & 8 \\ 3 & 6 & 9 \end{bmatrix}$

○ $\begin{bmatrix} 1 & 2 & 3 \\ 2 & 5 & 6 \\ 3 & 8 & 9 \end{bmatrix}$

○ $\begin{bmatrix} 1 & 4 & 3 \\ 2 & 5 & 6 \\ 3 & 6 & 9 \end{bmatrix}$

○ None of the given

Group 2

| Group Name | Pick 7 questions, 10 pts per question Pick ☐ questions, ☐ pts per |

question

↑ + ✎ 🗑

[Cancel] [Update]

Question 1 pts

✎ ✕

Let A= $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$ and x= $\begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}$ what is the matrix-vector product Ax?

○ $\begin{bmatrix} 14 \\ 32 \\ 50 \end{bmatrix}$

○ $\begin{bmatrix} 14 & 32 & 50 \end{bmatrix}$

○ $\begin{bmatrix} 1 & 4 & 9 \\ 4 & 10 & 18 \\ 7 & 16 & 27 \end{bmatrix}$

○ None of the given

⋮

Question 1 pts

✎ ✕

Consider Scalar-Valued Function $f : \mathbb{R}^n \times \mathbb{R}^n \to \mathbb{R}$ given by $f(\mathbf{u}, \mathbf{v}) = \sum_{i=1}^{n} u_i v_i$, where u_i represents ith component of $\mathbf{u}$. What is the output of the function for the input vectors: $\begin{bmatrix} 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \end{bmatrix}$ and $\begin{bmatrix} 6 \\ 5 \\ 4 \\ 3 \\ 2 \\ 1 \end{bmatrix}$?

○ 56

○ $\begin{bmatrix} 6 \\ 10 \\ 12 \\ 12 \\ 10 \\ 6 \end{bmatrix}$

○ 81

○ 21

⋮

Question 1 pts

✎ ✕

Given two matrices: $\begin{bmatrix} 3x + 7 & 5 \\ y + 1 & 2 - 3x \end{bmatrix}$ **and** $\begin{bmatrix} 0 & y - 2 \\ 8 & 4 \end{bmatrix}$, what of the value of x **and** y make them equal to each other?

○ Not possible to find because resulting equations are not consistent

○ x=$\frac{-3}{7}$ and y=7

○ x=$\frac{-2}{3}$ and y=7

○ x=$\frac{-1}{3}$ and y= $\frac{-2}{3}$

⋮⋮

Question 1 pts

✎ ✕

If the order of A is 4*3, the order of B is 4*5, and the order of C is 7*3, then what is the order of $(A^T B)^T C^T$?

○ 5*7

○ 7*5

○ 4*5

○ 5*4

⋮⋮

Question 1 pts

✎ ✕

Given the two matrices: $\mathbf{A} = \begin{bmatrix} 1 & 2 & 1 \\ -1 & 1 & 2 \end{bmatrix}$ and $\mathbf{B} = \begin{bmatrix} 1 & 2 \\ -1 & 1 \\ -2 & 1 \end{bmatrix}$, what is the value of the product $\mathbf{AB}$?

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

○ AB is not defined because two matrices do not have compatible orders.

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

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

⋮⋮

Question 1 pts

✎ ✕

A matrix of order $m \times n$ are usually represented as $\mathbf{A} = [a_{ij}]_{m \times n}$ where a_{ij} represents the element at ith row and j th column.

Which of the following matrices is given by $a_{ij} = \frac{ij}{i+j}$?

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

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

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

○ None of the given

⁞

Question 1 pts

✎ ✕

If $\begin{bmatrix} 2x+y & 4x \\ 5x-7 & 4x \end{bmatrix}$ and $\begin{bmatrix} 7 & 7y-13 \\ y & x+6 \end{bmatrix}$ are equal then the value of x and y are

○ x=2 and y= 3

○ x=3 and y= 1

○ x=2 and y= 4

○ None of the given

⁞

Question 1 pts

✎ ✕

If martix A = $\begin{bmatrix} 2 & x-3 & x-2 \\ 3 & -2 & -1 \\ 4 & -1 & -5 \end{bmatrix}$ is symmetric then the value of x is?

○ 6

○ 3

○ 2

○ 4

⁞

Question 1 pts

✎ ✕

Let X and Y be two matrices of order 2. If X+Y= $\begin{bmatrix} 5 & 2 \\ 0 & 9 \end{bmatrix}$ and X-Y= $\begin{bmatrix} 3 & 6 \\ 0 & -1 \end{bmatrix}$ then what are the values of X and Y?

○ X= $\begin{bmatrix} 4 & 4 \\ 0 & 4 \end{bmatrix}$ and Y= $\begin{bmatrix} 1 & -2 \\ 0 & 5 \end{bmatrix}$

○ X= $\begin{bmatrix} 6 & 4 \\ 0 & 12 \end{bmatrix}$ and Y= $\begin{bmatrix} -1 & -2 \\ 0 & -6 \end{bmatrix}$

○ X= $\begin{bmatrix} 8 & 3 \\ -1 & 3 \end{bmatrix}$ and Y= $\begin{bmatrix} 3 & -3 \\ -1 & 4 \end{bmatrix}$

○ None of the given

⋮⋮

Question 1 pts

✎ ✕

Consider the following for two invertible matrices A and B of same order

I. $Adj(A^{-1}) = Adj(A)^{-1}$

II. $(AB)^{-1} = B^{-1}A^{-1}$

Which of the above statements is/are correct?

○ Both I and II are correct
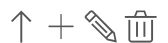
○ Both I and II are not correct

○ Only I is correct

○ None of the above

⋮⋮

Group 3

Group Name		

Pick 1 questions, 20 pts per question Pick ☐ questions, ☐ pts per

question

↑ + ✎ 🗑

Cancel   Update

⋮⋮

Question 1 pts

✎ ✕

Let A= $\begin{bmatrix} 1 & -1 & 1 \\ 2 & 1 & -3 \\ 1 & 1 & 1 \end{bmatrix}$ and B= $\frac{1}{10}$ $\begin{bmatrix} 4 & 2 & 2 \\ -5 & 0 & \alpha \\ 1 & -2 & 3 \end{bmatrix}$ if B is the inverse of A then what is the value of α?

○ 5

○ 4

○ 3

○ -5

⠿

Question 1 pts

✎ ✕

For a square matrix A, which of the following is/are symmetric matrices?

☐ $A + A^T$

☐ $A^T A$

☐ $A A^T$

☐ $A - A^T$

⠿

Question 1 pts

✎ ✕

A matrix for form $\begin{bmatrix} a & b \\ b & c \end{bmatrix}$ or $\begin{bmatrix} a & b & c \\ b & d & e \\ c & e & f \end{bmatrix}$ is called symmetric matrix, and a matrix of form $\begin{bmatrix} 0 & -b \\ b & 0 \end{bmatrix}$ or $\begin{bmatrix} 0 & -b & c \\ b & 0 & -e \\ -c & e & 0 \end{bmatrix}$ is called Skew symmetric.

If $\mathbf{A}, \mathbf{B}$ are symmetric matrices of same order, then $\mathbf{AB} - \mathbf{BA}$ is a

○ Skew Symmetric matrix

○ Symmetric matrix

○ Identity matrix

○ Zero matrix

+ New question   **+ New question group**   ⌕ **Find questions**

Notify users this quiz has changed

Cancel   Save