Preview Test: second online Assessment, Math 244, 11th-April2020

Test Information

Description	
Instructions	
Timed Test	This test has a time limit of 1 hour and 15 minutes.This test will save and submit automatically when the time expires. Warnings appear when **half the time**, **5 minutes**, **1 minute**, and **30 seconds** remain. *[The timer does not appear when previewing this test]*
Multiple Attempts	Not allowed. This test can only be taken once.
Force Completion	This test can be saved and resumed at any point until time has expired. The timer will continue to run if you leave the test.

QUESTION 1

1 points Save Answer

If $A = \begin{bmatrix} 3 & 4 \\ 2 & 5 \end{bmatrix}$, then the product between A and adj(A) equals

- $2I_2$
- I_2
- $7I_2$
- 7

QUESTION 2

1 points Save Answer

Question Completion Status:

If A is a square matrix having all entries on its main diagonal equal to 0, then det $(A) = 0$.

- True
- False

QUESTION 3

1 points Save Answer

If A and B are square matrices of the same size, then det (A^2B^5) equals

- $(2det\ (A)((5\ det\ (B))$
- $2det\ (A) + 5det\ (B)$
- $(det\ (A))^2(det\ (B))^5$
- $(det\ (A)det\ (B))^{10}$

QUESTION 4

1 points Save Answer

For the linear system $\begin{matrix} 2x - 6y = a \\ x + 7y = b \end{matrix}$, the value of x is given by (using Cramer's rule)

- $\dfrac{det\begin{bmatrix} 2 & -6 \\ 1 & 7 \end{bmatrix}}{det\begin{bmatrix} a & -6 \\ b & 7 \end{bmatrix}}$
- $\dfrac{det\begin{bmatrix} 2 & -6 \\ 1 & 7 \end{bmatrix}}{det\begin{bmatrix} a & b \\ 1 & 7 \end{bmatrix}}$
- $\dfrac{det\begin{bmatrix} a & -6 \\ b & 7 \end{bmatrix}}{det\begin{bmatrix} 2 & -6 \\ 1 & 7 \end{bmatrix}}$

Question Completion Status:

$$\frac{\det\begin{bmatrix} a & b \\ 1 & 7 \end{bmatrix}}{\det\begin{bmatrix} 2 & -6 \\ 1 & 7 \end{bmatrix}}$$

QUESTION 5

1 points Save Answer

If $A = \begin{bmatrix} 0 & 0 & 2 \\ 0 & 1 & 0 \\ 1 & 0 & 0 \end{bmatrix}$, then $\det\left(A^T\right)$ equals

- 2
- 4
- $\frac{1}{2}$
- -2

QUESTION 6

1 points Save Answer

If $\begin{vmatrix} a & b \\ c & d \end{vmatrix} = 6$, then $\begin{vmatrix} 2c & 2d \\ a & b \end{vmatrix}$ equals

- 12
- -24
- -12
- 8

QUESTION 7

1 points Save Answer

Question Completion Status:

If $A = \begin{bmatrix} 2 & 0 & 3 \\ 1 & -1 & 0 \\ 0 & 0 & 2 \end{bmatrix}$, then the cofactor C_{12} equals

- 0
- -2
- 2
- 1

QUESTION 8

1 points Save Answer

If $A = \begin{bmatrix} -1 & 2 & 6 \\ d & 0 & 3 \\ 1 & 0 & 2 \end{bmatrix}$

- $det(A) = 4d - 6$
- $det(A) = -4d + 6$
- $det(A) = 4d - 3$
- $det(A) = -4d + 3$

QUESTION 9

1 points Save Answer

If A and B are 3x3 matrices, with det$(A) = -1$ and det $(3A^2BA^{-1}) = -54$, then

- $det(B) = -18$
- $det(B) = 18$
- $det(B) = -2$
- $det(B) = 2$

Question Completion Status:

QUESTION 10

1 points Save Answer

If $A = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$, then adj (A) equals

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

QUESTION 11

1 points Save Answer

What is x if det(A-2I)=10 and the matrix A is

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

- $x = -3$
- $x = 2$
- $x = 3$
- $x = -2$

Question Completion Status:

If A is a square matrix, then A is invertible if and only if A^2 is invertible.

- True
- False

QUESTION 13

1 points Save Answer

If $A = \begin{bmatrix} 1 & 2 & -1 \\ -1 & 2 & 5 \\ 1 & 4 & -2 \end{bmatrix}$, then the determinant of A equals

- 4
- -4
- -12
- 0

QUESTION 14

1 points Save Answer

If A is a 3x3 matrix such that $A = -A^T$, then

- $det(A) = 0$
- A is symmetric
- det(A) $\neq 0$
- $det(A) = -\frac{1}{2}$

QUESTION 15

1 points Save Answer

If A, B and C are square matrices of the same size, then det $(A + B + C) = \det(A) + \det(B) + \det(C)$

Question Completion Status:

Save All Answers Save and Submit