Question **1**

Correct

Mark 1.00 out of 1.00

Flag question

If the matrices A and B are nonsingular then $A + B$ is nonsingular.

Select one:

- False ✔
- True

The correct answer is: False

Question **2**

Correct

Mark 1.00 out of 1.00

Flag question

For which value of z, will the matrix $\begin{bmatrix} 1 & 1 & 0 & 1 \\ 1 & 5 & 0 & 0 \\ 1 & 0 & 1 & 1 \\ 4 & z & 0 & 0 \end{bmatrix}$ become singular?

Select one:

- 21
- 20 ✔
- 17

Question **3**

Correct

Mark 1.00 out of 1.00

Flag question

If E, F and G are $n \times n$ elementary matrices of type I, II and III respectively. If $\det(F) = 4$ and $\det(A) = 3$ then $\det(FEFGA) =$

Select one:

- -48 ✔
- -47
- -43
- -51

The correct answer is: -48

Question **4**

Correct

Mark 1.00 out of 1.00

Flag question

If $\begin{vmatrix} a & b & c \\ d & e & f \\ g & h & k \end{vmatrix} = 2$, then $\begin{vmatrix} 2d & 2e & 2f \\ 3a & 3b & 3c \\ g+5a & h+5b & k+5c \end{vmatrix} =$

Select one:

- -12 ✔
- -15
- -11
- -7

The correct answer is: -12

Question **5**

Incorrect

Mark 0.00 out of 1.00

Flag question

Let $A = \begin{bmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 0 \\ 4 & 3 & 1 & 0 \\ 5 & 3 & 1 & 0 \end{bmatrix}$. The entry $(3,2)$ of $\mathrm{adj}(A)$ is

Select one:

- 4 ✖
- 0
- 3
- 8

The correct answer is: 3

Question **6**

Correct

Mark 5.00 out of 5.00

Flag question

Choose the correct answers to solve the linear system $Ax = b$ using Cramer's rule where

$$A = \begin{bmatrix} 1 & 1 & 0 \\ 1 & 0 & 1 \\ 0 & 1 & 1 \end{bmatrix}, \text{ and}$$

$$b = \begin{bmatrix} 5 \\ 5 \\ 5 \end{bmatrix}.$$

$\det(A) =$ -2 ✔ $\det(A_1) =$ -5 ✔ $\det(A_2) =$ -5 ✔ $\det(A_3) =$ -5 ✔ $x_1 =$ 2.5 ✔

$x_2 =$ 2.5 ✔ $x_3 =$ 2.5 ✔

Question **7**

Incorrect

Mark 0.00 out of 1.00

Flag question

The AB is nonsingular then at least on of the matrices A and B is singular.

Select one:

- False
- True ✖

The correct answer is: False

The correct answer is: False

Question **8**

Correct

Mark 1.00 out of 1.00

Flag question

If A is a 2×2 matrix such that $\det(A) = 3$, then $\det\left(2A^4A^{-1}A^T\right) =$

Select one:

- 321
- 329
- 325
- 324 ✔

The correct answer is: 324