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

A) 10

B) -10

C) 15

D) -15

○ A

○ B

○ C

Let $s = \{(1,2,5), (\lambda,1,4), (-1,\lambda,6)\}$, then one of the following is true

A) If $\lambda = 3$, then s is linearly independent

B) If $\lambda = \frac{1}{5}$, then s is linearly dependent

C) If $\lambda = 1$, then s is linearly dependent

D) If $\lambda = \frac{1}{5}$, then s is linearly independent

- A
- B
- C
- D

Question 12

Not yet answered

Marked out of 2.00

Flag question

Time

One of the following is Not true

A) $W = \{(a, b, c) : a + b = 0\}$ is a subspace of R^3

B) $W = \{(a, b, c) : b = 2c + 1\}$ is a subspace of R^3

C) $W = \{A \in M_{nn} : tr(A) = 0\}$ is a subspace of M_{nn}

D) $W = \{A \in M_{nn} : A \text{ is lower}\}$ is a subspace of M_{nn}

- A
- B
- C

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

A) 15

B) -15

C) 10

D) -5

- A
- B
- C
- D

Let A **and** B **be** 3×3 **matrices, such that** $det(A) = 2$, $det(B) = -4$, **then** $det(2A^T B^{-2}) =$

A) 1

B) -1

C) $\frac{1}{4}$

D) $\frac{-1}{4}$

- A
- B
- C
- D

Let $s = \{(x^2 - 3x + 4, 2x - 5, x^2 + 1\}$ be a basis for P_2, let $q \in P_2$. If $(q)_s = [2, -3, 1]$, then $q =$

A) $3x^2 - 12x + 28$

B) $3x^2 - 12x + 24$

C) $3x^2 - 15x + 28$

D) $4x^2 - 12x + 29$

- A
- B
- C
- D

Consider the following system:

$x + 3y + az = 4,$

$x - y + bz = -2,$

$2x + 4y + cz = 6.$

If $\begin{vmatrix} 1 & 3 & a \\ 1 & -1 & b \\ 2 & 4 & c \end{vmatrix} = 6$, **and** $x = s_1$, $y = s_2$, $z = s_3$ **is the solution of the system, then** $s_3 =$

A) $\frac{-1}{3}$

B) $\frac{1}{3}$

C) $\frac{-2}{3}$

D) $\frac{2}{3}$

A

One of the following is always true

A) If $det(A) = det(B)$, **then** $det(A + B) = 2det(A)$

B) $adj(AB) = adj(A)adj(B)$

C) $B = adj(A)$, **then** $AB = I$

D) If A **is invertible, then** $(adj(A))^{-1} = \frac{A}{det(A)}$

- A
- B
- C
- D

Let $s = \{(\lambda, 2, 5), (3, \lambda, 4), (-1, 3, 6)\}$, then one of the following is true

A) If $\lambda = \frac{1}{6}$, then s is linearly dependent

B) If $\lambda = 1$, then s is linearly independent

C) If $\lambda = \frac{1}{6}$, then s is linearly independent

D) If $\lambda = 2$, then s is linearly dependent

- A
- B
- C
- D

Let $A = \begin{bmatrix} 2 & -1 & 3 \\ 1 & x & 1 \\ 4 & -2 & 5 \end{bmatrix}$, and $C = \begin{bmatrix} 12 & -1 & y \\ -1 & -2 & 0 \\ -7 & 1 & 5 \end{bmatrix}$.

If C is the cofactor matrix of A, then $x + y =$

A) 2

B) -8

C) 4

D) -6

- A
- B
- C
- D

Let $W = \{(a, b, c, d) : a + 2b = c,\ d = 3a\}$ be a subspace of R^4, then one of the following is a basis for W

A) $\{(1, 0, 3, 1), (0, 1, 0, 2)\}$

B) $\{(1, 0, 3, 2), (0, 1, 0, 1)\}$

C) $\{(1, 0, 0, 1), (0, 1, 3, 2)\}$

D) $\{(1, 0, 1, 3), (0, 1, 2, 0)\}$

- A
- B
- C
- D

Let $W = \{A \in M_{44} : A \text{ is skew symmetric}\}$, then $dim(W) =$

A) 16

B) 9

C) 10

D) 6

- A
- B
- C
- D

One of the following is Not true

A) $W = \{(a,b,c) : a < b\}$ **is a subspace of** R^3

B) $W = \{(a,b,c) : b = 2c + a\}$ **is a subspace of** R^3

C) $W = \{A \in M_{nn} : tr(A) = 0\}$ **is a subspace of** M_{nn}

D) $W = \{A \in M_{nn} : A \; is \; lower\}$ **is a subspace of** M_{nn}

- A
- B
- C
- D

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Let $A = \begin{bmatrix} 2 & 4 & -1 \\ 5 & 3 & 2 \\ 6 & 7 & -1 \end{bmatrix}$.

If $B = adj(A)$, then $b_{12} + b_{32} =$

A) 27

B) 7

C) 8

D) -7

A

B

C

D

Let $s = \{(1,3,5),(3,3,2),(-1,1,8)\}$ **be a basis for** R^3. **If** $u = (7,13,22)$, **then** $(u)_s =$

A) $[1,2,1]$

B) $[2,2,1]$

C) $[1,1,1]$

D) $[2,1,1]$

- A
- B
- C
- D