
Use Cramer's rule to solve the following system of equations for x:

$$22x - 4y = -38$$
$$-5x + 1y = 9$$

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- A. -4
- B. -3
- C. -2
- D. -1
- E. 0
- F. 1
- G. 2
- H. 3
- I. 4
- J. none of the above

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2. (1 pt) Library/ma112DB/set12/sw7_6_33.pg

Use Cramer's rule to solve the system

$$x - y + 2z = -6$$
$$3x + z = -2$$
$$-x + 2y = 4$$

$x =$ ______
$y =$ ______
$z =$ ______

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3. (1 pt) Library/Rochester/setLinearAlgebra6Determinants-/ur_la_6_24.pg

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

Find the following:

(a) $\det(A) =$ ____,

(b) the matrix of cofactors $C = \begin{bmatrix} \_\_ & \_\_ \\ \_\_ & \_\_ \end{bmatrix}$,

(c) $\mathrm{adj}(A) = \begin{bmatrix} \_\_ & \_\_ \\ \_\_ & \_\_ \end{bmatrix}$,

(d) $A^{-1} = \begin{bmatrix} \_\_ & \_\_ \\ \_\_ & \_\_ \end{bmatrix}$.

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4. (1 pt) Library/Rochester/setLinearAlgebra6Determinants-/ur_la_6_26.pg

Let $A = \begin{bmatrix} -5e^{3t} & -4e^{4t} \\ 2e^{3t} & 3e^{4t} \end{bmatrix}$.

Find the following:

(a) $\det(A) =$ ______,

(b) the matrix of cofactors $C = \begin{bmatrix} \_\_ & \_\_ \\ \_\_ & \_\_ \end{bmatrix}$,

(c) $\mathrm{adj}(A) = \begin{bmatrix} \_\_ & \_\_ \\ \_\_ & \_\_ \end{bmatrix}$,

(d) $A^{-1} = \begin{bmatrix} \_\_ & \_\_ \\ \_\_ & \_\_ \end{bmatrix}$.

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5. (1 pt) Library/Rochester/setLinearAlgebra6Determinants-/ur_la_6_25.pg

Let $A = \begin{bmatrix} -2 & -2 & 1 \\ -1 & 1 & -2 \\ 1 & 2 & -1 \end{bmatrix}$.

Find the following:

(a) $\det(A) =$ ____,

(b) the matrix of cofactors $C = \begin{bmatrix} \_\_ & \_\_ & \_\_ \\ \_\_ & \_\_ & \_\_ \\ \_\_ & \_\_ & \_\_ \end{bmatrix}$,

(c) $\mathrm{adj}(A) = \begin{bmatrix} \_\_ & \_\_ & \_\_ \\ \_\_ & \_\_ & \_\_ \\ \_\_ & \_\_ & \_\_ \end{bmatrix}$,

(d) $A^{-1} = \begin{bmatrix} \_\_ & \_\_ & \_\_ \\ \_\_ & \_\_ & \_\_ \\ \_\_ & \_\_ & \_\_ \end{bmatrix}$.

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6. (1 pt) Library/Rochester/setLinearAlgebra11Eigenvalues-/ur_la_11_17.pg

The matrix $A = \begin{bmatrix} 11 & -2 \\ 2 & 7 \end{bmatrix}$

has one eigenvalue of multiplicity 2. Find this eigenvalue and the dimenstion of the eigenspace.

eigenvalue = ____,

dimension of the eigenspace = ____.

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7. (1 pt) Library/Rochester/setLinearAlgebra11Eigenvalues-/ur_la_11_18.pg

The matrix $A = \begin{bmatrix} -1 & 0 & 0 \\ 0 & -1 & 0 \\ 2 & 0 & -1 \end{bmatrix}$

has one real eigenvalue. Find this eigenvalue and a basis of the eigenspace.

eigenvalue = ____,

Basis: $\begin{bmatrix} \_ \\ \_ \\ \_ \end{bmatrix}$, $\begin{bmatrix} \_ \\ \_ \\ \_ \end{bmatrix}$.

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8. (1 pt) Library/Rochester/setLinearAlgebra11Eigenvalues-/ur_la_11_19.pg

The matrix $A = \begin{bmatrix} 0 & 0 & 0 \\ -5 & 5 & 0 \\ 5 & -5 & 0 \end{bmatrix}$

has two real eigenvalues, one of multiplicity 1 and one of multiplicity 2. Find the eigenvalues and a basis of each eigenspace.

$\lambda_1 =$ ____ has multiplicity 1,

Basis: $\begin{bmatrix} \_\_ \\ \_\_ \\ \_\_ \end{bmatrix}$,

$\lambda_2 =$ ____ has multiplicity 2,

Basis: $\begin{bmatrix} \_\_ \\ \_\_ \\ \_\_ \end{bmatrix}$, $\begin{bmatrix} \_\_ \\ \_\_ \\ \_\_ \end{bmatrix}$.