

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) Use the Gauss-Jordan method to compute the inverse of the matrix, if it exists. $\begin{bmatrix} -1 & 2 \\ -3 & 7 \end{bmatrix}$ 1) _____

2) Use the Gauss-Jordan method to compute the inverse of the matrix $\begin{bmatrix} 3 & 1 \\ 2 & 1 \end{bmatrix}$. 2) _____

3) Use the Gauss-Jordan method to find the inverse of the matrix A, where $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 2 \\ 4 & 5 & 5 \end{bmatrix}$. 3) _____

4) Use the Gauss-Jordan method to explain why the matrix $\begin{bmatrix} 1 & 2 & 1 \\ 1 & 1 & 0 \\ 0 & 1 & 1 \end{bmatrix}$ has no inverse. 4) _____

5) Use the Gauss-Jordan method to compute $\begin{bmatrix} -1 & 2 & -4 \\ 1 & -1 & 3 \\ 0 & 0 & 1 \end{bmatrix}^{-1}$. 5) _____

6) Use matrix inversion to solve the system of linear equations. 6) _____
$$\begin{cases} x + y + 3z = 10 \\ 2x + y - z = 0 \\ -x - y + 2z = 5 \end{cases}$$