Definition of a multiplicative inverse of a matrix:

What do you get when you multiply a matrix by its inverse?

Find the inverse of the following matrix:

$A = \begin{bmatrix} 2 & 3 \\ 1 & 2 \end{bmatrix}$

Solve each system of equations by using the inverse matrix method

$\begin{cases} 2x + 3y = 5 \\ x + 2y = 4 \end{cases}$

$\begin{cases} 2x + 3y = 6 \\ x + 2y = 0 \end{cases}$

Use your calculator to find the inverse of the following matrices:

$$B = \begin{bmatrix} 1 & 2 & -1 \\ 2 & 3 & -1 \\ 3 & 6 & -2 \end{bmatrix}$$

Solve the system of equations by using the inverse matrix method

$$\begin{cases} x + 2y - z = 5 \\ 2x + 3y - z = 8 \\ 3x + 6y - 2z = 14 \end{cases}$$

$$A = \begin{bmatrix} 1 & 2 \\ 3 & 44 \end{bmatrix}, \quad B = \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix} \qquad \text{Find } 2A - 3X = B$$