

Name: \_\_\_\_\_  
PCH

Date: \_\_\_\_\_  
Ms. Loughran

Do Now:

1. Solve using matrices:

$$3x - 2y + 4z = 1$$

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

$$2x - 3y + 6z = 8$$

$$\begin{bmatrix} 3 & -2 & 4 & | & 1 \\ 1 & 1 & -2 & | & 3 \\ 2 & -3 & 6 & | & 8 \end{bmatrix} \xrightarrow{R_1, R_2} \begin{bmatrix} 1 & 1 & -2 & | & 3 \\ 3 & -2 & 4 & | & 1 \\ 2 & -3 & 6 & | & 8 \end{bmatrix}$$

$$-3R_1 [-3 \ -3 \ 6 \ -9]$$

$$-2R_1 [-2 \ -2 \ 4 \ -6]$$

$$-3R_1 + R_2 \begin{bmatrix} 1 & 1 & -2 & | & 3 \\ 0 & -5 & 10 & | & -8 \\ 2 & -3 & 6 & | & 8 \end{bmatrix}$$

$$-2R_1 + R_3 \begin{bmatrix} 1 & 1 & -2 & | & 3 \\ 0 & -5 & 10 & | & -8 \\ 0 & -5 & 10 & | & 2 \end{bmatrix}$$

$$-R_2 [0 \ 5 \ -10 \ 8]$$

$$-R_2 + R_3 \begin{bmatrix} 1 & 1 & -2 & | & 3 \\ 0 & -5 & 10 & | & -8 \\ 0 & 0 & 0 & | & 10 \end{bmatrix}$$



Name: \_\_\_\_\_  
PCH: Practice Using Matrices to Solve Linear Systems

Date: \_\_\_\_\_  
Ms. Loughran

Solve each of the following using matrices.

$$3x - 2y + z - 1 = 0$$

$$2. \quad x - y - z - 2 = 0$$

$$6x - 4y + 2z - 3 = 0$$

$$\begin{bmatrix} 3 & -2 & 1 & | & 1 \\ 1 & -1 & -1 & | & 2 \\ 6 & -4 & 2 & | & 3 \end{bmatrix} \xrightarrow{R_1 \leftrightarrow R_2} \begin{bmatrix} 1 & -1 & -1 & | & 2 \\ 3 & -2 & 1 & | & 1 \\ 6 & -4 & 2 & | & 3 \end{bmatrix}$$
$$\xrightarrow{-2R_2[-6 \ 4 \ -2 \ -2]} \begin{bmatrix} 1 & -1 & -1 & | & 2 \\ 3 & -2 & 1 & | & 1 \\ 0 & 0 & 0 & | & 1 \end{bmatrix} \xrightarrow{-2R_2+R_3}$$

no  
solution

## Homework 01-29

$$\textcircled{1} (-1, 2, -3)$$

$$\textcircled{2} (7, 1, -2)$$

$$\textcircled{3} (-2, 1, 3)$$

$$\textcircled{4} (-10, -6, 0)$$