

Topic 4.6  
Using Matrices to Solve Systems of Equations  
Homework

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

Date: \_\_\_\_\_

**Write a matrix equation for each system.**

1.  $4x + 5y = 10$   
 $2x - 8y = 12$

2.  $3x + 4y = 2$   
 $5x = 25$

3.  $4x + 6y - 2z = 10$   
 $5y - 6z = 12$   
 $2x + 3z = 11$

**Solve each matrix equation.**

4.  $\begin{bmatrix} 4 & 7 \\ 3 & 5 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 2 \\ 5 \end{bmatrix}$

5.  $\begin{bmatrix} 4 & 8 \\ 2 & 6 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 12 \\ 10 \end{bmatrix}$

6.  $\begin{bmatrix} -5 & 3 \\ -2 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 14 \\ 8 \end{bmatrix}$

7.  $\begin{bmatrix} -2 & 4 \\ 1 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 8 \\ -4 \end{bmatrix}$

8.  $\begin{bmatrix} 10 & 6 \\ 7 & 4 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -8 \\ -2 \end{bmatrix}$

9.  $\begin{bmatrix} 18 & 4 \\ 8 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 12 \\ 8 \end{bmatrix}$