

Inverse Matrices

Name: _____

Period: _____

Directions: Find the inverse matrix for each matrix.

1. $\begin{bmatrix} 3 & 4 \\ 7 & 9 \end{bmatrix}$

2. $\begin{bmatrix} 7 & -10 \\ -4 & 6 \end{bmatrix}$

3. $\begin{bmatrix} 2 & 9 & -5 \\ 0 & -2 & 1 \\ -1 & -3 & 2 \end{bmatrix}$

Directions: Find the product of each pair of matrices then determine if they are inverse matrices.

4. $\begin{bmatrix} 4 & 3 \\ 10 & 8 \end{bmatrix} \begin{bmatrix} 4 & -1.5 \\ -5 & 2 \end{bmatrix}$

5. $\begin{bmatrix} 12 & 10 \\ -5 & -4 \end{bmatrix} \begin{bmatrix} -2 & -5 \\ 2.5 & 6 \end{bmatrix}$

6. $\begin{bmatrix} 7 & 2 & 1 \\ 0 & 3 & -1 \\ -3 & 4 & -2 \end{bmatrix} \begin{bmatrix} -2 & 8 & -5 \\ 3 & -11 & 7 \\ 9 & -34 & 21 \end{bmatrix}$

Directions: Solve each system of matrices by using the graphing calculator.

7. $\begin{cases} 3x + 4y = 50 \\ 8x - 7y = -8 \end{cases}$

8. $\begin{cases} 6x - 11y = -208 \\ 7x + 5y = 7 \end{cases}$

9. $\begin{cases} 13x + 19y = -179 \\ 23x - 17y = -13 \end{cases}$

10. $\begin{cases} 1.4x - 3.5y = 25.9 \\ 2.6x + 6.1y = -27.5 \end{cases}$

11. The Cozy Café has 3 breakfast specials on the table below with the cost of the ingredients. Find the cost of an egg, a link sausage, and a piece of toast.

Breakfast	Number of eggs	Number of link sausages	Number of pieces of toast	Total Cost
#1	1	2	2	\$1.05
#2	3	4	4	\$2.43
#3	2	6	3	\$2.49