

Name _____

Date _____

Advanced Algebra

Unit 6 Linear Programming Assignment #12

Learning Targets with Matrices	Self Assessment
I can identify the dimensions of a matrix	
I can add or subtract	
I can multiply by a scalar	
I can multiply any matrix	
I can arrange a systems of equations into a matrix representation	
I can use proper notation to show how to solve A matrix system	
I can find the inverse of a 2 by 2 matrix by hand	
I can find the inverse of a 2 by 2 matrix with the given formula	
I can solve a 2 by2 matrix system correctly	
I can SHOW how to solve any matrix system with proper notation	

Important NOTE $[A]*[A]^{-1} =$ the identity matrix which is $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

Solve the following Linear equations by showing the proper Inverse notation:

1) $4x=8$

2) $\frac{1}{3}x = 25$

3) $7x = 921$

For the Following Problems, **show with the proper notation** of how to solve the following matrix equations.

4) $\begin{bmatrix} 4 & 5 \\ 1 & 2 \end{bmatrix} \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 16 & 2 \\ 4 & 12 \end{bmatrix}$

5) $\begin{bmatrix} 12 & 5 \\ 4 & 2 \end{bmatrix} \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

6) $\begin{bmatrix} -2 & 4 \\ 6 & 3 \end{bmatrix} \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 5 & 6 \\ 2 & 10 \end{bmatrix}$

7) $\begin{bmatrix} 5 & -8 \\ 2 & 1 \end{bmatrix} \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 9 & 2 \\ 1 & 4 \end{bmatrix}$

For the following problems, arrange the given 2 by 2 system into a matrix arrangement.

8) $2x + y = 11$

$3x - 2y = 6$

10) $x + y = 10$

$x - y = 6$

9) $x + y = 1$

$2x + y = 5$

11) $x - 4y = 20$

$2x + 5y = 1$

For the following problems find the Inverse of the given 2 by 2

12) $\begin{bmatrix} a & b \\ c & d \end{bmatrix} * \begin{bmatrix} 1 & -4 \\ 2 & 5 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

13) $\begin{bmatrix} a & b \\ c & d \end{bmatrix} * \begin{bmatrix} -1 & 1 \\ 2 & -3 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

For problems 14 and 15 put it all together. Show with proper notation and work how to solve the above 2 by 2 matrix systems.

14)

15)