

12 REVIEW – Matrices (part 1)**NO GRAPHING CALCULATOR**Solve for x and y .

1) $2 \begin{bmatrix} -1 & x \\ 8 & -4 \end{bmatrix} - \begin{bmatrix} 1 & -7 \\ 5 & 0 \end{bmatrix} = \begin{bmatrix} -3 & 21 \\ 11 & y \end{bmatrix}$

2) $x \begin{bmatrix} 2 & y \\ -7 & 5 \end{bmatrix} + \begin{bmatrix} 2 & 3 \\ 7 & 19 \end{bmatrix} = \begin{bmatrix} x & 3 \\ 21 & 9 \end{bmatrix}$

The dimensions of Matrix A and Matrix B are listed. What are the dimensions of the product of AB ? If it is not possible, then write “undefined.”

Find the product of the two matrices. SHOW YOUR WORK.

- 3) Matrix A : 1×7
Matrix B : 1×7

5) $\begin{bmatrix} -1 & -4 \\ 5 & -3 \end{bmatrix} \begin{bmatrix} 1 & 1 & 1 \\ 4 & 3 & 1 \end{bmatrix}$

Matrix AB : _____ x _____

- 4) Matrix A : 3×4
Matrix B : 4×2

Matrix AB : _____ x _____

For 6-7, solve for the variables x and y . SHOW YOUR WORK!

6) $\begin{bmatrix} -1 & -1 \\ 4 & x \end{bmatrix} \cdot \begin{bmatrix} y & 4 \\ -6 & -2 \end{bmatrix} = \begin{bmatrix} 12 & -2 \\ -36 & 12 \end{bmatrix}$

7) $\begin{bmatrix} -6 & y \end{bmatrix} \cdot \begin{bmatrix} x & 4 \\ 2 & 5 \end{bmatrix} = \begin{bmatrix} -34 & -49 \end{bmatrix}$

Algebra 2 – Unit 12

Name: _____ Date: _____ Period: _____

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12 REVIEW – Matrices

Simplify. Write “undefined” for expressions that are undefined.

8) $[-6 \quad -1 \quad 4 \quad 5] + [1 \quad 3 \quad -6 \quad -4]$	9) $\begin{bmatrix} -2 & -3 \\ 6 & -4 \\ 3 & 0 \end{bmatrix} + \begin{bmatrix} 2 & 4 \\ -4 & -5 \\ -6 & 4 \end{bmatrix} + \begin{bmatrix} -2 & -1 \\ 1 & 4 \\ 6 & -5 \end{bmatrix}$
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10) $[-3 \quad -4 \quad 4] - ([6 \quad -2 \quad -3] - [-1 \quad 2 \quad -5])$	11) Solve: $C + \begin{bmatrix} -9 \\ -9 \\ -6 \end{bmatrix} = \begin{bmatrix} -9 \\ -7 \\ 4 \end{bmatrix}$
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12) Solve: $-2B + \begin{bmatrix} -1 \\ 9 \\ 7 \end{bmatrix} = \begin{bmatrix} 13 \\ -5 \\ -3 \end{bmatrix}$	13) Find the inverse of the 2x2 matrix. Show your work. $\begin{bmatrix} -5 & 8 \\ -4 & 6 \end{bmatrix}$
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Part 2
14) Solve the matrix equation with a graphing calculator.

Graphing Calculator Allowed

$$\begin{bmatrix} 1 & -4 \\ 3 & -8 \end{bmatrix} X = \begin{bmatrix} -7 \\ -5 \end{bmatrix}$$

15) Solve the system using a matrix equation. Set up the matrices in the space below, then use a calculator to solve it.

Part 2

Graphing Calculator Allowed

$$z = -3x + 3y + 11$$

$$-3x + 7y - 7z = 3$$

$$-2x + 2y - 6z = 30$$