

DORIS JOHNSON SENIOR HIGH SCHOOL

MATHEMATICS DEPARTMENT

MATRICES

MULTIPLYING MATRICES

NAME: _____ **DATE:** _____

PART A: Find the value of the letters.

$$1) \begin{pmatrix} 2 & x \\ y & 7 \end{pmatrix} + \begin{pmatrix} 4 & y \\ -3 & 2 \end{pmatrix} = \begin{pmatrix} x & 9 \\ z & 9 \end{pmatrix}$$

$$x =$$

$$y =$$

$$z =$$

$$2) \begin{pmatrix} 2 & e \\ a & 3 \end{pmatrix} + k \begin{pmatrix} 3 & 1 \\ 0 & -2 \end{pmatrix} = \begin{pmatrix} 8 & 6 \\ -3 & -1 \end{pmatrix}$$

$$a =$$

$$e =$$

$$k =$$

PART B: Are these matrices compatible for multiplication? If so, what is the size of the product matrix?

$$1) \begin{pmatrix} 2 & -1 \\ 3 & 4 \end{pmatrix} \begin{pmatrix} 0 & 5 \\ 1 & -2 \end{pmatrix}$$

$$Y/N =$$

$$\text{Product Matrix} =$$

$$2) \begin{pmatrix} 1 & 5 & 1 \\ 4 & -6 & 1 \end{pmatrix} \begin{pmatrix} 4 \\ 1 \\ 3 \end{pmatrix}$$

$$Y/N =$$

$$\text{Product Matrix} =$$

$$3) \begin{pmatrix} 2 & -1 \\ 3 & 4 \end{pmatrix} \begin{pmatrix} 3 \\ 1 \end{pmatrix}$$

$$Y/N =$$

$$\text{Product Matrix} =$$

$$4) \begin{pmatrix} 4 & 3 \\ 1 & 2 \end{pmatrix} \begin{pmatrix} 1 & -3 \\ 0 & 1 \\ -7 & 0 \end{pmatrix}$$

$$Y/N =$$

$$\text{Product Matrix} =$$

PART C: In the expression AxB , if A is 3×5 matrix then what could be the dimensions of B ?

$$B =$$

PART D: Calculate:

$$\begin{pmatrix} 4 & 3 \\ 1 & -2 \end{pmatrix} \begin{pmatrix} 0 & 5 \\ 1 & -2 \end{pmatrix}$$

$$= \begin{pmatrix} & \\ & \end{pmatrix}$$

