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 =
Product Matrix =

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

Y/N =
Product Matrix =

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

Y/N =
Product Matrix =

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

Y/N =
Product Matrix =

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

B =

PART D: Calculate:

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

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