Name: _____

Matrices

1) Find $\begin{bmatrix} 1 & -5 & 0 \\ 6 & 4 & 3 \end{bmatrix} + \begin{bmatrix} -2 & 5 & -4 \\ 2 & 1 & 6 \end{bmatrix}$

2) Obtain the matrix resulting from each of the following operations:

1) $\begin{pmatrix} 2 & -3 & 6 \\ 5 & 4 & 5 \\ 0 & -1 & -9 \end{pmatrix} - \begin{pmatrix} 1 & -3 & 4 \\ 0 & -2 & 5 \\ 1 & 0 & -1 \end{pmatrix}$

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

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

3) Given that the following matrices are equal, find the values of x, y and z .

1) $\begin{pmatrix} x+3 & -1 \\ 4 & 5 \end{pmatrix} = \begin{pmatrix} 6 & y \\ z-3 & 5 \end{pmatrix}$

2) $\begin{pmatrix} 4 & b \\ c & a \end{pmatrix} = \begin{pmatrix} 4 & 2 \\ -3 & 1 \end{pmatrix}$

4) Given that $k\begin{pmatrix} 2 & 3 \\ 5 & 6 \end{pmatrix} = \begin{pmatrix} 6 & 9 \\ 15 & 18 \end{pmatrix}$. Find the value of k

5) Find the values of x and y.

$2\begin{pmatrix} x \\ 2 \end{pmatrix} - \begin{pmatrix} 6 \\ y \end{pmatrix} = \begin{pmatrix} 5 \\ 3 \end{pmatrix}$

6) State the dimensions of each matrix

1) $\begin{bmatrix} -3 & -3 & 7 \end{bmatrix}$

2) $\begin{bmatrix} 5 & 8 & -1 \\ -2 & 1 & 8 \end{bmatrix}$

3) $\begin{bmatrix} -2 & 2 & -2 & 3 \\ 5 & 11 & 0 & 0 \\ 4 & -1 & 4 & 3 \end{bmatrix}$

7) Solve each equation

1) $\begin{bmatrix} 4x & 42 \end{bmatrix} = \begin{bmatrix} 24 & 6y \end{bmatrix}$

2) $\begin{bmatrix} -2x & 22 & -3x \end{bmatrix} = \begin{bmatrix} 6x & -2y & 45 \end{bmatrix}$

3) $\begin{bmatrix} 6x \\ 2y+3 \end{bmatrix} = \begin{bmatrix} -36 \\ 17 \end{bmatrix}$

4) $\begin{bmatrix} 7x-8 \\ 8y-3 \end{bmatrix} = \begin{bmatrix} 20 \\ 2y+3 \end{bmatrix}$

5) $\begin{bmatrix} -4x-3 \\ 6y \end{bmatrix} = \begin{bmatrix} -3x \\ -2y+16 \end{bmatrix}$

6) $\begin{bmatrix} 6x-12 \\ -3y+6 \end{bmatrix} = \begin{bmatrix} -3x-21 \\ 8y-5 \end{bmatrix}$

7) $\begin{bmatrix} -5 & 3x+1 \\ 2y-1 & 3z-2 \end{bmatrix} = \begin{bmatrix} -5 & x-1 \\ 3y & 5z-4 \end{bmatrix}$

8) $\begin{bmatrix} 4 & x+2 \\ 7 & 8 \end{bmatrix} = \begin{bmatrix} y-3 & 5 \\ 3z-2 & 8 \end{bmatrix}$