

## Algebra

### Writing Assignment: Matrices

Each problem is worth 5 points

Answer each of the following problems. Show all your work.

1) Evaluate  $\begin{bmatrix} 2 & 3 \\ 5 & 1 \end{bmatrix} + \begin{bmatrix} -1 & 7 \\ 9 & 8 \end{bmatrix}$ .

2) Evaluate  $\begin{bmatrix} 6 & 10 \\ 2 & 0 \\ 0 & 5 \\ 1 & 7 \end{bmatrix} - \begin{bmatrix} 1 & 9 \\ 5 & 9 \\ 1 & 3 \\ -10 & 0 \end{bmatrix}$ .

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

4) Evaluate  $5[1 \ 9 \ 2 \ -6]$ .

5) Evaluate  $2\begin{bmatrix} 1 & 5 \\ 6 & 0 \end{bmatrix} - 5\begin{bmatrix} 6 & 2 \\ 1 & 8 \end{bmatrix}$ .

6) Is the following operation possible? Why or why not?

$$\begin{bmatrix} 1 & 2 \\ 3 & 7 \end{bmatrix} \begin{bmatrix} 1 \\ 5 \end{bmatrix}$$

7) Is the following operation possible? Why or why not?

$$\begin{bmatrix} 5 & 6 & 0 \end{bmatrix} \begin{bmatrix} 2 \\ -1 \end{bmatrix}$$

8) Evaluate  $\begin{bmatrix} 1 & -6 \\ 2 & 0 \end{bmatrix} \begin{bmatrix} 1 & 4 \\ 9 & 8 \end{bmatrix}$ .

9) Evaluate  $\begin{bmatrix} 1 \\ 7 \\ 3 \end{bmatrix} \begin{bmatrix} 2 & -1 & 5 \end{bmatrix}$ .

10) What is the determinant of  $\begin{bmatrix} 5 & 6 \\ 1 & 9 \end{bmatrix}$ ?