

Name: \_\_\_\_\_

## Matrices

**Exercise 1:** Use matrices A, B, C, D, and E.

$$A = \begin{bmatrix} 2 \\ 5 \end{bmatrix}, B = \begin{bmatrix} 2 & 3 \end{bmatrix}, C = \begin{bmatrix} 5 & 3 \\ 1 & -9 \end{bmatrix}, D = \begin{bmatrix} 3 & 7 \\ -1 & -3 \end{bmatrix}, \text{ and } E = \begin{bmatrix} 2 & 6 \\ 2 & 2 \end{bmatrix}$$

- 1) Give the dimensions of each matrix.
- 2) Which matrices are equal to each other?

**Exercise 2:** Find the values of the variable for which the given statement is true.

- 1)  $\begin{bmatrix} x & 4 \\ -8 & 0 \end{bmatrix} = \begin{bmatrix} 2 & y \\ -8 & z+1 \end{bmatrix}$
- 2)  $\begin{bmatrix} a-3 & 5 \\ 2-c & 4b \end{bmatrix} = \begin{bmatrix} -1 & 2x+1 \\ -8 & 12 \end{bmatrix}$

**Exercise 3:** Find the missing matrix in each case:

- 1)  $A = ?$ ,  $A' = \begin{bmatrix} -1 & -1 \\ 2 & 7 \\ 6 & -3 \\ 9 & 8 \end{bmatrix}$

- 2)  $A = \begin{bmatrix} -3 & 4 & -1 & 8 \\ 3 & 0 & 2 & 4 \\ 7 & 4 & -3 & 6 \end{bmatrix}$ ,  $A' = ?$

- 3)  $A = [17 \ 21 \ 6 \ -9]$ ,  $A' = ?$

- 4)  $A = ?$ ,  $A' = \begin{bmatrix} 17 & 2 & -7 \\ 21 & 3 & 9 \\ 6 & 4 & 4 \\ -9 & 5 & 7 \end{bmatrix}$