

MODULE 10.1 - MATRICES AND MATRIX OPERATIONS**LEARNING OBJECTIVES**

In this section, you will:

- Find the sum and difference of two matrices.
- Find the scalar multiples of a matrix.
- Find the product of two matrices.

FINDING THE SUM AND DIFFERENCE OF TWO MATRICES

- State the definition of a matrix.

- State the definition of adding and subtracting matrices.

FINDING SCALAR MULTIPLES OF A MATRIX

- State the definition of scalar multiplication.

FINDING THE PRODUCT OF TWO MATRICES

- State the definition of properties of matrix multiplication.

MODULE 10.1 - CLASS NOTES

For the following exercises, use the matrices below and perform indicated operations. Indicate if the operation is undefined.

$$A = \begin{bmatrix} 1 & 3 \\ 0 & 7 \end{bmatrix}$$

$$B = \begin{bmatrix} 2 & 14 \\ 22 & 6 \end{bmatrix}$$

$$C = \begin{bmatrix} 1 & 5 \\ 8 & 92 \\ 12 & 6 \end{bmatrix}$$

$$D = \begin{bmatrix} 10 & 14 \\ 7 & 2 \\ 5 & 61 \end{bmatrix}$$

$$E = \begin{bmatrix} 3 & 6 & 4 \\ -8 & 0 & 12 \end{bmatrix}$$

1. $A + B$

2. $C + D$

3. $A + C$

4. $C - D$

5. AB

6. BA

7. CD

8. CE

9. $2C - 4D$

10. $2A + BA$