

ACTIVITY 2.4

Using Technology

Graphing Calculator Activity for use with Lesson 2.4

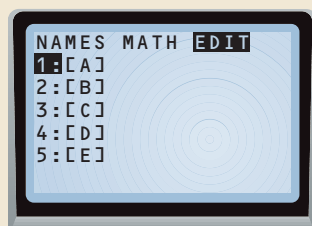
Adding and Subtracting Matrices

EXAMPLE

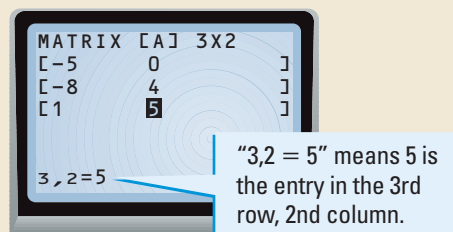
Use a graphing calculator to find the sum and difference of $\begin{bmatrix} -5 & 0 \\ -8 & 4 \\ 1 & 5 \end{bmatrix}$ and $\begin{bmatrix} -3 & -1 \\ 4 & 0 \\ 1 & -7 \end{bmatrix}$.

SOLUTION

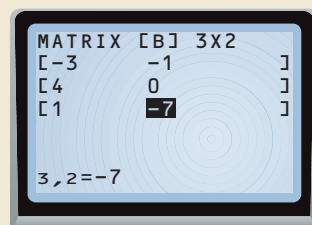
- Follow your calculator's procedures to name the first matrix [A].



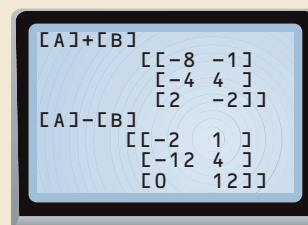
- Enter the size of the matrix, and then enter each entry in the appropriate position.



- Name the second matrix [B]. Enter the size of the matrix and the entries.



- Enter $[A] + [B]$ to find the sum, and $[A] - [B]$ to find the difference.



The sum is $\begin{bmatrix} -8 & -1 \\ -4 & 4 \\ 2 & -2 \end{bmatrix}$ and the difference is $\begin{bmatrix} -2 & 1 \\ -12 & 4 \\ 0 & 12 \end{bmatrix}$.

EXERCISES

Use a graphing calculator to find the sum and difference of the matrices.

$$1. \begin{bmatrix} 7 & -5 \\ 5 & -3 \\ -9 & -8 \end{bmatrix}, \begin{bmatrix} 0 & -1 \\ 1 & 0 \\ -1 & -6 \end{bmatrix}$$

$$2. \begin{bmatrix} 52 & 79 & -61 \\ -84 & 21 & -76 \end{bmatrix}, \begin{bmatrix} 10 & 45 & -62 \\ -16 & 98 & -28 \end{bmatrix}$$

$$3. \begin{bmatrix} 7.4 & -5.1 \\ -0.6 & -4.6 \\ 9.9 & -9.4 \\ 2.1 & -3.6 \\ -0.5 & 7.1 \end{bmatrix}, \begin{bmatrix} 3.3 & 3.2 \\ -3.2 & 2.7 \\ -8.2 & -1.7 \\ 5.1 & -4.8 \\ -3.9 & 6.1 \end{bmatrix}$$

$$4. \begin{bmatrix} 44 & -51 & 17 \\ 76 & 63 & 25 \\ -20 & -60 & 42 \end{bmatrix}, \begin{bmatrix} -53 & -18 & 11 \\ 29 & -27 & -62 \\ 29 & -35 & -28 \end{bmatrix}$$

STUDENT HELP



See keystrokes for several models of calculators at www.mcdougallittell.com