

13-2 Skills Practice***Introduction to Matrices***

State the dimensions of each matrix. Then, identify the position of the circled element in each matrix.

1.
$$\begin{bmatrix} 2 \\ \textcircled{7} \\ -1 \\ 3 \end{bmatrix}$$

2.
$$\begin{bmatrix} -7 & 3 \\ 0 & \textcircled{9} \\ 11 & 8 \end{bmatrix}$$

3.
$$\begin{bmatrix} 6 & \textcircled{3} & 1 & 0 & 7 \\ 0 & 0 & 1 & 4 & 3 \end{bmatrix}$$

4.
$$\begin{bmatrix} 12 & 19 \\ 37 & -18 \\ \textcircled{15} & 38 \\ -7 & 96 \end{bmatrix}$$

5.
$$\begin{bmatrix} 2 & 3 & -4 \\ 1 & 1 & 3 \\ 0 & -1 & \textcircled{2} \end{bmatrix}$$

6.
$$\begin{bmatrix} 3 & -7 \\ \textcircled{6} & 2 \end{bmatrix}$$

7.
$$[-28 \quad \textcircled{42}]$$

8.
$$\begin{bmatrix} 1 & 0 & 2 & 1 \\ 0 & 1 & \textcircled{0} & 2 \\ 0 & 0 & 1 & 5 \end{bmatrix}$$

If $A = \begin{bmatrix} 5 & 2 & -7 \\ -1 & 0 & 13 \\ 3 & 8 & 6 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 9 & -3 \\ 12 & 4 & 7 \\ -6 & -2 & 5 \end{bmatrix}$, $C = \begin{bmatrix} -4 & 2 \\ 9 & 7 \\ 15 & 33 \end{bmatrix}$, and $D = \begin{bmatrix} 37 & 22 \\ -5 & 12 \\ 11 & 0 \end{bmatrix}$,

find each sum, difference, or product. If the sum or difference does not exist, write *impossible*.

9. $A + B$

10. $B + C$

11. $C + D$

12. $D - B$

13. $A - B$

14. $D - C$

15. $2D$

16. $4B$

17. $-3A$

18. $3C$

19. $2C + B$

20. $2B + A$