8.4 Practice Problems

Use the following matrices to evaluate the given expression.

$$A=\begin{bmatrix}-2 & 3\\ -5 & 1\end{bmatrix} \qquad B=\begin{bmatrix}9 & -3\\ 2 & 4\end{bmatrix} \qquad C=\begin{bmatrix}-2 & 3\\ -5 & 1\\ 1 & 2\end{bmatrix}$$

1. $A+B$

2. $3A$

3. $2A-4B$

4. AB

5. BA

6. CA

Find the inverse of each matrix.

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

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

Solve the system of equations by using the inverse matrices found above.

9. $\begin{cases} 2x+5y=8 \\ x+3y=-1 \end{cases}$

10. $\begin{cases} 3x-3y+z=-2 \\ -2x+2y-z=3 \\ -4x+5y-2z=4 \end{cases}$