

Use the following matrices.

$$A = \begin{bmatrix} 5 & -9 \\ -4 & 6 \\ 8 & -1 \end{bmatrix}$$

$$B = \begin{bmatrix} -5 & -7 \\ 6 & -3 \\ -2 & -10 \end{bmatrix}$$

Perform each matrix operation.

1. $A - B$

2. $A + B$

Evaluate each for $N = 4$ $P = -3$ $Q = -12$ $R = 8$

3. $-5P^2 - Q$

4. $-P \frac{Q}{N}$

5. $(P - N)(Q - R)$

6. $PR - NQ$

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Perform each matrix operation.

1. $A - B$

$$\begin{bmatrix} 10 & -2 \\ -10 & 9 \\ 10 & 9 \end{bmatrix}$$

2. $A + B$

$$\begin{bmatrix} 0 & -16 \\ 2 & 3 \\ 6 & -11 \end{bmatrix}$$

Evaluate each for $N = 4$ $P = -3$ $Q = -12$ $R = 8$

3. $-5P^2 - Q$

$$\begin{aligned} & -5(-3)^2 - (-12) \\ & -5(9) + 12 \\ & -45 + 12 = \boxed{-33} \end{aligned}$$

4. $-P \frac{Q}{N}$

$$-(-3) \frac{-12}{4} = 3(-3) = \boxed{-9}$$

5. $(P - N)(Q - R)$

$$\begin{aligned} & (-3) - (4) = -7 \\ & (-12) - (8) = -20 \\ & (-7)(-20) = \boxed{140} \end{aligned}$$

6. $PR - NQ$

$$\begin{aligned} & (-3)(8) - (4)(-12) \\ & -24 + 48 \\ & = \boxed{24} \end{aligned}$$