Example: Let $A = \begin{pmatrix} 3 & 0 \\ -1 & 4 \\ 5 & -6 \end{pmatrix}$, $B = \begin{pmatrix} 1 & 7 \\ -2 & 5 \\ -8 & 10 \end{pmatrix}$

$A + B = \begin{pmatrix} 3 & 0 \\ -1 & 4 \\ 5 & -6 \end{pmatrix} + \begin{pmatrix} 1 & 7 \\ -2 & 5 \\ -8 & 10 \end{pmatrix} = \begin{pmatrix} 4 & 7 \\ -3 & 9 \\ -3 & 4 \end{pmatrix}$

$A - B = \begin{pmatrix} 3 & 0 \\ -1 & 4 \\ 5 & -6 \end{pmatrix} - \begin{pmatrix} 1 & 7 \\ -2 & 5 \\ -8 & 10 \end{pmatrix} = \begin{pmatrix} 2 & -7 \\ 1 & -1 \\ 13 & -16 \end{pmatrix}$

$B + A = \begin{pmatrix} 1 & 7 \\ -2 & 5 \\ -8 & 10 \end{pmatrix} + \begin{pmatrix} 3 & 0 \\ -1 & 4 \\ 5 & -6 \end{pmatrix} = \begin{pmatrix} 4 & 7 \\ -3 & 9 \\ -3 & 4 \end{pmatrix}$

$B - A = \begin{pmatrix} 1 & 7 \\ -2 & 5 \\ -8 & 10 \end{pmatrix} - \begin{pmatrix} 3 & 0 \\ -1 & 4 \\ 5 & -6 \end{pmatrix} = \begin{pmatrix} -2 & 7 \\ -1 & 1 \\ -13 & 16 \end{pmatrix}$

❑ $A + B = B + A$ (commutative)

❑ $A - B \neq B - A$