

If

$$A = \begin{bmatrix} -9 \\ 4 \\ 4 \\ 9 \end{bmatrix}, \quad B = \begin{bmatrix} -8 & -1 & 8 \\ 9 & 1 & -4 \\ 3 & 1 & -6 \end{bmatrix}, \quad C = \begin{bmatrix} -3 & 2 & 6 \\ 9 & -9 & 1 \end{bmatrix},$$

then decide if each of the following operations is defined (answer yes or no)

$A + B$

$A + C$

$B + C$

$AB$

$BA$

$AC$

$CA$

$BC$

$CB$

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