

Complete the following:

$$\begin{pmatrix} -2 & 1 & -1 \\ 2 & 0 & 1 \\ 1 & 2 & -2 \end{pmatrix} \begin{pmatrix} 2 \\ -1 \\ 1 \end{pmatrix} = \left(\begin{array}{c|c} \boxed{} & \times \begin{array}{c} 2 \\ 2 \\ 2 \end{array} \\ \hline \boxed{} & + \begin{array}{c} -1 \\ -1 \\ -1 \end{array} \\ \hline \boxed{} & \times \begin{array}{c} 1 \\ 1 \\ 1 \end{array} \end{array} \right)$$
$$= \begin{pmatrix} \boxed{} \\ \boxed{} \\ \boxed{} \end{pmatrix} \times (2) + \begin{pmatrix} \boxed{} \\ \boxed{} \\ \boxed{} \end{pmatrix} \times (-1) + \begin{pmatrix} \boxed{} \\ \boxed{} \\ \boxed{} \end{pmatrix} \times (1)$$
$$= (2) \times \begin{pmatrix} \boxed{} \\ \boxed{} \\ \boxed{} \end{pmatrix} + (-1) \times \begin{pmatrix} \boxed{} \\ \boxed{} \\ \boxed{} \end{pmatrix} + (1) \times \begin{pmatrix} \boxed{} \\ \boxed{} \\ \boxed{} \end{pmatrix}$$