

Complete the following:

$$\begin{pmatrix} 2 \\ -1 \\ 0 \end{pmatrix} \begin{pmatrix} -2 & 0 & 1 \end{pmatrix} + \begin{pmatrix} 2 & 2 & -1 \\ 2 & 1 & 0 \\ -2 & -2 & 2 \end{pmatrix}$$

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