

Complete the following:

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