

Complete the following:

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