$$\left(\begin{array}{c|c} -1 & 2 \\ 0 & 1 \\ -2 & 3 \end{array}\right)\left(\frac{\begin{array}{ccc}1 & -2 & 0\end{array}}{\begin{array}{ccc}2 & -1 & 3\end{array}}\right) + \left(\begin{array}{rrr}3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2\end{array}\right)$$

$$= \left(\begin{array}{ccc}
\square \times \boxed{1} + \square \times \boxed{2} & \square \times \boxed{-2} + \square \times \boxed{-1} & \square \times \boxed{0} + \square \times \boxed{3} \\
\square \times \boxed{1} + \square \times \boxed{2} & \square \times \boxed{-2} + \square \times \boxed{-1} & \square \times \boxed{0} + \square \times \boxed{3} \\
\square \times \boxed{1} + \square \times \boxed{2} & \square \times \boxed{-2} + \square \times \boxed{-1} & \square \times \boxed{0} + \square \times \boxed{3}
\end{array}\right)$$

$$+ \left(\begin{array}{rrr}3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2\end{array}\right)$$

$$= \left(\begin{array}{ccc}
\square \times \boxed{1} & \square \times \boxed{-2} & \square \times \boxed{0} \\
\square \times \boxed{1} & \square \times \boxed{-2} & \square \times \boxed{0} \\
\square \times \boxed{1} & \square \times \boxed{-2} & \square \times \boxed{0}
\end{array}\right) + \left(\begin{array}{ccc}
\square \times \boxed{2} & \square \times \boxed{-1} & \square \times \boxed{3} \\
\square \times \boxed{2} & \square \times \boxed{-1} & \square \times \boxed{3} \\
\square \times \boxed{2} & \square \times \boxed{-1} & \square \times \boxed{3}
\end{array}\right)$$

$$+ \left(\begin{array}{rrr}3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2\end{array}\right)$$

$$= \left(\begin{array}{c}\square \\ \square \\ \square\end{array}\right)\left(\begin{array}{ccc} 1 & -2 & 0 \end{array}\right) + \left(\begin{array}{c}\square \\ \square \\ \square\end{array}\right)\left(\begin{array}{ccc} 2 & -1 & 3 \end{array}\right) + \left(\begin{array}{rrr}3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2\end{array}\right)$$