

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

$$= \begin{pmatrix} & & & \\ & & & \\ & & & \\ & & & \\ & & & \end{pmatrix} \times \begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \end{pmatrix} + \begin{pmatrix} & & & \\ & & & \\ & & & \\ & & & \\ & & & \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix}$$

$$\begin{array}{c|c|c|c}
 \boxed{\phantom{-}} & \times & \boxed{-2} & + \boxed{\phantom{-}} & \times & \boxed{-1} \\
 \hline
 \boxed{\phantom{-}} & \times & \boxed{-2} & + \boxed{\phantom{-}} & \times & \boxed{-1} \\
 \hline
 \boxed{\phantom{-}} & \times & \boxed{-2} & + \boxed{\phantom{-}} & \times & \boxed{-1}
 \end{array}$$

$$\begin{array}{r} \boxed{\phantom{0}} \\ \times \quad 0 \\ \hline \boxed{\phantom{0}} \\ \times \quad 0 \\ \hline \boxed{\phantom{0}} \\ \times \quad 0 \\ \hline \end{array} + \begin{array}{r} \boxed{\phantom{0}} \\ \times \quad 3 \\ \hline \boxed{\phantom{0}} \\ \times \quad 3 \\ \hline \boxed{\phantom{0}} \\ \times \quad 3 \\ \hline \end{array}$$

$$+ \begin{pmatrix} 3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2 \end{pmatrix}$$

$$= \begin{pmatrix} & \\ & \\ & \end{pmatrix} \times \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix} \quad \begin{pmatrix} & \\ & \\ & \end{pmatrix} \times \begin{pmatrix} -2 \\ -2 \\ -2 \end{pmatrix}$$

$$\begin{pmatrix} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \end{pmatrix} \times \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} + \begin{pmatrix} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \end{pmatrix} \times \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \end{pmatrix}$$

	$\times$	-1
	$\times$	-1
	$\times$	-1

$$\begin{array}{r} \boxed{\phantom{0}} \\ \times \\ \boxed{\phantom{0}} \\ \times \\ \boxed{\phantom{0}} \end{array} \quad \begin{array}{r} 3 \\ \times \\ 3 \\ \times \\ 3 \end{array}$$

$$+ \begin{pmatrix} 3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2 \end{pmatrix}$$

$$= \begin{pmatrix} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \end{pmatrix} \begin{pmatrix} 1 & -2 & 0 \end{pmatrix} + \begin{pmatrix} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \end{pmatrix} \begin{pmatrix} 2 & -1 & 3 \end{pmatrix} + \begin{pmatrix} 3 & 0 & -4 \\ -2 & 1 & -3 \\ 1 & -1 & -2 \end{pmatrix}$$