

$$\begin{array}{ccc|ccc} 1 & -1 & 0 & 1 & 0 & 0 & | \cdot (-2) \\ 2 & 1 & 1 & 0 & 1 & 0 & \\ 2 & 0 & 1 & 0 & 0 & 1 & \end{array}$$

$$\begin{array}{ccc|ccc} 1 & -1 & 0 & 1 & 0 & 0 & \\ 0 & 3 & 1 & -2 & 1 & 0 & \\ 0 & 2 & 1 & -2 & 0 & 1 & | \cdot (-\frac{3}{2}) \end{array}$$

$$\begin{array}{ccc|ccc} 1 & -1 & 0 & 1 & 0 & 0 & \\ 0 & 3 & 1 & -2 & 1 & 0 & \\ 0 & 0 & -1 & 2 & 2 & -3 & | \cdot (-1) \end{array}$$

$$\begin{array}{ccc|ccc} 1 & -1 & 0 & 1 & 0 & 0 & \\ 0 & 3 & 1 & -2 & 1 & 0 & | \cdot (-1) \\ 0 & 0 & 1 & -2 & -2 & 3 & \end{array}$$

$$\begin{array}{ccc|ccc} 1 & -1 & 0 & 1 & 0 & 0 & \\ 0 & -3 & 0 & 0 & -3 & 3 & | \cdot (-3) \\ 0 & 0 & 1 & -2 & -2 & 3 & \end{array}$$

$$\begin{array}{ccc|ccc} 1 & -1 & 0 & 1 & 0 & 0 & \\ 0 & 1 & 0 & 0 & 1 & -1 & \\ 0 & 0 & 1 & -2 & -2 & 3 & \end{array}$$

$$\begin{array}{ccc|ccc} 1 & 0 & 0 & 1 & 1 & -1 & \\ 0 & 1 & 0 & 0 & 1 & -1 & \\ 0 & 0 & 1 & -2 & -2 & 3 & \end{array}$$

$$A^{-1} = \begin{pmatrix} 1 & 1 & -1 \\ 0 & 1 & -1 \\ -2 & -2 & 3 \end{pmatrix}$$

$$A^{-1} \cdot A = \begin{pmatrix} 1 & 1 & -1 \\ 0 & 1 & -1 \\ -2 & -2 & 3 \end{pmatrix} \cdot \begin{pmatrix} 1 & -1 & 0 \\ 2 & 1 & 1 \\ 2 & 0 & 1 \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

