

$$\begin{array}{ccc|ccc} 2 & 4 & 1 & 1 & 0 & 0 \\ 3 & 1 & 2 & 0 & 1 & 0 & | \cdot (-\frac{2}{3}) \\ 1 & 5 & 3 & 0 & 0 & 1 & | \cdot (-2) \end{array}$$

$$\begin{array}{ccc|ccc} 2 & 4 & 1 & 1 & 0 & 0 \\ 0 & 10 & -1 & 3 & -2 & 0 \\ 0 & -6 & -5 & 1 & 0 & -2 & | \cdot \frac{6}{10} \end{array}$$

$$\begin{array}{ccc|ccc} 2 & 4 & 1 & 1 & 0 & 0 \\ 0 & 10 & -1 & 3 & -2 & 0 \\ 0 & 0 & -56 & 28 & -12 & -20 & | : (-56) \end{array}$$

$$\begin{array}{ccc|ccc} 2 & 4 & 1 & 1 & 0 & 0 & | \cdot (-1) \\ 0 & 10 & -1 & 3 & -2 & 0 \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{3}{14} & \frac{5}{14} \end{array}$$

$$\begin{array}{ccc|ccc} 2 & 4 & 0 & 1,5 & -\frac{3}{14} & -\frac{5}{14} \\ 0 & 10 & 0 & 2,5 & -\frac{25}{14} & \frac{5}{14} & | : 10 \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{3}{14} & \frac{5}{14} \end{array}$$

$$\begin{array}{ccc|ccc} 2 & 4 & 0 & 1,5 & -\frac{3}{14} & -\frac{5}{14} & | \cdot (-\frac{1}{4}) \\ 0 & 1 & 0 & \frac{1}{4} & -\frac{5}{28} & \frac{1}{28} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{3}{14} & \frac{5}{14} \end{array}$$

$$\begin{array}{ccc|ccc} 2 & 0 & 0 & \frac{1}{2} & \frac{1}{2} & -\frac{1}{2} & | : 2 \\ 0 & 1 & 0 & \frac{1}{4} & -\frac{5}{28} & \frac{1}{28} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{3}{14} & \frac{5}{14} \end{array}$$

$$\begin{array}{ccc|ccc} 1 & 0 & 0 & \frac{1}{4} & \frac{1}{4} & -\frac{1}{4} \\ 0 & 1 & 0 & \frac{1}{4} & -\frac{5}{28} & \frac{1}{28} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{3}{14} & \frac{5}{14} \end{array}$$

$$\Rightarrow A^{-1} = \begin{pmatrix} \frac{1}{4} & \frac{1}{4} & -\frac{1}{4} \\ \frac{1}{4} & -\frac{5}{28} & \frac{1}{28} \\ -\frac{1}{2} & \frac{3}{14} & \frac{5}{14} \end{pmatrix}$$