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$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 2 & -2 & -4 & 0 & 1 & 0 \\ 1 & -3 & 5 & 0 & 0 & 1 \end{pmatrix} \quad l_2 \leftarrow l_2 - \tfrac{2}{3} l_1$$

$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 0 & -\tfrac{8}{3} & -\tfrac{10}{3} & -\tfrac{2}{3} & 1 & 0 \\ 1 & -3 & 5 & 0 & 0 & 1 \end{pmatrix} \quad l_3 \leftarrow l_3 - \tfrac{1}{3} l_1$$

$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 0 & -\tfrac{8}{3} & -\tfrac{10}{3} & -\tfrac{2}{3} & 1 & 0 \\ 0 & -\tfrac{10}{3} & \tfrac{16}{3} & -\tfrac{1}{3} & 0 & 1 \end{pmatrix} \quad l_2 \leftrightarrow l_3$$

$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 0 & -\tfrac{10}{3} & \tfrac{16}{3} & -\tfrac{1}{3} & 0 & 1 \\ 0 & -\tfrac{8}{3} & -\tfrac{19}{3} & -\tfrac{2}{3} & 1 & 0 \end{pmatrix} \quad l_3 \leftarrow l_3 - \tfrac{4}{5} l_2$$

$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 0 & -\tfrac{10}{3} & \tfrac{16}{3} & -\tfrac{1}{3} & 0 & 1 \\ 0 & 0 & -\tfrac{38}{5} & -\tfrac{2}{5} & 1 & \tfrac{4}{5} \end{pmatrix} \quad l_3 \leftarrow \tfrac{-5}{38} l_3$$

$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 0 & -\tfrac{10}{3} & \tfrac{16}{3} & -\tfrac{1}{3} & 0 & 1 \\ 0 & 0 & 1 & \tfrac{1}{19} & -\tfrac{5}{38} & \tfrac{2}{19} \end{pmatrix} \quad l_2 \leftarrow l_2 - \tfrac{16}{3} l_3$$

$$\begin{pmatrix} 3 & 1 & -1 & 1 & 0 & 0 \\ 0 & -\tfrac{10}{3} & 0 & -\tfrac{35}{57} & \tfrac{40}{57} & \tfrac{25}{57} \\ 0 & 0 & 1 & \tfrac{1}{19} & -\tfrac{5}{38} & \tfrac{2}{19} \end{pmatrix} \quad l_2 \leftarrow l_1 + l_3$$

$$\left(\begin{array}{ccc|ccc} 3 & L & 0 & 29/19 & -5/38 & 2/19 \\ 0 & -10/3 & 0 & -35/57 & 40/57 & 25/57 \\ 0 & 0 & L & 1/19 & -5/38 & 2/19 \end{array} \right) \quad l_2 \leftarrow \dfrac{-3}{10} l_2$$

$$\left(\begin{array}{ccc|ccc} 3 & L & 0 & \dfrac{20}{19} & -5/38 & 2/19 \\ 0 & L & 0 & \dfrac{7}{38} & -4/19 & -5/38 \\ 0 & 0 & L & \dfrac{1}{19} & -5/38 & 2/19 \end{array} \right) \quad l_1 \leftarrow l_1 - l_2$$

$$\left(\begin{array}{ccc|ccc} 3 & 0 & 0 & 33/38 & 3/38 & 4/38 \\ 0 & L & 0 & 7/38 & -4/19 & -5/38 \\ 0 & 0 & L & 1/19 & -5/38 & 2/19 \end{array} \right) \quad l_1 \leftarrow l_1/3$$

$$\left(\begin{array}{ccc|ccc} L & 0 & 0 & 11/38 & 1/38 & 3/38 \\ 0 & L & 0 & 7/38 & -4/19 & -5/38 \\ 0 & 0 & L & 1/19 & -5/38 & 2/19 \end{array} \right)$$

MATRIZ INVERSA:

$$A^{-1} = \left(\begin{array}{ccc} 11/38 & 1/38 & 3/38 \\ 7/38 & -4/19 & -5/38 \\ 1/19 & -5/38 & 2/19 \end{array} \right) //$$