

and rows reduce

$$\left[ \begin{array}{cccccc} 1 & -1 & 1 & 0 & 0 & 0 \\ 0 & \frac{1}{2} & -\frac{3}{4} & 0 & 0 & -\frac{1}{2} \\ 0 & \frac{3}{4} & -\frac{15}{16} & -1 & -\frac{1}{16} & 0 \\ 0 & 1 & -\frac{1}{2} & 0 & \frac{1}{2} & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 \end{array} \right] \begin{array}{l} R_2 - R_1 \\ R_3 - R_1 \\ \end{array}$$

$$\left[ \begin{array}{cccccc} 1 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & -\frac{3}{2} & 0 & 0 & -1 \\ 0 & 1 & -\frac{5}{4} & -\frac{4}{3} & -\frac{1}{12} & 0 \\ 0 & 1 & -\frac{1}{2} & 0 & \frac{1}{2} & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 \end{array} \right] \begin{array}{l} R_2 \times 2 \\ R_3 \times \frac{4}{3} \end{array}$$

$$\left[ \begin{array}{cccccc} 1 & 0 & -\frac{1}{2} & 0 & 0 & -1 \\ 0 & 1 & -\frac{3}{2} & 0 & 0 & -1 \\ 0 & 0 & \frac{1}{4} & -\frac{4}{3} & -\frac{1}{12} & 1 \\ 0 & 0 & 1 & 0 & \frac{1}{2} & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 \end{array} \right] \begin{array}{l} R_1 + R_2 \\ R_3 - R_2 \\ R_4 - R_2 \end{array}$$

$$\left[ \begin{array}{cccccc} 1 & 0 & 0 & -\frac{8}{3} & -\frac{1}{6} & -\frac{1}{3} \\ 0 & 1 & 0 & -8 & -\frac{1}{2} & 5 \\ 0 & 0 & \frac{1}{4} & -\frac{4}{3} & -\frac{1}{12} & 1 \\ 0 & 0 & 0 & \frac{16}{3} & \frac{5}{6} & -3 \\ 0 & 0 & 0 & 1 & 0 & 1 \end{array} \right] \begin{array}{l} R_1 + 2R_3 \\ R_2 + 6R_3 \\ R_4 - 4R_3 \end{array}$$

$$\left[ \begin{array}{cccccc} 1 & 0 & 0 & 0 & -\frac{1}{6} & \frac{11}{3} \\ 0 & 1 & 0 & 0 & -\frac{1}{2} & 13 \\ 0 & 0 & 1 & 0 & -\frac{1}{3} & \frac{28}{3} \\ 0 & 0 & 0 & 0 & \frac{5}{6} & -\frac{25}{3} \\ 0 & 0 & 0 & 1 & 0 & 1 \end{array} \right] \begin{array}{l} R_1 + \frac{8}{3}R_5 \\ R_2 + 8R_5 \\ 4R_3 + \frac{16}{3}R_5 \\ R_4 - \frac{16}{3}R_5 \end{array}$$