$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 2 & -6 & 6 & 4 \\ -3 & 5 & -1 & -2 \end{array}\right] \begin{array}{c} -2 \\ 3 \end{array}$$

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & -10 & 4 & 2 \\ 0 & -1 & 2 & 1 \end{array}\right] \begin{array}{c} \cdot(-1/10) \\ -1/10 \end{array}$$

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & 1 & -2/5 & -1/5 \\ 0 & 0 & 8/5 & 4/5 \end{array}\right] \cdot \frac{5}{8}$$

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & 1 & -2/5 & -1/5 \\ 0 & 0 & 1 & 1/2 \end{array}\right]$$

$(-1) + (-10)x = 0 \quad \Rightarrow -10x = 1$
$$x = -7/10$$

$4(4/10) = \frac{-4}{10} = \frac{-2}{5}$

$2 + 4(-1/10) = 2 - \frac{4}{10} = \frac{20}{10} - \frac{4}{10} = \frac{16}{10} = \frac{8}{5}$

$1 + 2(-1/10) = 1 - \frac{2}{10} = 1 - \frac{1}{5} = \frac{4}{5}$

$\frac{4}{5} \cdot \frac{5}{8} = \frac{4}{8} = 1/2$