

3.6

$$Ux = y$$

$$\begin{bmatrix} -5 & 2 & -1 \\ 0 & 1/5 & 27/5 \\ 0 & 0 & 20/11 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} 1 \\ -2 \\ -2 \end{bmatrix}$$

$$x_3 = \frac{11}{20} \cdot -2 = \boxed{-\frac{11}{10}}$$

$$\frac{11}{5}x_2 + \frac{27}{5}x_3 = -2$$

$$-5x_1 + 2x_2 - x_3 = 1$$

$$x_2 = \frac{5}{11} \left( -2 - \frac{27}{5}x_3 \right)$$

$$= \frac{5}{11} (-2 + 5.94) \approx \boxed{1.791}$$

$$x_1 = -\frac{1}{5} (1 - 2x_2 + x_3)$$

$$\approx -\frac{1}{5} (1 - 3.582 - 1.1) \approx \boxed{0.7364}$$