

Problem 2 From the last equation: $7x_5 = -7 \Rightarrow x_5 = -1$

Substitute x_5 into the Eq 4: $10x_4 - 5 = 5 \Rightarrow 10x_4 = 10 \Rightarrow x_4 = 1$

Substitute x_4 & x_5 into Eq 3: $3x_3 + 5 + 1 \Rightarrow x_3 = -\frac{6}{3} = -2$

Substitute x_3, x_4 & x_5 into Eq 2: $2x_2 - 2 - 2 - 1 = -4 \Rightarrow$

$$2x_2 = 4 - \frac{4}{3} = -\frac{22}{3} \Rightarrow x_2 = 2$$

Substitute x_2, x_3, x_4 & x_5 into Eq 1:

$$3x_1 + 10 - 4 - 4 - 1 = 1 \Rightarrow 3x_1 = 3 \Rightarrow x_1 = 1$$

Answer: $\left(1, 2, -2, 1, -1 \right)$