

$$2. \quad 0.12 - 0.4(x + 1) + x = 0.5x + 2$$

Multiply both sides by $10^2 = 100$.

$$100[0.12 - 0.4(x + 1) + x] = 100(0.5x + 2)$$

$$100(0.12) - 100[0.4(x + 1)] + 100x = 100(0.5x) + 2(100)$$

$$12 - [100(0.4)](x + 1) + 100x = 50x + 200$$

$$12 - 40(x + 1) + 100x = 50x + 200$$

$$12 - 40x - 40 + 100x = 50x + 200$$

$$60x - 28 = 50x + 200$$

$$\begin{array}{r} -50x \qquad \qquad -50x \\ 60x - 28 = 50x + 200 \\ \hline 10x - 28 = 200 \end{array}$$

$$10x - 28 = 200$$

$$\begin{array}{r} +28 \quad +28 \\ 10x - 28 = 200 \\ \hline 10x = 228 \end{array}$$

$$10x = 228$$

$$x = \frac{228}{10} = 22.8$$