

4-5 Solving Two Step Equations

- Goals:
1. Do the opposite operation to get the variable by itself.
 2. Keep the equation balanced.

Ex. 1 Solve:

$$\begin{array}{r} 2m + 8 = 32 \\ \underline{-8 \quad -8} \\ 2m = 24 \\ \underline{\quad \quad 2} \\ m = 12 \end{array}$$

$$2 \cdot \underline{\quad} + 8$$

$$m = 12$$

$$\begin{array}{r} 3x - 5 = 13 \\ \underline{+5 \quad +5} \\ 3x = 18 \\ \underline{\quad \quad 3} \\ x = 6 \end{array}$$

$$x = 6$$

Ex. 2 Solve:

$$\frac{w}{4} - 6 = 3$$

$$\frac{w}{4} - 6 + 6 = 3 + 6$$

$$\frac{w}{4} = 9 \quad (4)$$

$$w = 36$$

$$\frac{a}{3} + 2 = 10$$

$$\frac{a}{3} + 2 - 2 = 10 - 2$$

$$\frac{a}{3} = 8 \quad (3)$$

$$a = 24$$

Ex. 3 Solve:

$$5 - x = 7$$

$$5 - x - 5 = 7 - 5$$

$$-x = 2 \rightarrow x = -2$$

$$13 - x = 20$$

$$13 - x - 13 = 20 - 13$$

$$-x = 7 \quad x = -7$$

Ex. 4 Solve:

$$\begin{array}{r} 12 - 2x = 20 \\ -12 \quad -12 \\ \hline \end{array}$$

$$\begin{array}{r} -2x = 8 \\ -2 \quad -2 \\ \hline \end{array}$$

$$\boxed{x = -4}$$

$$\begin{array}{r} 3 - 7x = 24 \\ -3 \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} -7x = 21 \\ -7 \quad -7 \\ \hline \end{array}$$

$$\boxed{x = -3}$$

Ex. 5 Solve:

$$\begin{array}{r} 2x + 5 + 5x + 11 - x - 8 = 50 \\ \hline \end{array}$$

$$\begin{array}{r} 6x + 8 = 50 \\ -8 \quad -8 \\ \hline \end{array}$$

$$\begin{array}{r} 6x = 42 \\ \hline \end{array}$$

$$\boxed{x = 7}$$

$$3x + 8 + 9 + 5x - 7 + x = 91$$

$$9x + 10 = 91$$

$$\boxed{x = 9}$$

Homework

p.202
#17-27 odds