

Name: _____

HW # 2

Solve each two-step equation. Check the equations that ask to check.

$$\begin{array}{r}
 1. \quad 2x + 10 = 20 \\
 \underline{-10 \quad -10} \\
 2x = 10 \\
 \underline{\frac{2x}{2} = \frac{10}{2}} \\
 x = 5
 \end{array}$$

Check

$$\begin{array}{l}
 2x + 10 = 20 \\
 2(5) + 10 = 20 \\
 10 + 10 = 20 \\
 20 = 20 \checkmark
 \end{array}$$

$$\begin{array}{r}
 2. \quad -3x + 9 = 54 \\
 \underline{-9 \quad -9} \\
 -3x = 45 \\
 \underline{\frac{-3x}{-3} = \frac{45}{-3}} \\
 x = -15
 \end{array}$$

$$\begin{array}{r}
 2. \quad -4x + 5 = -11 \\
 \underline{-5 \quad -5} \\
 -4x = -16 \\
 \underline{\frac{-4x}{-4} = \frac{-16}{-4}} \\
 x = 4
 \end{array}$$

Check

$$\begin{array}{l}
 -4x + 5 = -11 \\
 -4(4) + 5 = -11 \\
 -16 + 5 = -11 \\
 -11 = -11 \checkmark
 \end{array}$$

$$\begin{array}{r}
 3. \quad \frac{x}{7} - 2 = -9 \\
 \underline{+2 \quad +2} \\
 \frac{x}{7} = -7 \quad (7) \\
 \underline{\frac{x}{7} = -7 \quad (7)} \\
 x = -49
 \end{array}$$

$$\begin{array}{r}
 4. \quad 2x + 1.2 = 3.6 \\
 \underline{-1.2 \quad -1.2} \\
 2x = 2.4 \\
 \underline{\frac{2x}{2} = \frac{2.4}{2}} \\
 x = 1.2
 \end{array}$$

Check

$$\begin{array}{l}
 2x + 1.2 = 3.6 \\
 2(1.2) + 1.2 = 3.6 \\
 2.4 + 1.2 = 3.6 \\
 3.6 = 3.6
 \end{array}$$

Translate the following sentences into an algebraic equation. Then solve.

5. The product of five and a number, increased by 13 is equal to 28. Write an equation to represent the situation and solve. $x = a \text{ number}$

$$\begin{array}{r}
 5x + 13 = 28 \\
 \underline{-13 \quad -13} \\
 5x = 15 \\
 \underline{\frac{5x}{5} = \frac{15}{5}} \\
 x = 3
 \end{array}$$

6. UPS charges a \$10 flat fee to ship a package and an additional \$2 per pound, p . You shipped a package and it cost \$22. Write an equation to represent the situation and solve.

$p = \# \text{ pounds}$

$$\begin{array}{r}
 2p + 10 = 22 \\
 \underline{-10 \quad -10} \\
 2p = 12 \\
 \underline{\frac{2p}{2} = \frac{12}{2}} \\
 p = 6
 \end{array}$$

6 pounds