

### **L4-3 Solving Equations by Adding and Subtracting**

- solution - value of the variable
- solving the equation - find the answer/solution/value of the variable
- inverse operation - add/subtract or division/mult - operations that undo one another
- equivalent equations - equations that have the same value/solution but look different
- simplified equation - in its most basic form BUT not solved

## Solve Equations by Adding

$$\begin{array}{r} x - 4 = -3 \\ +4 \quad +4 \\ \hline x + 0 = 1 \\ x = 1 \end{array}$$

$$\begin{array}{r} x - 7 = 4 \\ +7 \quad +7 \\ \hline x = 11 \end{array}$$

$$\begin{array}{r} -8.4 = n - 6.1 \\ +6.1 \quad +6.1 \\ \hline -2.3 = n + 0 \\ -2.3 = n \\ n = -2.3 \end{array}$$

Solve by Subtracting

$$14 = t + 5$$

$$\begin{array}{r} -5 \\ -5 \end{array}$$

$$+9 = t$$

$$x + 6.9 = 4.2$$

$$\begin{array}{r} -6.9 \\ -6.9 \end{array}$$

$$x = -2.7$$

**Solve Equations Involving Distributive Property**

$$14 = 3(t + 5)$$

$$-8.4 = 1.6(n - 6.1)$$

**MOUNTAINS** Driskill Mountain, with a height of 535 feet, is the highest point in Louisiana. It is 8214 feet lower than Guadalupe Peak, which is the highest point in Texas. Write and solve an equation to find the height of Guadalupe Peak.

$$\text{Driskill} = \text{Guadalupe} - 8214$$

$$\begin{array}{r} 535 = g - 8214 \\ 8214 \quad \quad + 8214 \\ \hline 8,749 \text{ ft.} = g \end{array}$$

$$\text{Guadalupe} = \text{Driskill} + 8214$$

**BUILDINGS** Write and solve an equation to find the expected height