

# Lesson 3

Addition and Subtraction Word Problems

# Write an Equation

- **Thirty-eight cars** are waiting to take a ferry across a lake. The **ferry can carry six** cars. If the ferry starts on the same side of the lake as the cars, how many **times will the ferry cross the lake** to deliver all 38 cars to the other side of the lake?

# Solution

- How many groups of cars need to be carried?
- How many times across the lake is that?

# Solution

- One complete trip is 2 times across the lake
- We need to ferry 6 groups of 6 and one group of 2

# Solution

- Equation is  $(2 \times 6) + 1$  last trip with 2 cars
- 13 trips

# Power Up

- Mental Math

# Formulas and Equations

- An **equation** is a statement that two quantities are equal. Here we show two equations:
  - $3 + 4 = 7$
  - $5 + a = 9$

# Formula

- Is an equation used to calculate a desired result.
- Example:  $x \text{ Miles} / y \text{ Hours} = x/y \text{ Miles/hour}$
- Some+more=total.... $s + m = t$

# Example

In the first half of the game, Heidi scored **12 points**. In the whole game, she scored **27 points**. How many points did Heidi score **in the second half?**

# Example

- Apply formula  $s + m = t$
- $12 + m = 27$

# Example

- Perform inverse operations on nearby numbers to isolate the unknown
- isolate means get by itself
- We want  $m =$  the answer

# Solution

# Example

- Alberto went to the store with a **twenty dollar bill**. He bought a loaf of bread and a half-gallon of milk. The clerk gave him **\$15.17 in change**. How much money did Alberto spend on bread and milk?

# Equation

- $\text{money} - \text{cost} = \text{change}$

# Equation

- money - cost = change
- $\$20 - c = \$15.17$

# Isolate the Unknown

# Example 3

# Example 4- Elapsed Time

- Age = current year - year born
- Year born = current year - age
- Current year = year born + age

# Review

- To solve for an unknown number (variable) perform **inverse operations**
- It helps to write out the problem in words:
  - Age = current year - year born

# Homework

- Written Practice
- Due Friday