



Using Number Sense to Solve One-Step Equations

Lesson 2-5

Vocabulary

An **equation** is a mathematical sentence that has an equal sign.

An **open sentence** is an equation with one or more variables in it.

A **solution** is a value that can be substituted for a variable to make the equation true.

Example: In the equation $y + 3 = 8$, the solution is 5.

Using Estimation

- Use mental math or estimating to determine the solutions to the equations.
- The same number properties apply to algebraic equations.

Properties

Identity Properties:

$$a + 0 = a$$

$$1a = a$$

Commutative Properties:

$$a + b = b + a$$

$$ab = ba$$

Associative Properties:

$$a + (b + c) = (a + b) + c$$

$$a(bc) = (ab)c$$

Example: $4x=32$

Think: What times 4 equals 32?

Solution: $x = 8$

Check the original equation:

$$4x=32$$

$$4(8)=32$$

$$32=32$$

Example: Estimate

$$p \div 4 = 7.97$$

7.97 is close to 8. So think: What divided by 4 equals 8?

If we work backwards, we know that $8 \times 4 = 32$.
Therefore, p is about equal to 32.

Is the given number a solution
to the equation?

$$6n = 17; 3$$

Try the value out and see if it works.

$$6n = 17$$

$$6(3) = 17$$

$$18 = 17$$

This is not true, so 3 is
not a solution.

Homework Time

