

# 8th Grade Lesson 87

- I can understand and apply properties of algebra.



## COMMUTATIVE PROPERTIES

$$a + b = b + a$$

$$ab = ba$$

$$2 + 3 + 4 = 4 + 2 + 3$$

$$2 \cdot 3 \cdot 4 = 4 \cdot 3 \cdot 2$$

**ASSOCIATIVE PROPERTIES**

$$(a + b) + c = a + (b + c) \quad (ab)c = a(bc)$$

$$(2 + 3) + 4 = 2 + (3 + 4)$$

$$(2 \cdot 3)(4) = 2(3 \cdot 4)$$

**REFLEXIVE PROPERTY**

$$a = a$$

$$6 = 6$$

$$2 + 3 = 2 + 3$$

**SYMMETRIC PROPERTY**

If  $a = b$ , then  $b = a$

$$6 = x \quad x = 6$$

**TRANSITIVE PROPERTY**

If  $a = b$  and  $b = c$ , then  $a = c$

$$\text{If } x = 2 + 3 \text{ and } 2 + 3 = 5$$

$$\text{then } x = 5$$

Simplify and state properties you use:

$$87 + 49 + 13 + 51$$

$$87 + 13 + 49 + 51 \quad \text{Commutative}$$

$$(87 + 13) + (49 + 51) \quad \text{Associative}$$

$$100 + 100 \quad \text{Simplify}$$

$$200 \quad \text{simplify}$$

# Assignment

Problem Set 87

**\*A/B Optional:** #1-6, 9, 11, 15-21