

Warm-Up:

Find n in each equation. Then name the property that is used.

1) $15n = 0$

$$n = 0$$

Mult. Property
of Zero

2) $1 \cdot n = 10$

$$n = 10$$

Mult.
Identity

Use the distributive property to rewrite. Then find the product.

3) $6 \cdot 89$

$$6(80 + 9) = 480 + 54 = 534$$

$$6(90 - 1) = 540 - 6 = 534$$

4) $5(x - 10)$

$$5x - 50$$

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22, 48, 49

22) $18 \cdot 2\frac{1}{9}$

$$18(2 + \frac{1}{9}) = 36 + 2$$

$$38$$

48) $3.495 + .07(108)$

$$C$$

Sep 3-11:47 AM

Section 1-6: Commutative and Associative Properties

The commutative property says that the order that numbers are added or multiplied does not matter.

$$a + b = b + a \quad \text{or} \quad a \cdot b = b \cdot a$$

The associative property states that the grouping of numbers that are added or multiplied does not matter.

$$(a + b) + c = a + (b + c) \quad \text{or} \quad a \cdot (b \cdot c) = (a \cdot b) \cdot c$$

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Examples:

1) Evaluate $2(8)(5)(7)$ using properties of numbers. Name the property used in each step.

$8 \cdot 5 \cdot 2 \cdot 7$	Commutative
$(8 \cdot 5) \cdot (2 \cdot 7)$	Associative
$40 \cdot 14$	Substitution
560	Substitution

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Examples:

2) Use the expression *three times the sum of 3x and 2y added to five times the sum of x and 4y*.

a) Write an algebraic expression for the verbal expression.

$$3(3x+2y)+5(x+4y)$$

b) Simplify the expression and indicate the properties used.

$$\begin{array}{ll}
 9x+6y+5x+20y & \text{Distribute} \\
 9x+5x+6y+20y & \text{Commutative} \\
 (9x+5x)+(6y+20y) & \text{Associative} \\
 14x+26y & \text{Substitution}
 \end{array}$$

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Essay:

In complete sentences, explain why the Commutative Property always holds true for addition, but not subtraction. Give examples when necessary.

The Commutative Property always holds true for addition, but not subtraction.

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Homework: pg. 36-37 #12, 14, 18, 23-41 all, 48, 49, 56

Section 1-6 Vocab

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