

6.  $\frac{1}{3} \times 1\frac{2}{3} \times \frac{12}{7} = \frac{20}{21}$ 

3.  $1\frac{1}{6} \times \frac{2}{3} \times 2\frac{1}{5}$ =  $\frac{77}{45} = 1\frac{32}{45}$ 

7. 
$$\frac{2}{3} \times 3\frac{3}{7} \times 1\frac{1}{2}$$
  
=  $\frac{24}{7} = 3\frac{3}{7}$ 

Lesson 3.3

December 5, 2015

Essential Question:

Does the order in which you perform an operation matter?

Lesson 3.3

December 5, 2015

## Lesson Objective:

Students will be able to:

use properties to show that expressions are equivalent.

## Self-Evaluation Scale

Score	Description
4	I can teach other students how to use properties to show that expressions are equivalent.
3	I can use properties to show that expressions are equivalent.
2	I recognize, but still need help to use properties to show that expressions are equivalent.
1	I do not know how to use properties to show that expressions are equivalent.

#### **ACTIVITY: Does Order Matter?**

Work with a partner. Place each statement in the correct oval.

- Fasten 5 shirt buttons. a.
- Fill and seal an envelope. c.
- e. Put on your shoes.

#### **Order Matters**

- **b.** Put on a shirt and tie.
- Floss your teeth. d.
- Chew and swallow. f.

## Order Doesn't Matter

## Equivalent Expressions

Expressions with the same value

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#### December 5, 2015 Math 6 Lesson 3.3





#### **Commutative Properties**

Words Changing the order of addends or factors does not change the sum or product.

Numbers	5 + 8 = 8 + 5	Algebra	a+b=b+a
	$5 \cdot 8 = 8 \cdot 5$		$a \cdot b = b \cdot a$

# Taw Offices Tomei, Tomei, and Associates

#### **Associative Properties**

Words Changing the grouping of addends or factors does not change the sum or product.

Numbers (7+4) + 2 = 7 + (4+2)

 $(7 \cdot 4) \cdot 2 = 7 \cdot (4 \cdot 2)$ 

Algebra (a + b) + c = a + (b + c) $(a \cdot b) \cdot c = a \cdot (b \cdot c)$ 



a. Simplify the expression 7 + (12 + x).

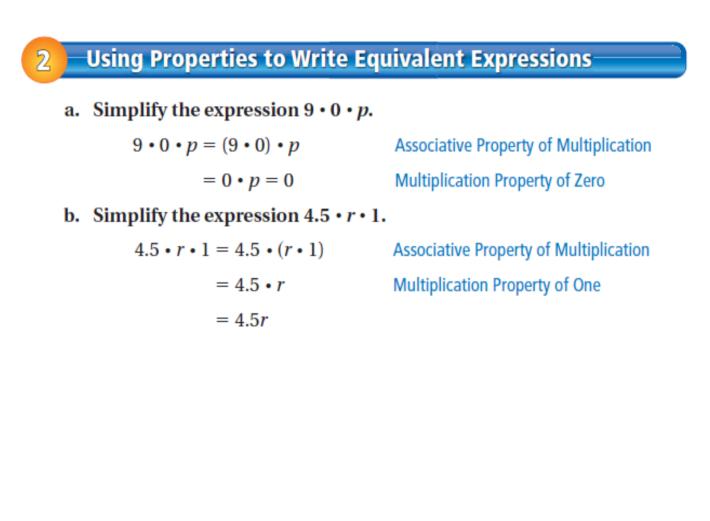
7 + (12 + x) = (7 + 12) + x	Associative Property of Addition
= 19 + x	Add 7 and 12.

- b. Simplify the expression (6.1 + x) + 8.4.
  - (6.1 + x) + 8.4 = (x + 6.1) + 8.4 Commutative Property of Addition
    - = x + (6.1 + 8.4) Associative Property of Addition
    - = x + 14.5 Add 6.1 and 8.4.
- c. Simplify the expression 5(11*y*).
  - $5(11y) = (5 \cdot 11)y$ = 55y

Associative Property of Multiplication Multiply 5 and 11. 8

Key Ide	as			
Addition Property	of Zero			
Words The sum of any number and 0 is that number.				
Numbers 7+0	= 7 Algebra	a + 0 = a		
Multiplication Properties of Zero and One				
Words The prod	luct of any number and	0 is 0.		
The proc	luct of any number and	1 is that number.		
Numbers 9 • 0 =	0 Algebra	$a \cdot 0 = 0$		
4 • 1 =	: 4	$a \cdot 1 = a$		

#### December 5, 2015 Math 6 Lesson 3.3



## Assignment

Complete problems 6, 8, 10, 14, 20, 22, 26, 28, & 34 on pages 130 - 131 in your Big Ideas Text Book.

December 5, 2015 Math 6 Lesson 3.3

Learning Objective: Students will be able to use properties to show that expressions are equivalent.

December 5, 2015

Lesson 3.3

### Essential Question:

## Does the order in which you perform an operation matter?

Lesson 3.3

December 5, 2015

## Lesson Objective:

Students will be able to:

use properties to show that expressions are equivalent.

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### Homework

## In your Big Ideas Record and Practice Journal page 68.