Name _____ **Date** _____

3rd Grade Math Study Guide For Lesson 10.3 (Multiply with 3 factors)

Objective: To multiply with 3 factors and use the grouping property of multiplication (associative property)
Textbook: Pp. 170-171
Vocabulary: **Associative Property (Grouping Property) of Multiplication: When the grouping of factors is changed, the product remains the same.**

Background: Consider the following…

- You can use groups of arrays to show multiplication sentences with 3 factors
- Use parentheses to group the two factors that will be multiplied first.
- When there are three or more factors, it does not matter how they are grouped; the product remains the same.

Practice: **Review LEARN on P. 170 and the information above before you do practice problems.**

The **Grouping Property of Multiplication** states that when the grouping of factors is changed, the product remains the same.

$3 \times 2 \times 5 =$?

Multiply the first two factors first.	Multiply the numbers in ( ) first.	Multiply the last two factors first.
$(3 \times 2) \times 5 =$? ↓ $6 \times 5 = 30$		$3 \times (2 \times 5) =$? ↓ $3 \times 10 = 30$

Find each product.

1. $(7 \times 1) \times 3 =$?
 ↓
 _____ $\times 3 =$ _____
2. $8 \times (5 \times 2) =$?
 ↓
 $8 \times$ _____ $=$ _____
3. $(3 \times 3) \times 6 =$?
 ↓
 _____ $\times 6 =$ _____

Assignment: P. 170-171 #2-26 (evens), 27-35 (odds)