

Name \_\_\_\_\_

## Change the Groups (*Conceptual Introduction*)

1. Circle the side where the grouping changes.

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

b)  $(6 \times 5) \times 2 = 6 \times (5 \times 2)$

What do you notice about both sides?

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2. Explain the idea in your own words: The associative property tells us that when we change how numbers are \_\_\_\_\_, the \_\_\_\_\_ stays the same.

3. Fill in the blanks to show the property of addition.

$(\_\_ + \_) + \_\_ = \_\_ + (\_+ \_\_)$

Now write numbers that make it true: Example:  $(4 + 5) + 6 = 4 + (5 + 6)$

4. Compute both sides (Addition)

a)  $(3 + 7) + 2 = \_\_\_\_\_\_$

$3 + (7 + 2) = \_\_\_\_\_\_$

Are the results the same? \_\_\_\_\_

b)  $(8 + 4) + 1 = \_\_\_\_\_\_$

$8 + (4 + 1) = \_\_\_\_\_\_$

Are the results the same? \_\_\_\_\_

5. Compute both sides (Multiplication)

a)  $(2 \times 3) \times 4 = \_\_\_\_\_\_$

$2 \times (3 \times 4) = \_\_\_\_\_\_$

Are the results the same? \_\_\_\_\_

b)  $(5 \times 2) \times 3 = \_\_\_\_\_\_$

$5 \times (2 \times 3) = \_\_\_\_\_\_$

Are the results the same? \_\_\_\_\_

6. Fill in the missing number to make the property true.

$(4 + 6) + \_\_ = 4 + (6 + 3)$

Answer: \_\_\_\_\_

$(3 \times 5) \times \_\_ = 3 \times (5 \times 2)$

Answer: \_\_\_\_\_

