

## Properties

Commutative Property - the order in which two numbers are added or multiplied does not change their sum or product.

Example:  $7 + 9 = 9 + 7$

Associative Property - The way in which three numbers are grouped when they are added or multiplied does not change their sum or product.

Example:  $(1 + 2) + 3 = 1 + (2 + 3)$

Identity Property - The sum of an added and 0 is the added. The product of a factor and 1 is the factor.

Example:  $13 + 0 = 13$        $5 \cdot 1 = 5$

## Vocabulary

Properties - a statement that is true for all numbers.

↳ equal

Equivalent Expressions - two expressions have the same value.

## Guided Practice:

Determine whether the two expressions are equivalent. If so, tell what property is applied. If not, explain why.

1.)  $(35 + 17) + 43$  AND  $35 + (17 + 43)$

yes -  
associative

2.)  $(25 - 9) - 5$  AND  $25 - (9 - 5)$

no - subtraction  
doesn't work for  
the associative  
property

3.)  $59 \times 1$  AND  $59$

yes -  
Identity

4.)  $5 + 0$  AND  $5$

yes -  
Identity

# Notes

## 6.5 Algebra Properties (6.EE.3)

- 5.) At a gymnastics meet, a gymnast scored an 8.95 on the vault and a 9.2 on the uneven bars. Write two equivalent expressions that could be used to find her total score.

$$8.95 + 9.2 = 9.2 + 8.95$$

- 6.) Nadia bought suntan lotion for \$12, sunglasses for \$15, and a towel for \$18. Use the Associative Property to mentally find the total of her purchases.

$$12 + 15 + 18$$

$$(12 + 18) + 15$$

$$30 + 15$$

$$\boxed{\$45}$$

**Building on the Essential Question** - How can using properties help you to simplify expressions?

The properties can help you <sup>mentally</sup> solve problems. <sub>to</sub>

**Rate Yourself** - How confident are you about using properties? Check the box that applies.

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