Commutative and Associative Properties

Name _____

Date _____ Period _____

Commutative Property of Addition

$a + b = b + a$

Order doesn't matter for the operation of addition

Examples:

$5 + 7$

$x + 4$

$3a + 6$

Commutative Property of Multiplication

$a \cdot b = b \cdot a$

Order doesn't matter for the operation of multiplication

Examples:

$5 \cdot 7$

$x \cdot 4$

$3a \cdot 6$

Associative Property of Addition

$(a + b) + c = a + (b + c)$

Grouping doesn't matter for the operation of addition

Examples:

$(3 + 5) + 7$

$(y + x) + 4$

Associative Property of Multiplication

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

Grouping doesn't matter for the operation of multiplication

Examples:

$(3 \cdot 5) \cdot 7$

$(y \cdot x) \cdot 4$

Commutative Property

Order doesn't matter

Associative Property

Grouping doesn't matter

Determine the property being used in the following statements:

$(3 \cdot x) \cdot y = 3 \cdot (x \cdot y)$

$x + 1 = 1 + x$

Commutative Property

Order doesn't matter

Associative Property

Grouping doesn't matter

Determine the property being used in the following statements:

$x \cdot 4 = 4 \cdot x$

$(5 + a) + b = 5 + (a + b)$

Commutative Property

of Addition	of Multiplication
$a + b = b + a$	$a \cdot b = b \cdot a$

Order does not matter

Associative Property

of Addition	of Multiplication
$(a + b) + c = a + (b + c)$	$(a \cdot b) \cdot c = a \cdot (b \cdot c)$

Grouping does not matter