

# Properties of Addition

**Additive Property of 0:** **Adding 0 to any number does not change the number**  
 $a + 0 = a$  and  $0 + a = a$ , where  $a$  is any number

**Examples:**  $5 + 0 = 5$        $0 + 8 = 8$   
 $0 + 6 = 6$        $4 + 0 = 4$

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**Commutative Property of Addition:** **The order of the numbers added does not matter**  
 $a + b = b + a$  where  $a$  and  $b$  are any numbers

**THINK**  
change order

**Examples:**  $5 + 4 = 4 + 5$   
 $7 + 6 = 6 + 7$

*"commute" means  
to "exchange" OR  
to "change places"*

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**Associative Property of Addition:** **The grouping of the numbers added does not matter**  
 $a + (b + c) = (a + b) + c$  where  $a, b$  and  $c$  are any numbers

**THINK**  
change grouping

**Examples:**  $5 + (4 + 7) = (5 + 4) + 7$   
 $7 + (6 + 2) = (7 + 6) + 2$

*"associate" means  
to "connect" OR  
to "group"*

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## Key Words and Phrases - Addition

added to	4 added to 5	means	$5 + 4$
plus	13 plus 6	means	$13 + 6$
increased by	3 increased by 7	means	$3 + 7$
more than	12 more than 4	means	$4 + 12$
total	the total of 7 and 5	means	$7 + 5$
sum	the sum of 4 and 9	means	$4 + 9$