

Generalizing Properties

Properties of Mathematics:

Name Property	Algebraic Statement	Meaning	Numeric Examples
Identity Property of Addition			
Identity Property of Multiplication			
Multiplicative Property of Zero			
Commutative Property of Addition			
Commutative Property of Multiplication			
Associative Property of Addition			
Associative Property of Multiplication			
Additive Inverse			
Multiplicative Inverse			

3.1a Homework: Naming Properties of Arithmetic

Complete the table below:

Identity Property of Addition: $a + 0 = a$	1a. Show the Identity Property of Addition with 2.17	1b. Show the Identity Property of Addition with -3
Identity Property of Multiplication: $a \cdot 1 = a$	2a. Show the Identity Property of Multiplication with 23	2b. Show the Identity Property of Multiplication with $-3b$
Multiplicative Property of Zero: $a \cdot 0 = 0$	3a. Show Multiplicative Property of Zero with 43.581	3b. Show the Multiplicative Property of Zero with $-4xy$
Commutative Property of Addition: $a + b = b + a$	4a. $4.38 + 2.01$ is the same as:	
	4b. $x + z$ is the same as:	
Commutative Property of Multiplication: $ab = ba$	5a. $\frac{5}{7} \cdot \frac{3}{8}$ is the same as:	
	5b. $6k$ is the same as:	
Associative Property of Addition: $(a + b) + c = a + (b + c)$	6a. $(1.8 + 3.2) + 9.5$ is the same as:	
	6b. $(x + 1) + 9$ is the same as:	
Associative Property of Multiplication: $(ab)c = a(bc)$	7a. $(2.6 \cdot 5.4) \cdot 3.7$ is the same as:	
	7b. $(wh)l$ is the same as:	
<i>Use the listed property to fill in the blank.</i>		
Multiplicative Inverse: $a \left(\frac{1}{a}\right) = 1$	8a. $3 (\quad) = 1$	
	8b. $\frac{1}{4} (\quad) = 1$	
Additive Inverse: $a + (-a) = 0$	9a. $\frac{5}{9} + \quad = 0$	
	9b. $\quad + -x = 0$	

Name the property demonstrated by each statement.

10.	$3 + -2 + 7 = 3 + 7 + -2$	
11.	$5 + (-5 + 4) + 6 = (5 + -5) + (4 + 6)$	
12.	$25 + (-25) = 0$	
13.	$(\frac{2}{5})(\frac{5}{2}) = 1$	
14.	$(x + 3) + y = x + (3 + y)$	
15.	$2.37 \times 1.5 = 1.5 \times 2.37$	
16.	$1 \cdot mp = mp$	
17.	$9 + (5 + 35) = (9 + 5) + 35$	
18.	$0 + 6b = 6b$	
19.	$xy = yx$	
20.	$7x \cdot 0 = 0$	
21.	$4(3 \cdot z) = (4 \cdot 3)z$	
22.	$\frac{2}{3} \cdot 4.9 = 4.9 \cdot \frac{2}{3}$	
23.	$x + 4 = 4 + x$	