UNIT ONE: Back to the Basics

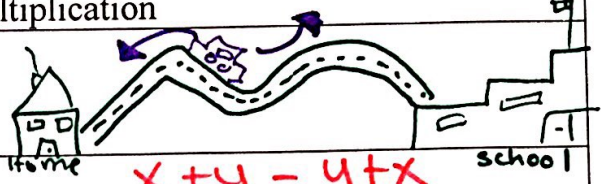
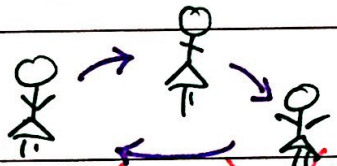
Name:_____

Lesson 1: Number Properties

Hour:_____

Notes 1.1

Properties and Operations

Commutative Property Of Addition and Multiplication	
In a sum or product, you can add or multiply numbers in any order.	
examples: $8+(-3)=(-3)+8$ $4*7 = 7*4$	$x+y=y+x$ $a \cdot b = b \cdot a$
Associative Property Of Addition and Multiplication	
Changing the grouping of the numbers in a sum or product does not change the answer.	
ex) $6+(4+5)=(6+4)+5$ $7 \cdot (2 \cdot 3) = (7 \cdot 2) \cdot 3$	$x+(y+z)=(x+y)+z$ $(a \cdot b) \cdot c = a \cdot (b \cdot c)$
Identity Property Of Addition	
The sum of a number and the additive identity (0), is the same number.	$-7+0=-7$ $a+0=a$
Identity Property of Multiplication	
The product of a number and the Multiplicative identity (1), is the same number.	$21*1=21$ $y*1=y$
Property of Zero	
Any number multiplied by zero, equals zero.	$4*0=0$ $r*0=0$

Examples:

1) $a + b + c = a + c + b$

Commutative addition

2) $(5 \cdot 2)3 = 5(2 \cdot 3)$

associative multiplication

3) $x + 0 = x$

identity addition

4) $5\,(1) = 5$

identity multiplication

5) $(x + y) + z = z + (x + y)$

Commutative addition

6) $p + (q \cdot r) = (p + q) \cdot r$

not a property

7) $5 \cdot k = k \cdot 5$

Commutative multiplication

8) $10 + (d - 4) = (10 + d) - 4$

associative

Homework: What Happens When You Step on the Brakes? Wkst.

Adapted: What Happens When You Step on the Brakes? Wkst. (Only #1-13)