2.1 CA Name: _____

Name the property of algebra for each example below.

Properties: The "Associative Property", the "Commutative Property", the "Identity Property", the "Inverse Property" and the "Zero Product Property"

1. $4x \cdot \frac{1}{4x} = 1$ _____
2. $-15 + 0 = -15$ _____
3. $1 \cdot y = y$ _____
4. $7x + (-7x) = 0$ _____
5. $m + (n + x) = m + (x + n)$ _____
6. $6(m \cdot n) = (6 \cdot m)n$ _____
7. $4x + (-z + y) = (4x - z) + y$ _____
8. $\frac{1}{2}(4) = (4)\frac{1}{2}$ _____
9. $a - b = -b + a$ _____

10. Which choice illustrates the Associative Property of Addition?

- [1] $9 + (-9) = 0$
- [2] $9(4 + 2) = 9 \cdot 4 + 9 \cdot 2$
- [3] $9 + (4 + 2) = (9 + 4) + 2$
- [4] $9 + 4 = 4 + 9$

Use the property of real numbers to fill in the missing part of the statement.

11. Mulitiplicative Inverse Property

$(3x) \cdot \frac{1}{3x} =$

12. Mulitiplicative Inverse Property

$(x + 2) \cdot 1 =$

13. Commutative Property of Addition

$x - 5$

What is the (a) additive inverse and the (b) multiplicative inverse of 2x.
14. 2x **a)** **b)**
Rewrite the expression using the Associative Property of Addition or the Associative Property of Multiplication
15. **a)** $(x+2y)+c$ **b)** $(0.3x)\cdot 10$

Answer Key:

1. Inverse Property of Multiplication
2. Identity Property of Addition
3. Identity Property of Multiplication
4. Inverse Property of Addition
5. Commutative Property of Addition
6. Associative Property of Multiplication
7. Associative Property of Addition
8. Commutative Property of Multiplication
9. Commutative Property of Addition
10. 3
11. 1
12. x + 2
13. -5 + x
14. a) -2x b) $\frac{1}{2x}$
15. a) $x+(2y+c)$ b) $(10x)\cdot 0.3$