Additional Problems: Structures of Expressions

**The Associative Property**

1. Use the Associative Property of Multiplication to rewrite the following expression: 5x\*(3y\*4)
2. Use the Associative Property of Multiplication to rewrite the following expression: 10y (2x \* 3)
3. Use the Associative Property of Addition to rewrite the following expression: (5x + 3x) + 4x
4. Use the Associative Property of Addition to rewrite the following expression: y + (3y + 2y) + 10y
5. Using the Associative Property, what is another way to rearrange the parentheses in the algebraic expression 10 + (5 + 2)?
6. Which of the following expressions could you rewrite using the Associative Property?
   1. ((4+6) +7)
   2. ((3\*2) + 5)
   3. ((7+5)\*4)
   4. (2\*(3+4))
7. Which of the following correctly demonstrates the Associative Property of Addition?
   1. (y-(x+1) = (y-x)+1)
   2. (m\*(x\*y)=m\*x)y)
   3. X\*(y+z) = (x\*y)+z)
   4. ((x+y)+z = x + (y+z))
8. According to the Associative Property of Addition, which expression is equivalent to (12x + (7x-5) + (10 – 3x))?
   1. ((12x+7x) + (10-3x))
   2. (19x + (-5 + 10) – 3x)
   3. (22x – 5)
   4. ((19x-5) + (10-3x))
9. According to the Associative Property of Multiplication, which expression is equivalent to (6a \* (4b \* 5))?
   1. ((6a \* 4b) \* 5)
   2. (6a \* (4b + 5))
   3. ((6a + 4b) \* 5)
   4. (^a + (4b \* 5))
10. Use the associative Property of Addition to prove that these algebraic expressions are equivalent.
    * 1. y + (2y + 4)
      2. 4 + (y + 2y)