

Name _____ Date _____

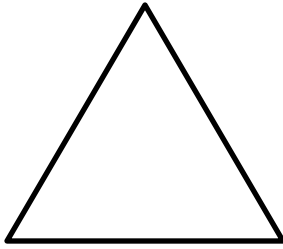
1. Use the Associative and Commutative Properties of Addition to generate (at least three) expressions equivalent to the expression shown below:

$$(3x + 2y) + 4z$$

2. Choose an expression equivalent to $(3x + 2y) + 4z$ from above that illustrates the Commutative Property of Addition. Clearly explain how this property was used.
3. Choose an expression equivalent to $(3x + 2y) + 4z$ from above that illustrates the Associative Property of Addition. Clearly explain how this property was used.

Name _____ Date _____

The triangle shown below is equilateral, that is, all sides are of equal length.



The length of one side is represented by the expression $x + 2$ so that the perimeter of the triangle can be represented by the expression:

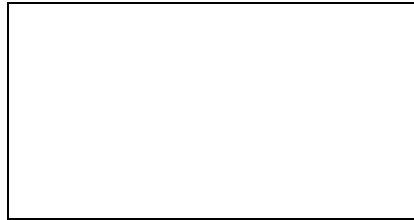
$$(x + 2) + (x + 2) + (x + 2)$$

1. Use the properties of operations to write a second expression that is equivalent to this expression.
2. Explain, using properties of operations, why the two expressions are equivalent.

Name _____ Date _____

1. Lena bought some new clothes for school during tax-free weekend. Jeans cost \$35, and shirts cost x dollars. Lena bought three outfits costing her $3(35 + x)$. Using the Distributive Property, generate an expression equivalent to $3(35 + x)$. Explain.
2. The area of Mr. Harrison's rectangular vegetable garden can be represented with the expression $8x + 16$. Using the Distributive Property, rewrite $8x + 16$ as the product of the width (4 meters) and the length. Explain.

4 meters



?