Expressions and Equations **6.EE**

Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Write and evaluate numerical expressions involving whole-number exponents.

2. Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to $y + y + y$ to produce the equivalent expression 3y.

3. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions $y + y + y$ and 3y are equivalent because they name the same number regardless of which number y stands for.*

Solve the expressions below using x = 4 and y = 3

1) $3x + y^2$ 1. _____

2) $x^2 - 5$ 2. _____

3) $\frac{y^2}{2}$ 3. _____

Simplify the expressions below.

4) $8(x + 3)$ 4. _____

5) $10(x + y)$ 5. _____

6) $x(y + z)$ 6. _____

Now work backwards using the distributive property.

7) $3x + 9$ 7. _____

8) $5x + 35$ 8. _____

Simplify the expressions.

9) $x + x + y + y + y$ 9. _____

10) $x + x + x + 25$ 10. _____