

**Expressions and Equations****6.EE****Apply and extend previous understandings of arithmetic to algebraic expressions.**

- Write and evaluate numerical expressions involving whole-number exponents.
- 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  $3y$ .
- 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  $y = 7$ .

1)  $3x + y^2$

1. \_\_\_\_\_

2)  $x^2 - 7$

2. \_\_\_\_\_

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

3. \_\_\_\_\_

Simplify the expressions below.

4)  $83x + 71$

4. \_\_\_\_\_

5)  $113x + 71$

5. \_\_\_\_\_

6)  $83y + 71$

6. \_\_\_\_\_

Now work backwards using the distributive property.

7)  $3x = 9$

7. \_\_\_\_\_

8)  $3x = 27$

8. \_\_\_\_\_

Simplify the expressions.

9)  $x + 4 + y + y + y$

9. \_\_\_\_\_

10)  $x + x + x + 27$

10. \_\_\_\_\_