## Simplifying Algebraic Expressions



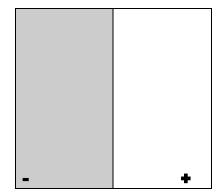
Name \_\_\_\_\_ Date \_\_\_\_

Use Algeblocks to set up the expression. Simplify the expression. Tell which property was used to simplify the expression. Then, substitute the given value for the variable to make sure the original expression is equivalent to the simplified expression.

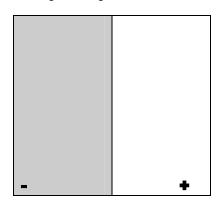
To use the TI-73 to compare the original and the simplified expressions, first substitute a value. Type a value and press STOP [X] [ENTER].

To compare the two expression, first press 2nd MATH. Type the original expression. Then, curser to the = sign and press ENTER. Now, type the simplified expression on the right of the equal sign. Curser to Done and press ENTER ENTER. If a 0 appears, the expressions are NOT equivalent. If a 1 appears, the expressions are equivalent.

1. 2x + 3x



2. -4y + 3y



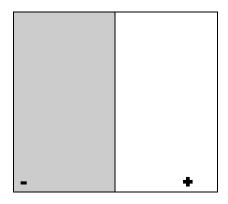
Property used to simplify?

Substitute 2 for x and prove equivalency.

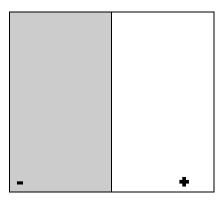
Property used to simplify?

Substitute 5 for y and prove equivalency.

3. 3 + y + 7



4. -2 + -2x + -3 + 5x



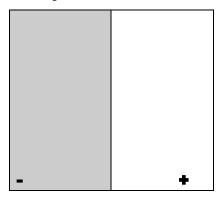
Property used to simplify?

Substitute 4 for y and prove equivalency.

Property used to simplify?

Substitute 1 for x and prove equivalency.

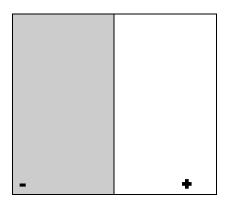
5. 2(4*y*)



Property used to simplify?

Substitute  $\frac{1}{2}$  for y and prove equivalency.

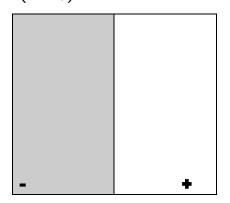
7. 2(-1x) + 5(1x) - 2x



Property used to simplify?

Substitute -4 for x and prove equivalency.

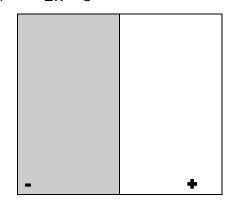
9. (x-5)2



Property used to simplify?

Substitute 2.3 for x and prove equivalency.

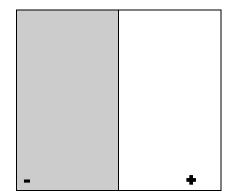
6. -2*x* • 3



Property used to simplify?

Substitute 0.5 for x and prove equivalency.

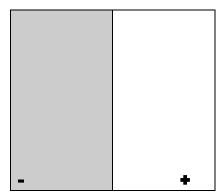
8. 3(2 + y)



Property used to simplify?

Substitute -3 for y and prove equivalency.

10. 4(-x + 2) - (-4x)



Property used to simplify?

Substitute ¼ for x and prove equivalency.