

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 **STO►** **x** **ENTER**.

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

1. $2x + 3x$

-	+
---	---

Property used to simplify?

Substitute 2 for x and prove equivalency.

2. $-4y + 3y$

-	+
---	---

Property used to simplify?

Substitute 5 for y and prove equivalency.

3. $3 + y + 7$

-	+
---	---

Property used to simplify?

Substitute 4 for y and prove equivalency.

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

-	+
---	---

Property used to simplify?

Substitute 1 for x and prove equivalency.

5. $2(4y)$

-	+
---	---

Property used to simplify?

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

6. $-2x \bullet 3$

-	+
---	---

Property used to simplify?

Substitute 0.5 for x and prove equivalency.

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

-	+
---	---

Property used to simplify?

Substitute -4 for x and prove equivalency.

8. $3(2 + y)$

-	+
---	---

Property used to simplify?

Substitute -3 for y and prove equivalency.

9. $(x - 5)2$

-	+
---	---

Property used to simplify?

Substitute 2.3 for x and prove equivalency.

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

-	+
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Property used to simplify?

Substitute $\frac{1}{4}$ for x and prove equivalency.