

Lesson 6-6

Reinforce Understanding

Identify Equivalent Algebraic Expressions

I can show that two expressions are equivalent by simplifying and combining like terms.

Worked model

Are $7c + 9 + 6c$ and $13c + 9$ equivalent? Simplify to decide.

1. Find the like terms. $7c$ and $6c$ both have the letter c .
2. Combine the like terms. $7c + 6c = 13c$
3. Keep the constant. The 9 has no letter, so it stays alone.
4. Compare. $13c + 9$ matches the second expression.

Answer: Yes. Both expressions simplify to $13c + 9$, so they are equivalent.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Which expression is equivalent to $4x + 3x$?

Circle the letter of the best answer. Show how you know.

- A. $7x$
- B. $7x^2$
- C. $12x$
- D. $43x$

Show your work

2. Which expression is equivalent to $2(m + 5)$?

Circle the letter of the best answer. Show how you know.

- A. $2m + 10$
- B. $2m + 5$
- C. $7m$
- D. $m + 10$

Show your work

3. Sort each pair of expressions by whether they are equivalent or not.

Write the name of the correct group on each line.

Groups: Equivalent Not Equivalent

- _____ $3x + 2x$ and $5x$
- _____ $2(n + 4)$ and $2n + 8$
- _____ $4a + 3$ and $7a$
- _____ $x + x$ and $2x$
- _____ $3y + 2$ and $5y$