

## RECAP 9

Name \_\_\_\_\_

Date \_\_\_\_\_

## Writing Linear Equations

In this lesson, we

- wrote equations with only one solution, infinitely many solutions, or no solution.
- used structure to classify equations based on their number of solutions.

### Examples

For problems 1–3, determine whether each equation has only one solution, infinitely many solutions, or no solution.

The linear terms are different on both sides.

1.  $7x - 3 = 5x + 1$

Only one solution

2.  $7x - 3 = 7(x - 3)$

$$7x - 3 = 7x - 21$$

No solution

3.  $7x - 3 = 3x + 1 + 4x - 4$

$$7x - 3 = 7x - 3$$

Infinitely many solutions

Distribute or combine like terms before using the structure of the equation to determine the number of solutions.

4. Use the equation provided to write an equation with the stated number of solutions.

$$-6x + 4 = \boxed{\phantom{00}}x + \boxed{\phantom{00}}$$

- a. Only one solution

Sample:  $-6x + 4 = 2x - 2$

- b. Infinitely many solutions

$-6x + 4 = -6x + 4$



The linear terms and the constant terms are the same on both sides.

- c. No solution

Sample:  $-6x + 4 = -6x - 1$



The linear terms are the same and the constant terms are different on both sides.