Name: _____

One Solution No Solution or Infinitely Many

Decide whether each equation has one solution, no solution or infinitely many solutions.

Learn: Simplify both sides. Same x-terms but different numbers → no solution. Exactly the same → infinitely many. Otherwise → one solution.

Example: How many solutions? $4x = 5x - 7$ (If one, find it.)
Answer: one: $x = 7$

1. How many solutions? $3x - 3 = 3x - 2$

   Answer: _____

2. How many solutions? $6x + 1 = 9x + 1$ (If one, find it.)

   Answer: _____

3. How many solutions? $2(4x) = 8x$

   Answer: _____

4. How many solutions? $2(3x - 1) = 6x - 2$

   Answer: _____

5. How many solutions? $2x - 3 = 2x$

   Answer: _____

6. How many solutions? $3x + 7 = 3x + 5$

   Answer: _____

7. How many solutions? $3(5x - 9) = 15x - 27$

   Answer: _____

8. How many solutions? $5x + 4 = 5x + 5$

   Answer: _____

Name: **ANSWER KEY**

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1. How many solutions? $3x - 3 = 3x - 2$

   Answer: no solution

2. How many solutions? $6x + 1 = 9x + 1$ (If one, find it.)

   Answer: one: x = 0

3. How many solutions? $2(4x) = 8x$

   Answer: infinitely many

4. How many solutions? $2(3x - 1) = 6x - 2$

   Answer: infinitely many

5. How many solutions? $2x - 3 = 2x$

   Answer: no solution

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   Answer: no solution