The balance below shows the equation 4x+1=x+7. What is the value of x?
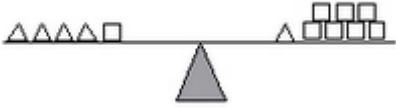
A) 8/5   B) 2   C) 8/3   D) 3

If $\dfrac{x+1}{x} = \dfrac{2}{3}$, what is the value of x?

A) -3   B) -1   C) 1   D) 3

Solve the following equation for x.

$$\frac{1}{3}(18x + 12) = -3x + 40$$

A) x = -21   C) x = 12
B) x = 4   D) x = 5

Which of the following best describes the solution to the following equation?

$$-3x + \frac{1}{2}(6x + 11) = -3.5$$

A) One solution x = 3.5
B) Infinitely Many Solutions
C) No Solutions
D) One solution x = 5.5

Part A: Give an example of a linear equation to represent each type of solution set:
- A linear equation with exactly one solution

- A linear equation with infinitely many solutions

- A linear equation with no solutions

For each example, explain why the equation has that number of solutions.

Part B: What is the solution set for the equation 3x+8+4x-3=9x-7-2x+8? Show your work.

Solve for y.

$$11(y - 2) + 3y = -7y + 14$$

A. $\frac{7}{12}$ B. $1\frac{5}{7}$ C. 14 D. 21

What is the solution to $3x + 1 = 4x - 6$?

A. $x = 5$
B. $x = 6$
C. $x = 7$
D. $x = 8$

The three linear equations below are solved for the variable a.

$2a - 6a = 12$ $3a \times 5 - 4 = \frac{30}{2}a - \frac{8}{2}$ $7a + 1 = 7a - 3$

$-4a = 12$ $15a - 4 = 15a - 4$ $7a = 7a - 4$

$a = -3$ $15a = 15a$ $0 = -4$

$a = a$

Which of the following describes the number of solutions for each equation, from left to right?
   A. one solution, infinitely many solutions, no solution.
   B. one solution, one solution, infinitely many solutions
   C. infinitely many solutions, one solution, no solution
   D. infinitely many solutions, infinitely many solutions, one solution

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Solve for x: $-3(2x + 1) + 3x = 6x + 3$

A. $\frac{1}{3}$ B. $-\frac{2}{3}$

C. $-\frac{1}{3}$ D. $\frac{2}{3}$

What is the solution to $9x + 11 = 7x + 3x + 5$?

A. $x = 0$
B. $x = 6$
C. no solution
D. infinitely many solutions

What is the solution?
$3.25x + 1 - 4.25x = -2$?

A. -3.0
B. 0.4
C. 3.0
D. 4.0

What is the solution to the following equation?

$$\frac{1}{3}n + 5 - 1 = n + 2$$

A. $n = 3$ B. $n = 2$
C. $n = -2$ D. $n = -3$

Describe the solution set to the following equation.
$$-2(x - 6) = -2x + 12$$