

Solving Linear Equations with Fractions and Answers as “No Solution” or “All Real Numbers”

Objective 1: Solving Linear Equations Involving Fractions

Example: Solve for x in the equation $\frac{2}{5}x = 10$.

Solution:

Method 1	Method 2

Example: Solve for x .

$$\frac{x-1}{3} + \frac{2}{3} = x - \frac{2x+3}{9}$$

Solution:

Example: Solve for x .

$$\frac{1}{10}(x + 1) = \frac{1}{6}(2 - x)$$

Solution:

Solve the equations.

1. $\frac{2}{7}x = 14$

2. $\frac{x+1}{8} - \frac{2-x}{3} = \frac{5}{6}$

3. $\frac{2}{3}(x - 2) - 1 = \frac{1}{4}(x - 3)$

Objective 2: Solving Linear Equations with Answers as “No Solution” or “All real numbers”

Example: Solve for x .

$$5x - 1 = 5(x + 3)$$

Solution:

Example: Solve for x .

$$3x + 2(x + 4) = 5(x + 1) + 3$$

Solution:

Solve the equations.

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

2. $3x - 5 = 3(x - 2) + 4$

3. $3 - 8x = 5 - 7x$