Section 1.R.6 Solving Linear Equations: $ax + b = c$

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Solving Equations of the Form $ax + b = c$

Procedure for Solving Linear Equations that Simplify to the Form $ax + b = c$

1. Combine _____
2. Use the **addition principle of equality** and _____ _____
3. Use the _____ and multiply both sides of the equation by the reciprocal of the coefficient of the variable (**or** _____ _____ **itself**). The _____ will become +1.
4. Check your answer by _____

Example 1 Solving Linear Equations of the Form $ax + b = c$

Solve the equation: $3x + 3 = -18$

Solution

Exercises

Solve each equation.

1. $6x + 10 = 22$

2. $3x + 10 = -5$

3. $5x - 4 = 6$

4. $1 - 3y = 4$

5. $5 - 2x = 9$

6. $14 + 9t = 5$

Example 4 Solving Linear Equations Involving Decimals

Solve the equation: $5.1x + 7.4 - 1.8x = -9.1$

Solution

Exercises

Solve each equation.

7. $x + 1.2x + 6.9 = -3.0$

8. $3x - 0.75x - 1.72 = 3.23$

9. $\frac{8}{3} + 2 - \frac{7}{3}x = 6$

10. $\frac{5}{8}x - \frac{1}{4}x + \frac{1}{2} = \frac{3}{10}$

11. $-12.13 = 2.42y + 0.6y - 13.64$

12. $0 = 20.5x - 16.35x + 0.1245$