

Section 1.1 Linear Equations

Objective 1: Recognizing Linear Equations

Definition**Linear Equation in One Variable**

A linear equation in one variable is an equation that can be written in the form $ax + b = c$, where a, b and c are real numbers and $a \neq 0$.

Objective 2: Solving Linear Equations with Integer Coefficients

When we solve an equation for x , we are looking for all values of x which, when substituted back into the original equation, yield a true statement. The goal here is to **isolate the variable** x on one side of the equation.

Objective 3: Solving Linear Equations Involving Fractions

1.1.14

Solve. Type answer as an integer or a simplified fraction, or choose no solution or all real numbers.

Objective 4: Solving Linear Equations Involving Decimals

One strategy for solving linear equations involving decimals is similar to the one used to solve linear equations involving fractions: eliminate all decimals. Another option is to isolate the variable without first eliminating the decimals (i.e. deal with the decimal numbers as they appear).

1.1.7

Solve.

Objective 5: Solving Equations That Lead to Linear Equations

1.1.20

Solve. Type an integer or a simplified fraction. Use a comma to separate answers as needed. Or, choose no solution or all real numbers.



Note: Because rational equations often have extraneous solutions, it is imperative to first determine all values that make any denominator equal to 0. Any solution that makes the denominator equal to zero must be discarded.