

Solving Linear Equations

Math 2, Unit 1

Anaheim Union High School District

Why are we studying this?

Simplifying expressions and solving equations opens students to the possibility of solving real-world problems with unknowns. Solving for unknowns is used in a variety of disciplines, such as:

- Computer programmers
- Engineers
- Electricians
- Financial Planners
- Scientists
- Pharmacists
- Doctors and Nurses



Dear Student & Parent/Guardian,

In this unit we will extend and deepen our knowledge of writing and solving equations learned in Math 1, reviewing how to translate words into single-variable equations and solve them using Algebra Tiles. We will learn that not every equation has a single solution, but might have infinitely many or no solution.

Learning how to translate words into expressions and equations will help us solve real-world problems and in later units help us to solve systems of linear equations.

-AUHSD Math Teachers

Sample question: The district school bus can hold 60 students, and costs 50 cents a mile to operate. Or rental busses costs 45 cents a mile and hold up to 45 students. If the field trip is 30 miles round trip, and there are 85 students going on the field trip, which bus should be used?

Real World Applications in this Unit

- Solving Age Problems
- Solving Perimeter Problems
- Solving Problems Involving Distance, Rate and Time
- Problems Involving Money and Total Cost

Essential Questions Addressed in this Unit:

- What is a solution to a linear equation?
- How can I transform an equation into a simpler form?
- How can I use the structure of an equation(s) to determine the number and/or type(s) of solution(s)?
- Can an equation model this real-life scenario?

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|------------------------------|--|---|
| $3x - 2 = 4$ | | The tiles model the equation. A green tile represents x . |
| $3x - 2 + 2 = 4 + 2$ | | Add 2 to each side. |
| $3x = 6$ | | Simplify by removing zero pairs. |
| $\frac{3x}{3} = \frac{6}{3}$ | | Divide each side into three equal groups. |
| $x = 2$ | | Each green tile equals two yellow tiles, so $x = 2$. |

A Note About Homework

Homework in this unit will focus on concepts learned in prior years, necessary for success in Math Two.

Topics include:

- Integer Operations
- Simplifying Expressions
- Writing Equations
- Solving Equations