

Expressions, Equations and Inequalities

Math 1, Unit 2

Anaheim Union High School District

Why are we studying this?

Simplifying expressions and solving equations and inequalities 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
- Carpenters

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

- Finding Maximum Number of People on a Fishing Boat
- Finding out the price for a family of four to attend a basketball game.



Essential Questions Addressed in this Unit:

- What is an expression?
- What is an equation?
- What is a solution to an equation?
- What are equivalent expressions?
- How can writing and solving an equation or inequality help solve a real world problem?
- Is the solution reasonable?

Dear Student & Parent/Guardian,

In this unit we will be learning how to write and simplify variable expressions by using pattern blocks. We will also learn how to translate words into single-variable equations and solve them using Algebra Tiles.

Learning how to translate words into expressions and equations will help us solve real-world problems such as finding the maximum number of people a fishing boat can hold, or how many children can ride on a log ride when 4 adults are already seated.

-AUHSD Math Teachers

$3x - 2 = 4$		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 units as well as prior years, necessary for success in Math One, as well as current topics of simplifying expressions, and writing and solving equations and inequalities.

Topics include:

- Operations with Integers and Rational Numbers
- Distributive Property
- Error Analysis