

Applications Topic

MATH 101 *College Algebra*

J Robert Buchanan

Department of Mathematics

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Objectives

In this section we will learn to solve

- ▶ number problems,
- ▶ distance-rate-time problems,
- ▶ cost-profit problems,
- ▶ simple interest problems, and
- ▶ average (or mean) problems.

Strategy for Solving Word Problems

1. Understand the problem.
 - 1.1 Read the problem carefully (several times if necessary).
 - 1.2 Restate the problem in your own words.
2. Devise a plan.
 - 2.1 Identify the quantity asked for. Assign a variable to this quantity.
 - 2.2 Draw a picture or set up a chart if it helps.
 - 2.3 Write an equation that relates the information provided.
3. Carry out the plan
 - 3.1 Study the picture or chart for insight into the solution.
 - 3.2 Solve the equation.
4. Look back over the results.
 - 4.1 Does the solution make sense in the context of the problem?
 - 4.2 Check your solution in the equation.

Key Words

Looking for key words in the word problem may help suggest an equation relating quantities mentioned in the problem.

Addition	Subtraction	Multiplication	Division	Equality
add	subtract	multiply	divide	gives
sum	difference	product	quotient	represents
plus	minus	times	ratio	amounts to
more than	less than	twice		is/was
increased by	decreased by	of (fractions/%s)		is the same as

Average or Mean

Definition

The **average** (or **mean**) of a set of numbers is the value found by adding the numbers and then dividing the sum by the quantity of numbers in the set.

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The **average** (or **mean**) of a set of numbers is the value found by adding the numbers and then dividing the sum by the quantity of numbers in the set.

This concept is sometimes referred to as the **arithmetic mean** to distinguish it from other types of averages which you may study in a statistics course.