Help Solving Word Problems

Difficulty in solving word problems is very common in math. There is no secret to solving word problems and there is usually more than one way to solve them. To become better at solving word problems, you need to practice.

Here is just one way to tackle word problems

1) Read the problem carefully (more than once!) looking for clues and important information (look for key words!), If necessary, rewrite the problem to help find these clues. Make sure you understand any definitions and symbols used. If the problem says to look at another exercise or example, then do so. *Do not read the problem once, and then give up.*

2) Figure out what the problem is asking for. Select the unknown (what you are looking for) and a variable you want to use to represent the unknown

3) Write down other information given and eliminate all non-essential information.
4) Develop a plan based on the information you determined to be important for solving the problem. Examples include:
    a. Looking for a pattern
    b. Making a table
    c. Drawing a picture
    d. Write down equations
    e. Write down relationships

    Check to see if the word problem similar to a previous work, if so how was it solved. This will help you decide what plan to use.

5) Carry out the plan using techniques that you have been studying.

6) Verify the answer. Does the answer make sense? Is the answer reasonable? Check your work! You can work the problem backwards, starting with the answer to see if you wind up with your original problem.

Word Problem Key Words

Key words	What is Means
Plus, add, added to, increased, more than, total, sum, gain	addition
Less than, minus, difference, subtracted from, decreased, lower	subtraction
Times, of, product, multiply, double, triple	multiplication
Divided by, quotient, per, one half, one third, ratio	division

Is, equals, yields, gives, will be, are	equals
Maximum,Minimum	somewhere in the problem you may need to find the vertex
Rate of, Rate of change, average rate of change, something per something (e.g. miles per gallon)	slope
Directed variation, proportional	Use y=kx
Varies indirectly	Use y=k/x
Amount of fencing, around	Perimeter, circumference
Given distance and rate (speed), need to find time	Time= distance / rate
Given time and rate (speed), need to find distance	Distance = rate times time
Given time and distance, need to find rate (speed)	Rate=distance/time
Thickness	Use Volume/Area
Unit cubed, cubic inches, feet cubed	volume
Unit squared, square feet, inches squared	area
Years	Most likely the x

More help on solving word problems:

http://www.purplemath.com/modules/translat.htm

http://mathforum.org/dr.math/faq/faq.word.problems.html

http://www.wisc-online.com/objects/viewobject.aspx?id=abm1401

http://www.studygs.net/mathproblems.htm