



Literacy at Hartford Public High School

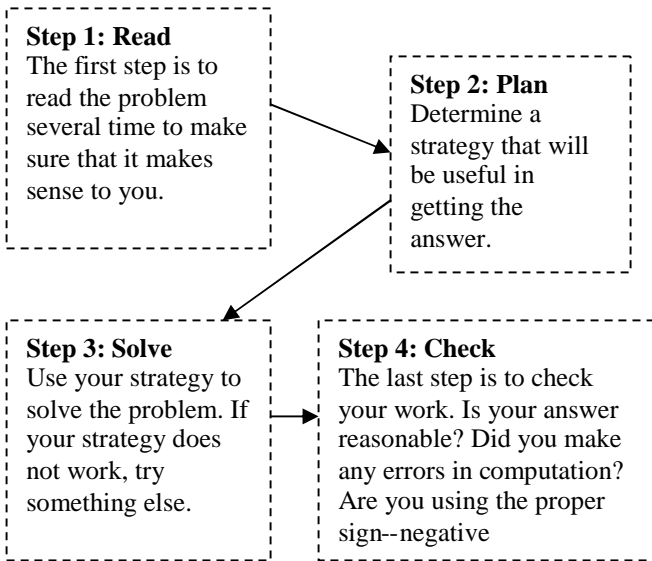
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Focus on Word Problems

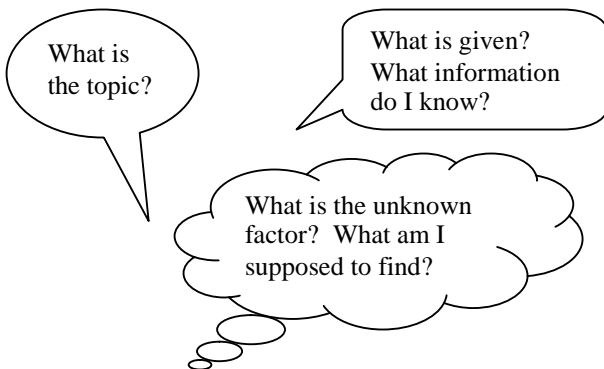
from Reader's Handbook, Great Source

In a way, word problems are more challenging than math problems that include just numbers and diagrams. Word problems require that you set up the problem before you can work to solve it.

The trick to solving word problems is to read the question very carefully. Sometimes word problems have extra information in them—information that you won't need to solve the problem. However, sometimes every word is important; make sure the read carefully.



As you read a problem for the first time, think about these questions:



As you read a problem the second time, take notes or use a highlighter.

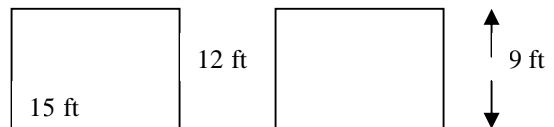
Consider the following word problem, focusing on what information is important and what you are being asked to find.

Sally wants to paint the walls in her room. The room is 15 feet by 12 feet and the walls are 9 feet high. Each gallon of the paint she wants to buy covers 400 square feet and costs \$24.95. This paint is also sold by the quart at \$9.99. How much paint should Sally buy?

Based on the above problem, what is the topic? What information that is given is relevant and which is irrelevant? What do you need to find?

Now it is time to choose a strategy to solve the problem. Often, it is helpful to visualize the problem—that is, to make a mental picture of the problem. Doing this and thinking aloud about the task will help you to solve the problem.

Based on the above problem, you might draw the following sketch to see the relationship between the pieces of the problem:



After you decide how to solve the problem, you can begin the actual solution. You might think... Two walls are 15 feet high and 9 feet high; two walls are 12 feet wide and 9 feet high. I need to find the area of each wall and then add the areas of all four walls to find the total number of square feet that have to be painted.

So...

$$(15 \times 9) + (15 \times 9) + (12 \times 9) + (12 \times 9) = \text{area of all four walls}$$

Now, I have to determine how much paint is needed. If one gallon covers 400 square feet, then one quart (1/4 of a gallon) will cover 100 square feet ((1/4 of 400). By working the equation, I find out that the area of all four walls is 486 square feet, so one gallon and one quart would be enough paint. The information about the price of the paint is just extra data that I don't need to solve the problem.

Can you think of another way to solve this problem? How about the following method?

Multiply 15 and 9 and 2 (270)

Multiply 12 and 9 and 2 (216)

Add 270 and 216 (486)

If one gallon covers 400 square feet, then you still have to cover 86 square feet. Since one-fourth of a gallon is a quart, divide 400 by 4 to get 100. One-fourth of a gallon, or one quart, will cover 86 square feet.