

General Topics

How do I solve word problems?

To solve word problems you need to answer at least three questions:

- 1.) What numbers are needed to answer the question?
- 2.) What mathematical operation(s) are needed to arrive at an answer?
- 3.) Does your answer make sense?

3.) Does your answer make sense?

Just because a number shows up on your calculator display doesn't mean it's correct! Is it logical? Try to have at least some expectations about what the final answer should look like before you start. When you are finished, ask yourself, "Does my answer make sense for this particular situation?"

Check to see if your answer is of a reasonable size.

Example

Let's say you deposited \$100 in a savings account that pays 2.5% interest. You then compute the amount of interest that you will earn if the money sits for 5 years and come up with an answer of \$1250.

Does it make sense that you could deposit \$100 and end up with \$1250 of interest five years later by putting it in a basic savings account? Not a chance... you better recalculate your answer. The problem here is that the decimal is in the wrong place. The correct answer is \$12.50. These mistakes are easy to catch if you check to see if your answer is reasonable.

Determine if your answer should get larger or smaller.

Example

You need to convert all the English measurements on a blueprint to metric. One dimension is 12 inches but it needs to be in centimeters (1 in = 2.54 cm). You come up with an answer of 4.72 cm.

You know a centimeter is a smaller unit of measure than an inch so you will need more centimeters than inches to make up the same distance. That means your answer must be larger than 12. The problem here is that you divided by 2.54 instead of multiplying. It is easy to press the divide button on your calculator when you meant to multiply or vice versa. If you know whether your answer should get larger or smaller you can catch these mistakes.

Determine if there are limits on your answer.

Example

You are asked calculate the average daily sales for the past five days. Mon = \$205.89, Tues = \$334.64, Wed = \$340.10, Thurs = \$390.86, Fri = \$508.11. You came up with \$1779.60.

An average is a measure of the center of a group of numbers. You can't have an average that is smaller than the smallest number or larger than the largest number. Our average must be somewhere between \$334.64 and \$508.11. The problem here is that you calculated the total sales for the week rather than the average.

To find the average you need to take the total divided by the number of days you are averaging. ($\$1779.60 \div 5 \text{ days} = \355.92 per day) If you recognize that there are logical limits on this problem you catch this type of mistake.