There is a love/hate relationship going on here - a contradiction of sorts. Most people hate word problems, but most people also want to ask in math class, "How am I ever going to use this in my everyday life?" They really want to know the answer. Well, in 'real life' math shows up in the form of word problems! So if there's one element of math you're going to use most in your daily life, it's going to be your ability to solve word problems!

Examples and Stories -

- Coat sale

- Mortgage

- Hobby Lobby

- Deli

- Patio

- Refill

Here is the email I received on July 28, 2012 regarding the refill situation:

> Grrrrrrrrrrrrrr. Yes, the world of workers needs help with math!
>
> CVS pharmacy called to remind me that their computer showed I needed a refill.
>
> The prescription was filled on 6/13/12 for a 90 day supply, and the caller calculated that to mean that I had two weeks worth of pills remaining. I tried to take her through the logical math of 90 days from 6/13 but she still maintained that I still had only two weeks worth remaining.
>
> So I asked her to take me off their call list, and I'd take the responsibility of calling in September when I needed the next refill.

Here is an email I received sharing about a situation in a flood about 10 years ago in our area:

> When [we were] doing flood relief work years ago, there was a couple who got flooded out and needed extensive repair and assistance, which they received and were very grateful. They had been making monthly payments on their home for many years and thought they had a major part of it paid for. When their home was flooded, their home was reviewed for value and coverage and all of that. They were shocked when they learned that their payments were paying part of the interest, not all of it, and not the principal, **so they owed more on their home than when they bought it**. They had been making the required monthly payments but apparently did not understand how it was actually working, and understandably, they were so upset to learn how much more they owed. That seemed so unfair, so when it comes to personal finances, people need to understand very clearly how it works so that they don't misunderstand or allow themselves to be taken advantage of by others, even credit advisers.

As you can see, there is math all around us, and it impacts in ways large and small - from things as minor as irritations at errors that are made - to things as big as being taken advantage of for tens or hundreds of thousands of dollars.

Beginning strategies:

1. GET YOUR HANDS DIRTY (i.e. Just get started somewhere!)
2. UNDERSTAND THE SITUATION
3. GUESS AND CHECK

Word problems tend to cause people to panic, and panic doesn't help - it only makes things worse. When faced with a word problem, take your time, dig in, and as much as possible try to understand the setting.

Let's try some:

A) The U.S. Senate has 100 members. After the 1996 election, during the second session, there were 7 more Republicans than Democrats. One seat was vacant. How many Democrats and Republicans were there in the Senate?

B) My husband and our friend Greg very coincidentally ended up in Macy*s together one Christmas season. My husband never shops there (he's too cheap!), but he needed a new coat and they had a great deal going on. There was a discount of 50% and of 20%, and he's all about that!! This is a true story! He and Greg ended up right next to each other in line, and they noticed they were each only buying one item - exactly the same coat! When our friend went through, the cashier combined the percentages off and gave him 70% off. When David went through next, she took off 50% and then 20%. Did they end up paying the same amount or not?

Another strategy:

4. STATE AND SOLVE A SIMPLER PROBLEM

Both of these problems are taken from an old edition of a Math 20 book here at MJC:

C) A plastic container holds $1\frac{3}{4}$ gallons. How many gallons does it contain when it is $\frac{3}{4}$ full of a cleaning chemical?

D) The weight of a cubic foot of sandstone rock is approximately $2\frac{13}{20}$ the weight of a cubic foot of water. If a cubic foot of water weighs approximately $62\frac{1}{2}$ pounds and a sandstone rock contains 5800 cubic feet, what is the approximate weight of the rock?

As we see in problem C, another strategy is to:

5. DRAW A PICTURE

E) The instructions for a wood-working project require three pieces of wood. The longest piece must be twice the length of the middle-sized piece, and the shortest piece must be 10 inches shorter than the middle-sized piece. Maria has a board 70 inches long that she wishes to use. How long can each piece be?

F) How many cuts does it take to chop a 10-foot log into ten 1-foot-long pieces?

G) A frog is at the bottom of a 10-meter-deep well. Each day it crawls up 3 meters, but at night it slips down 2 meters. How many days will it take the frog to get out of the well?

Sometimes word problems in math aren't as applied (as 'real life') as the problems we've just considered. Even in that case we should still keep those strategies in mind, but there are going to be some other important things - one of which is to understand the *terminology* - words like consecutive and inclusive and supplementary. If there are words in your problem which you don't understand, don't just make a guess, look them up in your book or ask your teacher or a tutor. Also look up any *formulas* that might be useful.

H) Two angles are vertical. One measures $(4x + 19)^o$ and the other measures $(6x - 5)^o$. Find x.

I) The sum of three consecutive odd numbers is 225. What are the numbers?

J) A counting number is said to be 'decreasing' if each digit of the number is less than the integer on its left. How many counting numbers from 10 to 100 inclusive are decreasing?

Something else to consider when working with word problems of any kind is a strategy called CUBE:

Circle the numbers.
Underline important words.
Box the question.
Eliminate unnecessary information.

K) Mr. Johnson's class has 21 students. If the seven of his students are absent due to heavy rainfall on a particular day, how many students does he have in his class on that day?

L) Recently, a prehistoric ceremonial site dating to about 3000 B.C. was discovered at Stanton Drew in southwestern England. The site, which is larger than Stonehenge, is a near perfect circle, consisting of nine concentric rings that probably held upright wooden posts. Around this timber temple is a wide, encircling ditch enclosing an area with a diameter of 443 feet. Find this enclosed area. (*Source: Archaeology,* vol. 51, no. 1, Jan./Feb. 1998)

M) Team Marketing Report, a sports-business newsletter, computes a Fan Cost Index for a trip to a major league baseball park. The index consists of the cost of four average-priced tickets, two small beers, four small sodas, four hot dogs, parking for one car, two game programs and two twill baseball caps. For the 1994 season, the New York Yankees had the highest Fan Cost Index, while the Cincinnati Reds had the lowest. The Yankees' index was $43.37 less than twice that of the Reds. What was the Fan Cost Index for each of these teams if the total of the two was $194.56?