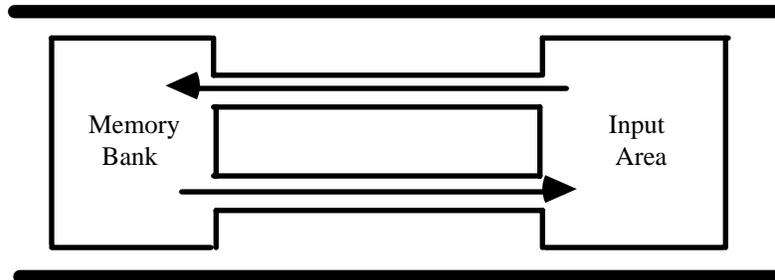


## How Does Math Anxiety Work?

It will be easier to understand why math anxiety occurs if you think of your brain as a three-part system with an input area, a memory bank, and some kind of understanding and recall pathways connecting the two. (This hypothetical model of the brain is useful for thinking about math anxiety.)

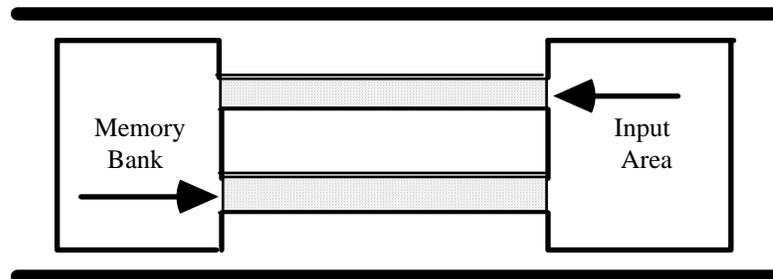
Figure 1



If the system is working well, when you look at a math problem or a new piece of mathematical information you will call up from memory the right formula or approach. You will move back and forth effortlessly along the recall and understanding pathways of your brain until you succeed in solving the problem or in understanding the new mathematical idea. Anytime you get stuck, you will return to your memory bank, or get some more input from the problem, or refer to your textbook. Perhaps you will draw a diagram or two. Or you will put some hypothetical numbers into the problem to make it more concrete. But whatever you do, you will be *busy* moving along the pathways of your brain, activating your memory, using your analytic skills, learning and doing.

Now, suppose your memory bank is intact and your understanding and recall skills are well developed, but every time you look at some new mathematical material or problem, your emotions come into play. You panic. You tell yourself: "This is just the kind of problem I can never solve." You feel the tension that comes from time pressure or the uncertainty that comes from lack of confidence. What might your brain system look like then?

Figure 2



The understanding and recall pathways have become cluttered by emotions. There is an inability to think, but not because the "hardware" is inadequate. The input, memory, and understanding and recall systems are just as good as they were before. But, because the pathways have been blocked, you cannot remember. You lose self-confidence because you don't seem able to analyze the problem. You may even doubt that you have the intelligence to do the job. But, in truth, the only reason you cannot work is that your feelings have created too much "static" in your brain. Soon, your pencil stops moving. Your brain stops functioning. You can't work, you assume, because you can't think. But in fact, it's just the reverse: You can't think because you have stopped working.