

TWELVE MATH MYTHS

1. MEN ARE BETTER IN MATH THAN WOMEN.

Research has failed to show any difference in mathematical ability between men and women. Men are reluctant to admit they have problems so they express difficulty with math by saying, "I could do it if I tried." Women are often too ready to admit inadequacy and say, "I just can't do math."

2. MATH REQUIRES LOGIC, NOT INTUITION.

Few people are aware that intuition is the cornerstone of doing math and solving problems. Mathematicians always think intuitively first. Most people have mathematical intuition; they just have not learned to use or trust it. It is amazing how often the first idea you come up with turns out to be correct.

3. MATH IS NOT CREATIVE.

Creativity is as central to mathematics as it is to art, literature, and music. The act of creation involves diametrical opposites—intensely and relaxing, the frustration of failure and elation of discovery, the satisfaction of seeing all the pieces fit together. It requires imagination, intellect, intuition, and an aesthetic sense about the rightness of things.

4. YOU MUST ALWAYS KNOW HOW YOU GOT THE ANSWER.

Getting the answer to a problem and knowing how the answer was derived are independent processes. If you are consistently right, then you know how to do the problem. There is no need to explain it.

5. THERE IS A BEST WAY TO DO MATH PROBLEMS.

A math problem may be solved by a variety of methods that express individuality and originality—but there is no best way. New and interesting techniques for doing all levels of mathematics, from arithmetic to calculus, have been discovered by students. The way math is done is very individual and personal and the best method is the one with which you feel most comfortable.

6. IT'S ALWAYS IMPORTANT TO GET THE ANSWER EXACTLY RIGHT.

The ability to obtain approximate answers is often more important than getting exact answers. Feelings about the importance of the answer often are a reversion to early school years when arithmetic was taught with the idea that you were "good" when you got the right answer and "bad" when you did not.

7. IT'S BAD TO COUNT ON YOUR FINGERS.

There is nothing wrong with counting on fingers as an aid to doing arithmetic. Counting on fingers actually indicates an understanding of arithmetic—more understanding than if everything were memorized.

8. MATHEMATICIANS DO PROBLEMS QUICKLY, IN THEIR HEADS.

Solving new problems or learning new material is always difficult and time consuming. The only problems mathematicians do quickly are those they have solved before. Speed is not a measure of ability. It is the result of experience and practice.

9. MATH REQUIRES A GOOD MEMORY.

Knowing math means that concepts make sense to you, and rules and formulas seem natural. This kind of knowledge cannot be gained through rote memorization.

10. MATH IS DONE BY WORKING INTENSELY UNTIL THE PROBLEM IS SOLVED.

Solving problems requires both resting and working intensely. Going away from a problem and later returning to it allows your mind time to assimilate ideas and develop new ones. Often, upon coming back to a problem, a new insight is experienced which unlocks the solution.

11. SOME PEOPLE HAVE A "MATH MIND" AND SOME DON'T.

Belief in myths about how math is done leads to a complete lack of self-confidence. But it is self-confidence that is one of the most important determining factors in mathematical performance. We have yet to encounter anyone who could not attain his or her goals once the emotional blocks were removed.

12. THERE IS A MAGIC KEY TO DOING MATH.

There is no formula, rule, or general guideline that will suddenly unlock the mysteries of math. If there is a key to doing math, it is in overcoming anxiety about the subject and in using the same skills you use to do everything else.

