

## **LEARNING MATH : WHAT IS IT ABOUT?**

### **Not just about doing problems that somebody showed you how to do**

That is just imitation or reproduction. It does not involve any learning. Real learning happens when you **UNDERSTAND THE BASIC CONCEPTS, LEARN HOW TO FIGURE OUT PROBLEMS AND APPLY YOUR UNDERSTANDING** to practical situations. It is the difference between knowing how to differentiate or integrate and knowing what differentiating or integrating with respect to  $x$  means. This is one reason why many of you are having trouble with substitution methods.

### **Not just about learning how to do problems.**

Here are some of the things that you must learn in this class:

- 1. Learn the background and basic concepts of the material**
- 2. Learn to understand new concepts when someone is explaining them.**
- 3. Learn to take notes.**
- 4. Learn how to think about problems and solve them.**
- 5. Learn to ask questions.**
- 6. Learn to answer questions.**
- 7. Learn to work with your fellow students.**

### **How do you go about learning?**

- 1. Listen carefully and take notes.**
- 2. If you don't understand ask me or make a note of it.**
- 3. Go home, read the notes, and THINK about them.**
- 4. Work on practice problems, read text book, do webwork.**
- 5. If you don't get it at first, try again. KEEP TRYING.**
- 6. Come and work with me in office.**
- 7. Work with your fellow students.**

These skills and knowledge will help you throughout your life. A good background in mathematics means a good background in logic, analytical thinking and problem solving. These skills will be useful in any field. Math majors are in demand in all areas of science, technology, even law.