

Facilitating Student Learning and Success: TI-84 Tips, Tricks, and Programs

Goal: Acquire new calculator skills that can be used *by a tutor** during tutoring sessions to facilitate student learning and success in math, science, and engineering courses.

Objectives:

- Describe 2 types of problems that you solve using your TI-84 calculator during tutoring sessions and explain how doing so helps students whom you are tutoring.
- Access http://denisemeeks.com/science/documents/ti84_programs.pdf
- Investigate at least 2 useful TI-84-related websites and identify what information those sites provide.
- Utilize the TI-84 CATALOG and use at least 2 calculator commands/functions, which are “new” to you.
- Explain how to locate TI-84 APPS online and on your calculator.
- Evaluate https://www.youtube.com/watch?v=Oac7x_uDnKM on accessing lowercase letters (optional).
- Investigate http://denisemeeks.com/science/notebooks/notebook_ti84.php (optional).
- Write a simple algorithm to solve a specific type of math-, science-, or engineering-related problem and convert it to the TI Basic programming language.
- Enter and run the NAME program (optional).

Learning Skills and Strategies:

- Understand: Explain ideas and concepts
- Apply: Use information from provided resources to solve problems
- Analyze: Experiment with your calculator by using existing programs

Required Resources:

- TI-84 calculator (or equivalent)
- Internet access on computer, tablet, smartphone, etc.

Introduction:

Most U of A math courses require students to use TI-84 calculators (or the equivalent). Few students know how to use their calculators efficiently and effectively to solve problems and check answers for problems that they have solved “by hand,” and even fewer can locate their calculator manuals. Some students have programmed the infamous quadratic formula program, if it was supplied on their syllabi, and others use it to graph quadratic equations or perform calculations without thinking about the results, claiming “this is what the calculator gave me so this must be right.”

The purpose of this session is to provide you, the tutor, with calculator skills and programs that *you** can use during tutoring sessions to help your students become more efficient and effective calculator users. The information we will review will hopefully make you a more knowledgeable calculator user, enabling you to help students improve their calculator skills. Using some of the references, and working through some of the programs located on the [ti84_programs.pdf](http://denisemeeks.com/science/documents/ti84_programs.pdf) webpage listed above, will hopefully teach you about many of the features of the calculator that you can then demonstrate to students during tutoring sessions, so that students can develop their calculator skills and become more independent learners.

Activities:

1. Current calculator use during tutoring sessions:

Problem type solved during tutoring sessions using TI-84	How does your use of your calculator during tutoring sessions help students, learn to use their calculators?

2. TI-84-related websites:

Website name/title	Information provided

3. TI-84 CATALOG:

Command/function selected	How did you, or could you, use this command/function?

Assessment:

1. Where, online, can you locate TI-84 APPS? How can APPS be accessed on your calculator?
2. Can a TI-84 use lowercase characters, and if so, how? (optional)
3. Summarize the types of programs that can be programmed into your calculator, and describe which might be most beneficial to you, as a tutor.
4. Enter and run the NAME program (optional). How would this simple program help you during a tutoring session?

Discussion and Feedback: (Please write your responses to the following on a piece of paper and submit to Denise before leaving today's session. You do not need to include your name unless you wish to do so.)

1. What did you learn, if anything, about the TI-84 during today's session, that you didn't already know?
2. What information, if any, that you acquired during today's session, will you incorporate in your tutoring sessions to facilitate students' learning and calculator competency? In other words, what did you learn about the TI-84 that will help you to help students use their calculators more effectively?
3. What else should we have covered during today's session?

*Note: Please **do not** share these programs with students. These programs have been written **by a tutor for tutors** for the specific purpose of helping tutors check students' answers during tutoring sessions, and are not to be used on quizzes, exams, etc., and/or other assignments for which faculty have precluded calculator and/or calculator program use. Please email comments/corrections to Dr. Denise Meeks at tucsonkosmicgirl@gmail.com Thank you!