

2015-2016 Honors Geometry Midterm Assessment Project

What	Create a Program on your TI Calculator to figure out characteristics of triangles
When	Due on Tuesday, March 22, 2016 in class. The menu of your program will be checked (does not need to be able to calculate yet) Due on Wednesday, April 6, 2016 in class. <u>THERE WILL BE NO LATE ASSIGNMENTS ACCEPTED.</u> If you are absent your hard copy of the project must be turned in April 6.
How much	This will count for 60% of your Midterm grade. The other 40% will come from an in class mid-term exam
Format	<ol style="list-style-type: none"> 1. The program must be entered into your calculator. It must run correctly and produce the desired result. 2. You must print out (or hand make) a copy of your program. Include you name, date, section number, and course title. Neatness will help. 3. A separate sheet will contain all of the math formulas you used to create the program. Include a sample triangle with the letters a, b, and c for your sides
Resources	<ul style="list-style-type: none"> • Your calculator manual. All of the commands, examples, etc. are available in the manual. • The TI.com web site. A PDF version of the manual is available here for downloading. • Some other websites with tips on programming the TI calculators. • Mr. Campbell/ Mr. O'Neill after school • Math Honor's Society. A number of students there know how to program the calculator. Ask around.
Details	<p>Your program will start with a menu offering the user the ability to enter in the three side lengths of a triangle</p> <p>Your program will take the three side lengths. It will then perform the following checks:</p> <ol style="list-style-type: none"> 1. Is it a possible or impossible triangle? 2. Is it right, obtuse, or acute? 3. Is it scalene, isosceles, or equilateral? <p>It will then display the results on the screen. Remember – you'll use this on a test soon after so be sure it works and is easy to read/understand!</p>
Grading (see rubric for more details)	<p>I'll be looking for the following items. I'll call each person up and run their program. I'll put various numbers in and see if each calculation works. The more you have (or more complete they are), the higher the grade (up to a "B").</p> <ul style="list-style-type: none"> • It runs. • It works (correctly). If it gets some tests wrong, credit will be lost. • Presentation. How nice is the input screens and the output screens? Is it easy for the user to understand?

	<ul style="list-style-type: none">• Math concepts. Did you use the formulas correctly?• How efficient is the programming? Did you take 70 lines or 200? (this is only a small portion). <p>To get a grade of an “A”, you’ll need to go above and beyond the basic project. You’ll need to make a creative user interface. To get an “A+” (100), you’ll also need to do creative and unique things (fancy input screens, animations, fancy output screens, etc.).</p>
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About programs on your TI Calculator.

Almost all programs that run on any computer (and your Calculator *is* a computer) have the following structure.

Input:

The program tells the calculator to ask the user questions. It then assigns the data it receives from the user into **variables**. Variables hold numbers (or text) that is input from the user.

Calculations

The program then performs various calculations using the data stored in the variables. In your program, you’ll be taking three side lengths and checking them to see what kind of triangle you have. This will be the longest part of your program and the most complex.

Output

The program tells displays the results of the calculations and explains to the user what it means.

Some final notes:

Important functions and commands you’ll need to do the project will be discussed in class and also are available in your calculator manual, sample programs, and on various web sites.

We’ll spend one day in class doing sample programs and one day after school, talking about how to create and edit programs, and using some important commands and functions.

Put various sample programs in your calculator, try them, see what they do. Then try writing short programs of your own using things you see in these programs before trying to write your project.

You will need your USB connector cable for your calculator.

Name: _____ Date: _____ Period: _____

Project Title: _____

This form should be the FIRST page (cover page) of your report. Use the following rubric as a “checklist” to help you as you complete your project.

Rubric:

Criteria	Points possible	Points earned
<i>March 22nd Menu check</i>	10	
Program is uploaded and runs	5	
<i>Program runs correctly in trials:</i> accurate results for all trials run.	10	
<i>Presentation of Program:</i> user friendly menus, orderly presentation of results, creative use of animations and other cosmetic upgrades	15	
<i>Math Concepts:</i> Proper use of formulas to calculate each piece of information	10	
<i>Efficiency of Programming(length of code)</i>	5	
<i>Copy of code:</i> Printed or handwritten	5	
<i>Formula Sheet:</i> math formulas you used to create the program. Include a sample triangle with the letters a, b, and c for your sides	10	
<i>Rubric Attached</i>	5	
Total	75 points	