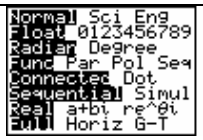
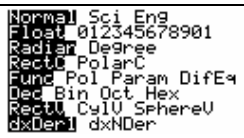
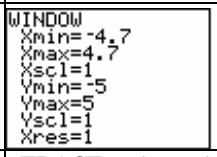
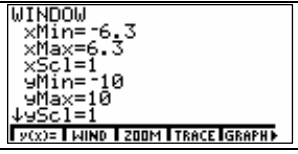
Calculator Functions for Math 0305 & Math 0310
Words in **BOLD** are calculator keys
Revised 6/21/06

	TI-83+/83/84+/84	TI-86
BASIC SETUP	**MODE**  All values down the left-hand side should be highlighted. To return to the 'home' screen at any time **2nd MODE**	**2nd MORE**  All values down the left-hand side should be highlighted. To return to the 'home' screen at any time **2nd EXIT** Setting up custom menu: **2nd CUSTOM F1** scroll down to desired function(s) **F3** then choose a blank space **F1 - F5**. Repeat for each desired function. You will need *abs*, FRAC ▷ and $\sqrt[x]{y}$. FRAC ▷ and $\sqrt[x]{y}$ at the end of the alphabet **F1** (page down)
To enter a rational expression	**(** numerator **)** / **(** denominator **)**	**(** numerator **)** / **(** denominator **)**
To raise a value (or variable) to a power (exponents)	For x^2 value x^2 For others value ^ power	For x^2 value x^2 For others value ^ power
To change a decimal to a fraction	**MATH ENTER ENTER**	**CUSTOM F# ENTER**
To find or enter the absolute value	**MATH** ► **ENTER** value or expression **)**	**CUSTOM F#** **(** value or expression **)**
To store a value for *x*	value **STO X,T,θ ENTER**	value **STO** ***x*-var ENTER**
To store a value for a variable other than *x*	value **STO ALPHA** choose variable from GREEN letters above keys **ENTER**	value **STO ALPHA** choose variable from GRAY letters above keys
To access π	**2nd** ^	**2nd** ^
To graph an equation	**Y=** enter the equation **GRAPH**	**GRAPH F1** enter the equation **2nd F5**
To change the viewing window for a graph	**WINDOW** enter values and desired scales	**GRAPH F2** enter values and desired scales
"Friendly windows"	 This (or any multiple of *x* values) will give all *x* integer values.	 This (or any multiple of *x* values) will give all *x* integer values.
To trace along a graph (an equation must be entered)	**TRACE** ► ◄ as desired	**F4** ► ◄ as desired
To access the VALUE/EVAL feature (an equation must be entered)	**2nd TRACE ENTER** value **ENTER** NOTE: Your *x* value must be within your viewing window. This process may be repeated by entering a new *x*-value.	From the Graph **MORE MORE F1** value **ENTER** NOTE: Your *x* value must be within your viewing window.
To find the intersection of 2 graphs (2 equations must be entered)	**2nd TRACE** scroll to INTERSECT **ENTER** Adjust window if necessary to see the intersection. Using ► ◄ move cursor to approximate intersection **ENTER ENTER ENTER** NOTE: Your *x* value must be within your viewing window.	From the Graph **MORE F1 MORE F3** Adjust window if necessary to see the intersection. Using ► ◄ move cursor to approximate intersection **ENTER ENTER ENTER** NOTE: Your *x* value must be within your viewing window.
To solve an equation by graphing (2 equations must be entered)	Enter left-hand side of equation in *y*1; right-hand side in *y*2 Graph and locate the point(s) of intersection.	Enter left-hand side of equation in *y*1; right-hand side in *y*2 Graph and locate the point(s) of intersection.
To find the *x*-intercept(s) (an equation must be entered)	**2nd TRACE** scroll to ZERO **ENTER** Enter a numerical value that lies to the LEFT of the point. **ENTER** and then a numerical value that lies to the RIGHT of the point. **ENTER ENTER**	From the Graph **MORE F1 F1** Enter a numerical value that lies to the LEFT of the point **ENTER** and then a numerical values that lies to the RIGHT of the point **ENTER ENTER**
To change a decimal value obtained in a graph to a fraction	**2nd MODE X,T,θ,*n*** (for *y* **ALPHA 1**) **MATH ENTER ENTER**	**2nd EXIT** ***x*-var CUSTOM F# ENTER** (for *y*) **2nd CUSTOM F3** (scroll to lower case *y*) **ENTER Custom F# ENTER** (store *y* in your Custom menu for future ease)
To access a TABLE (one or more equations must be entered)	**2nd GRAPH**	**TABLE F1**
To adjust a TABLE (one or more equations must be entered)	**2nd WINDOW** Set start value (usually 0) and increment (usually 1). AUTO should be highlighted for both Indpnt and Depend	**TABLE F2** Set start value and increment. AUTO should be highlighted for Indpnt

To find $\sqrt{\ }$	**2nd** x^2 value Note: You will need to enter) when needed.	**2nd** x^2 value Note: You will need to enter ( ) when needed.
To find $\sqrt[3]{\ }$	**MATH** scroll to $\sqrt[3]{\ }$ **ENTER** value Note: You will need to enter) when needed.	**3 CUSTOM F#** value Note: You will need to enter ( ) when needed.
To find other roots ($\sqrt[x]{y}$)	root **MATH** scroll to $\sqrt[x]{\ }$ value Note: You will need to enter ( ) when needed.	*x* value **CUSTOM F#** *y* value Note: You will need to enter ( ) when needed.
To find the maximum (minimum) point (an equation must be entered.)	**2nd TRACE** scroll to MAXIMUM (MINIMUM) **ENTER** Move cursor to LEFT of the point (the cursor may move up or down the graph) **ENTER** Move cursor to RIGHT of the point (the cursor may move up or down the graph) **ENTER ENTER**	From the graph **MORE F1 F4 (F5)** Move cursor to LEFT of the point (the cursor may move up or down the graph) **ENTER** Move cursor to RIGHT of the point (the cursor may move up or down the graph) **ENTER ENTER**
To solve inequalities in 2 variables (shading)	enter function into *y*1 ◄ all the way to the left of *y*1 for $f(x) >$ **ENTER ENTER GRAPH** for $f(x) <$ **ENTER ENTER ENTER GRAPH** Repeat if solving a system of inequalities OR enter each function into *y#*, select each style, then graph	enter function into *y*1 **MORE** for $f(x) >$ **F3 F3 2nd F5** for $f(x) <$ **F3 F3 F3 2nd F5** Repeat if solving a system of inequalities OR enter each function into *y#*, select each style, then graph
To evaluate a function	an equation must be entered for $Y_{\#}$ **VARS** ► Y-VARS **ENTER** $Y_{\#}$ **ENTER (** value **) ENTER** OR Use the Value feature from the graph	(an equation is not necessary for *y*(*x*) **2nd ÷ F1** expression **, *x*-VAR ,** value **) ENTER** OR use EVAL feature from graph (an equation IS necessary for *y*(*x*))
COMPLEX NUMBERS		
To access *i*	**2nd** •	The *i* is not available, but you can enter complex expressions by value1 operation value2 $\sqrt{\ }$ -1 **ENTER** The display is (value1, value2). Value 1 is the real part and Value2 is the imaginary part.