TIPS AND TRICKS WITH A TI-84

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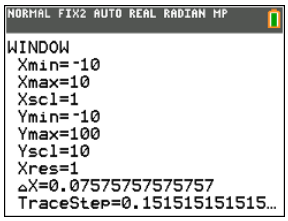
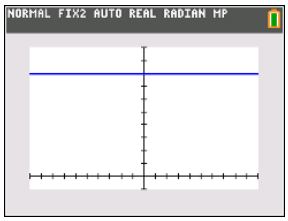
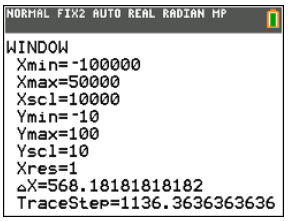
Stuart Moskowitz, stuart@humboldt.edu
John LaMaster, lamaster@ipfw.edu

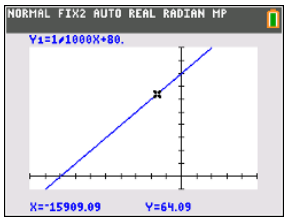
1 **Sketch a complete Graph of $y = \frac{1}{1000}x + 80$ (one that displays both axis intercepts)**

Using a grapher successfully requires an understanding of the mathematics. Displaying a complete graph of this function requires an understanding of the behavior of linear functions and their equations. No graph appears in the default window, but does appear when Ymax is increased. However, if only Ymax is changed, then it appears as a horizontal line. Use algebra, logic, and/or guess n check to find the x-intercept.







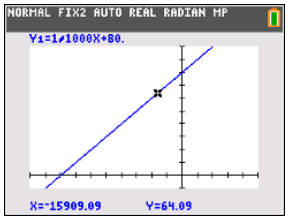


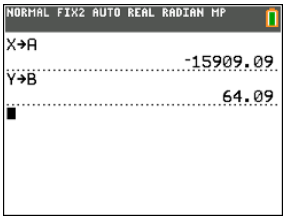
note Xscl and Yscl

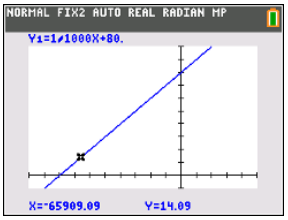
2 **Using the equation in #1 (above), use trace to capture 2 random points and calculate slope without having to retype the coordinates.**

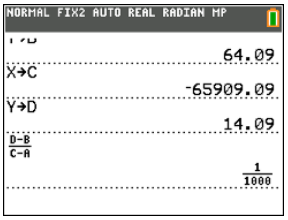
The most recent TRACE coordinates are automatically saved by the TI-84; it's easy to transfer values needed in computations from the GRAPH screen to the HOME screen.

While in Trace mode, highlight a desired point, then press 2nd QUIT to return to the home screen. Store the X and Y coordinates as A and B. Return to the GRAPH screen and move the Trace cursor to a second point and store these coordinates as C and D. Calculate the slope of the line through these two points by typing $\frac{D-B}{C-A}$, then pressing ENTER

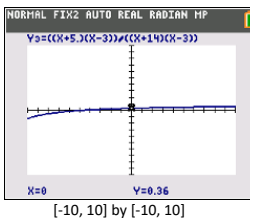








3 **Sketch a complete graph of $y = \frac{x^2+2x-15}{x^2+11x-42}$. This means it needs to include all axes intercepts, all local minimums and maximums, and all discontinuities (vertical asymptotes and holes). It helps to think of it as $y = \frac{(x+5)(x-3)}{(x+14)(x-3)}$**



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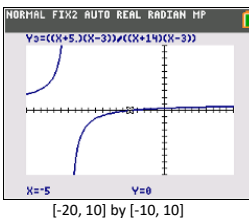

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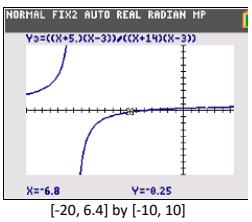

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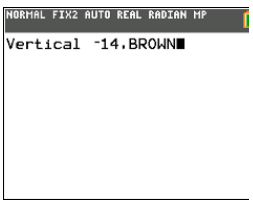
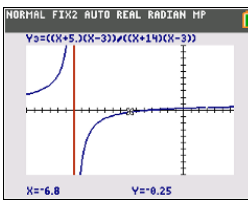
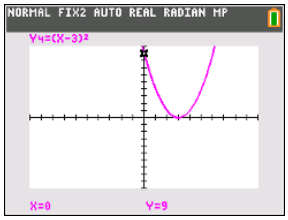
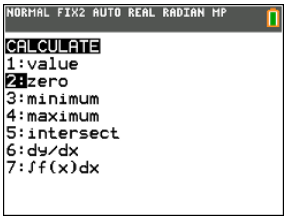
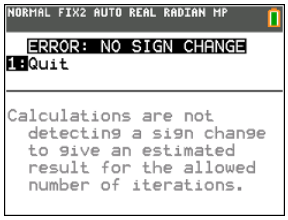




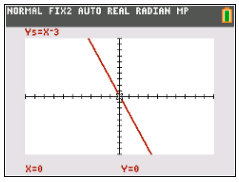
4 Find the zeros of $y = (x-3)^2$

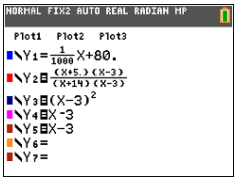


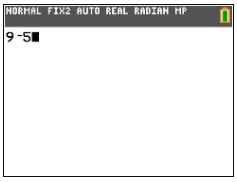


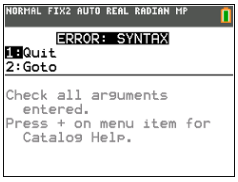


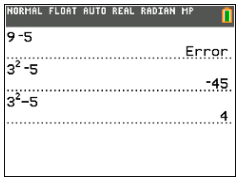
5 Evaluate 9-5, 3^2-5, and graph $y = x - 3$ using the negation key instead of the subtraction key.



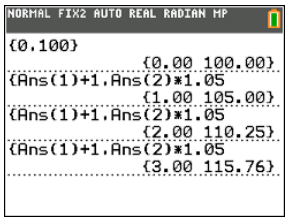








6 Home Screen Programming for learning about exponential growth and compounding:
Build a finance table on the HOME screen.



7 Evaluate $100(10^{12} + 7 - 10^{12})$, *then* $100(10^{15} + 7 - 10^{15})$. No associativity!