Graphing Calculator Tips
for TI-83

The calculator you use must have four built-in capabilities:

- graph a function in an arbitrary viewing window
- find the zeros of functions (solve equations numerically)
- numerically calculate the derivative of a function
- numerically calculate the value of a definite integral

Graph a function

(1) Press **<Y=>** to enter function.
(2) Press **<ZOOM>** to Zoom
    (a) Press **<6>** for Zoom Standard (10x10)   or
    (b) Press **<7>** for Zoom Trig

(3) Press **<GRAPH>** for graph.
(4) Press **<TRACE>** for Trace, then use arrow keys to trace curve.

(5) Press **<WINDOW>** for Window to set up your own domain and range.

Solve an Equation

(1) Press **<MATH>**
(2) Then press <0> or scroll down to 0 for the solver editor.

(3) After the Eqn: 0 =   You should enter your equation (Notice that it is set = to 0).

(3) Press **<ENTER>** to get the Interactive Solver Editor
(4) Make a guess for x =

(5) You may change the bounds (the default bounds are {-1E99, 1E99}).
(6) Press **<ALPHA> <ENTER>** to solve equation.

(7) Repeat with different bounds to solve for other roots.
    Use this in connection with the Graph capability to see where other roots may be.

Calculate a Numerical Derivative

   (1) Press **<MATH>** then **<8>** or scroll down to **8** and Press **<ENTER>.**
   (2) After **nDeriv(** is displayed,
      enter your function,
      then a comma,
      then the variable x,
      then a comma,
      then the value at which you wish to take the derivative,
      then a right parenthesis.
   (3) Then Press **<ENTER>** to get the numerical value of the derivative.

Calculate a Definite Integral

   (1) Press **<MATH>** then **<9>** or scroll down to **9** and Press **<ENTER>**.
   (2) After **fnInt(** is displayed,
      enter your function,
      then a comma,
      then the variable x,
      then a comma,
      then the lower bounds of the integral,
      then a comma,
      then the upper bounds of the integral,
      then a right parenthesis.
   (3) Then Press **<ENTER>** to get the numerical value of the integral.