Graphing Calculator Tips
for TI-85

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 <**GRAPH**>
(2) Press <**F 1**> to enter function for y(x)=

(3) After entering function, press <**EXIT**>
(4) Press <**F 3**> to Zoom
  (a) Press <**F 4**> for Zoom Standard (10x10) or
  (b) Press <**More**> then <**F 3**> for Zoom Trig

(5) Press <**EXIT**> then <**F 5**> for graph.
(6) Press <**F 4**> for Trace, then use arrow keys to trace curve.

(7) Press <**F 2**> for Range to set up your own domain and range.
(8) Press <**MORE**> twice then press <**F 1**> to Evaluate the function at a particular x.

Solve an Equation

(1) Press <**2nd**> <**SOLVER**>
(2) After the Eqn: You should enter your equation – you must press <**ALPHA**> <**STO**> for the = sign.

(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 <**F 5**> 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 **<2nd> <CALC>**

(2) Press **<F 3>** for the first derivative.

(3) After **der1(** 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.

(4) Then Press **<ENTER>** to get the numerical value of the derivative.

Calculate a Definite Integral

(1) Press **<2nd> <CALC>**

(2) Press **<F 5>** for the integral.

(3) 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.

(4) Then Press **<ENTER>** to get the numerical value of the integral.