

Graphing Calculator Tips for TI-86

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