

Mini-Guide to Your TI89 Titanium

This publication is a quick reference to some of the most commonly used operations using your TI89 Titanium calculator. Page references in the explanations refer to the full guide published by Texas Instruments, which is over 1000 pages.

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Contrast, adjusting (page 5)

To lighten: hold \blacklozenge and tap -

To darken: hold \blacklozenge and tap +

Turning off the calculator (page 7)

2nd, Off: returns to the Home screen when turned back on

\blacklozenge , Off: returns to however you left the calculator, same as automatic power down

Mode Settings (for normal use) (page 17)

Page 1

Function, Main, Float 6, Radian (for Calculus), Normal, Real, Rectangular, On

Page 2

Full, Home, Approximate (to give decimal answers), Dec

Page 3

SI, English, On

Useful Keys (page 49, 11)

2nd, Math (the 5 button): gives access to many math operations

\blacklozenge , Key (the EE button): gives a listing of keyboard symbols

Roots, entering (page 75)

Root(8,3) will give you $\sqrt[3]{8}$

Type root or use \blacklozenge , 9 or use Catalog, R, root.

The first number is the radicand, the second number is the root.

Operations (page 73)

! (factorial)

Complex numbers

FACTOR

Roots

EXPAND

PROPFRAC (long division)

FACTOR

SOLVE (can solve inequalities with this)

d (derivative) (expression,x)

impDif (implicit differentiation) (expression,x,y)

\int (integration) (expression,x)

log(x,b)

convert angles

Simultaneous equations, solving (page 83)

This method solves simultaneous equations in x and y. It uses the substitution method.

- 1 – Solve (F2,1), (enter 1st equation, x). Press enter. You get x in terms of y.
- 2 – Solve (F2,1), (enter 2nd equation, y) | (with), highlight x= from step 1. Press enter.
You get the numeric value for y.
- 3 – Highlight x= from step 1, | (with), highlight answer from step 2. Press enter.
You get the numeric value for x.

Discontinuities, graphs with (page 92)

To avoid problems with graphs that have vertical asymptotes, you can have the calculator automatically detect discontinuities. In the y= screen, select F1 Tools, then 9 Format, select On for Discontinuity Detection. The Off setting makes the calculator try to connect the points at the top and bottom of the asymptote. Try this with $y=1/(x-1)$.

Graphing, types of (pages 94, 96, 98, 105)

The calculator can do parametric, polar, sequence, and differential graphing. Select Mode, Graph, and then the type you want. Function is the normal x-y graphing. In polar mode, be sure you select radians.

Piecewise Functions (page 110)

In y=, enter the first equation, followed by | (with) and the domain for that equation. Get inequalities from 2nd, Math, 8 (Test). You can enter domains as $0 < x < 5$ or as $x > 0$ and $x < 5$ (get “and” from 2nd, Math, 8 (Test)). Each piece of the piecewise function must be entered as a separate equation.

Horizontal or Vertical Lines (page 111)

In the graphing window, select 2nd, F2 (F7 Pen), and you have several choices.
You can clear lines you just drew: 2nd, F1 (F6 Draw).

Graphing an inverse (page 111)

Put the original equation in y1. Select 2nd, F1 (F6 Draw), 3 (DrawInv). That brings you to the Home screen. Enter the equation you want, such as $y1(x)$ or a new equation you enter. Hit enter. Note that when you want to use y1, you must enter $y1(x)$.