ALGEBRA II ON THE CLASSPAD

Useful Vocabulary

Menu Bar

Toolbar

Keyboard

Status Bar
(Tap to change modes)

Icon Panel

Tap m to view the
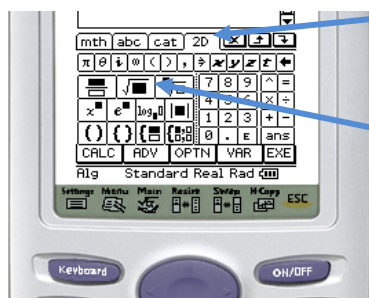Application Menu

Cursor Key

Entering Math

Tap M on the Icon Panel.

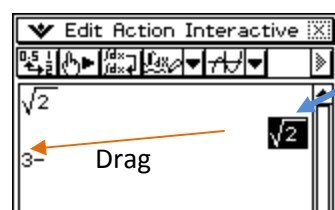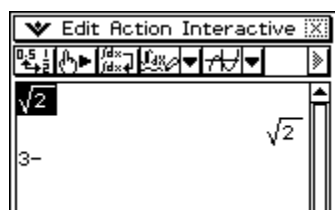The Keyboard button turns the soft keyboard on and off.
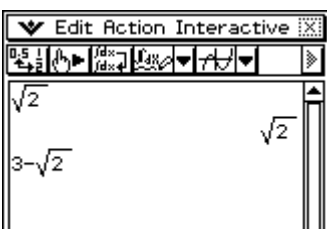
Tap the 2D tab at the top of the Keyboard.

Tap the 5 button, then the number 2, and press EXE. The screen should look like the ClassPad at the top of the page.

Drag and Drop

To Drag and Drop something first we need to highlight it. To highlight an expression In-Line we need to tap and hold the stylus on one side, drag the stylus across our selection, and then release.
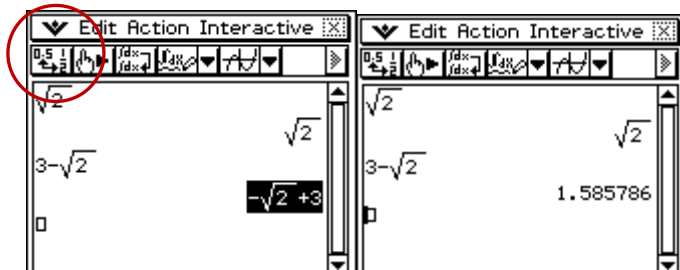
To highlight an expression in the Output, we can just tap the Output.

Drag

Tap to highlight in Output.

To Drag and Drop a highlighted selection, tap the highlighted selection and hold, drag it to where you want it, then release.

Tip: While in Main you can toggle highlighted outputs between Standard and Decimal mode with . .
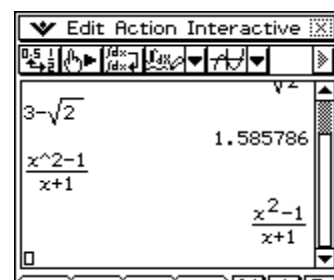
Using Menus

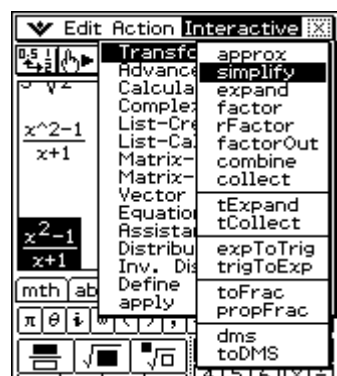Find the fraction button, N, on the Keyboard and input $\dfrac{x^2-1}{x+1}$. If you press EXE the ClassPad returns the same as the input.

Drag and Drop $\dfrac{x^2-1}{x+1}$ to the next line and highlight it. Then go to the Interactive menu, tap on Transformation, and tap simplify.
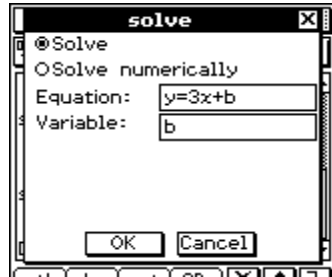
The ClassPad automatically encloses

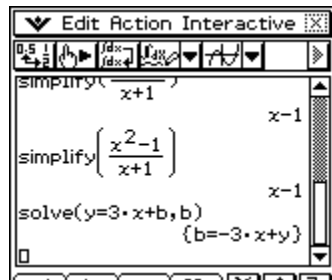the highlighted selection in the "simplify" command and executes it.

Solve

Interactive commands can also be used without highlighting. Go to Interactive\Advanced and tap solve.

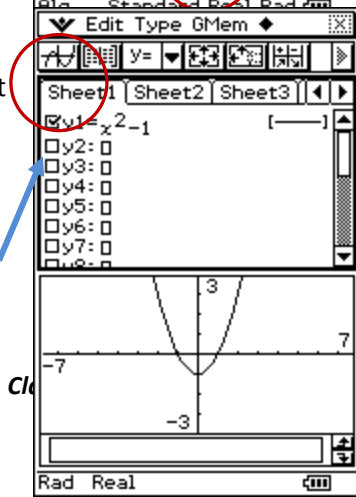A dialog box opens. Input the equation $y = 3x + b$ and change the Variable solved for to b.

Then tap OK. We see the equation solved for the variable b.

We can use the "with" key, U, to substitute values for variables. It can be found on the Keyboard in the 2D tab under OPTN.

Graphing Equations

Tap m, to go to the Applications Menu. Tap the Graph & Table icon, g. Input $x^2 - 1$ in the Graph Editor window next to $y1$. Press EXE to have this equation selected. You can tell the
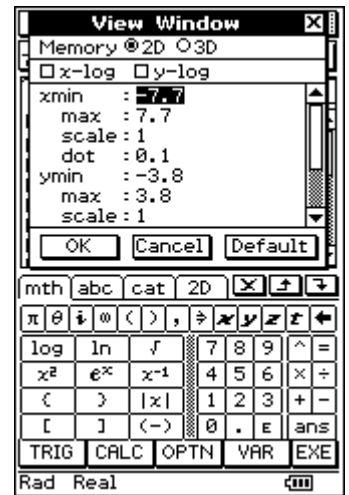
equation is selected by the check mark in the box.

Tap the $ icon to graph it.

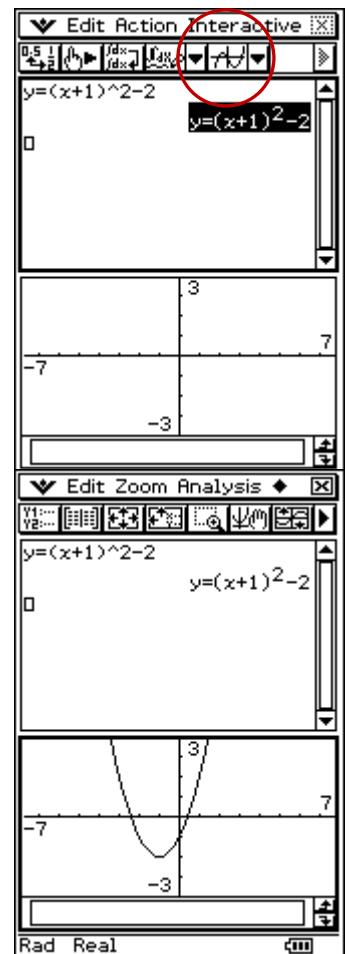You can adjust the Graph window dimensions and properties with the icon.

Tip: The Zoom menu has many options, but the plus + and minus – keys can be used if you just want to zoom in or out.

Note: With two windows open it is important to know which window is the Active window. The Active window has a bold border around it. The toolbar corresponds with the Active window.

Drag and Drop Graphs

Go to the Main application, M, and enter the equation $y = (x+1)^2 - 2$. Tap the Graph window button in the toolbar, $. You will now have two windows open. Highlight $y = (x+1)^2 - 2$.
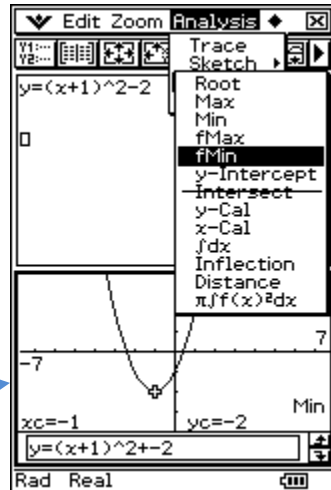
Drag and Drop it into the Graph window. The ClassPad automatically graphs the equation for you.
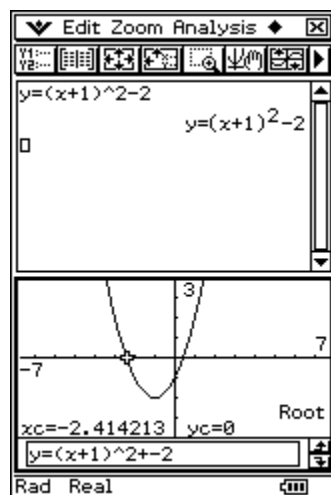
Analyzing Graphs

With the Graph window Active, go to Analysis\G-Solve and select fMin. The graph will select the minimum value of the equation.
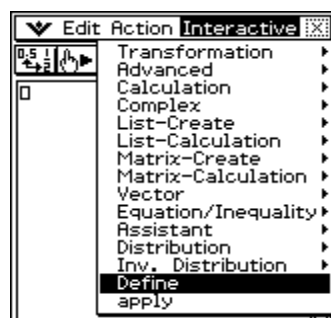
Bold border means this window is active.

To find roots of a function go to Analysis\G-Solve and select Root. When there is more than one root you can scroll between them using the left and right arrow on the Cursor Key.

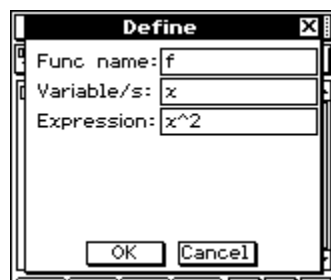**Note:** fMin, fMax, and Root only find values within the domain given by the graphing window.

Defining Functions

The ClassPad can use function notation to define functions. Define can be found in the Interactive Menu.

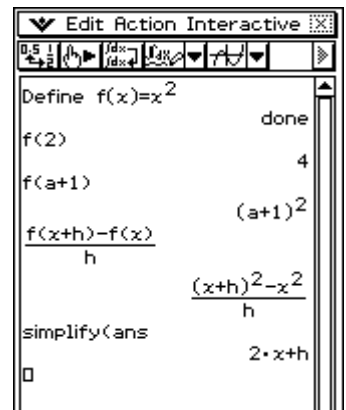In the Dialog box you can choose the name, variable and expression for your function.

You can perform function operations with function notation.

Tip: Once you have anything (like the letter f) on screen you can highlight it, Drag and Drop, and then edit it In-Line instead of retyping it.
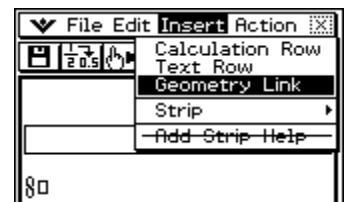
Geometry Link

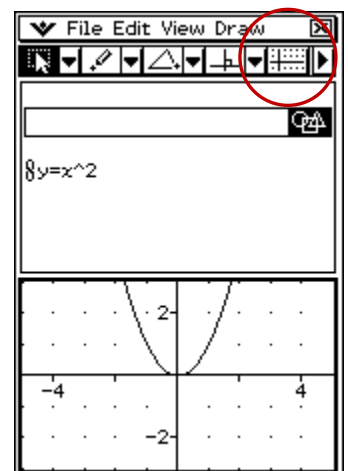Tap m on the Icon Panel to get to the Application Menu then tap A.

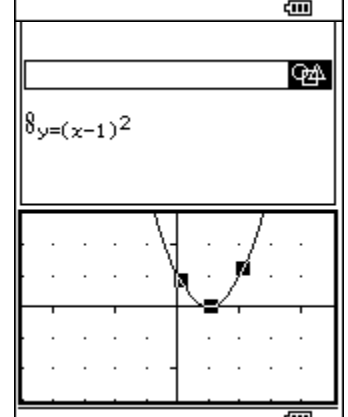Open a Geometry strip from the toolbar.

Then insert a Geometry Link found in Insert in the Menu Bar.

Enter the equation $y = x^2$ in the Geometry link then Drag and Drop the equation to the Geometry window. Tap the q button in the toolbar until you see axes and grid lines. The graph of your equation and the equation itself are dynamically linked.

If you click on the graph and move it, the equation changes. If you change the equation, the graph changes.

Rational Functions

To graph the equation $y = \dfrac{x^2 - 1}{x^2 - 2x - 3}$ first factor

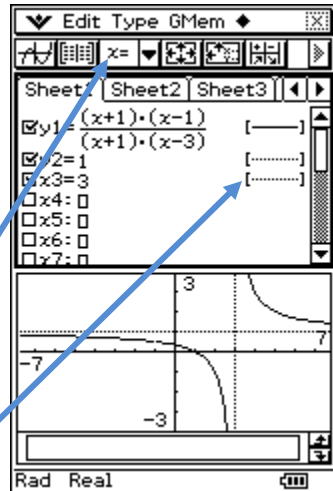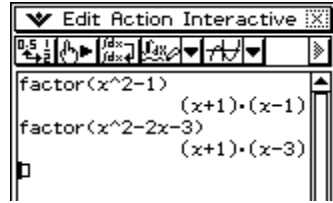the numerator and denomintor. Factor can be found in the Action menu.

Enter $\dfrac{(x+1)(x-1)}{(x+1)(x-3)}$ into

the Graph Editor window. Also enter the horizontal asymptote y=1 and the vertical asymptote x=3.

Open the Type menu in the toolbar to choose x= Type.
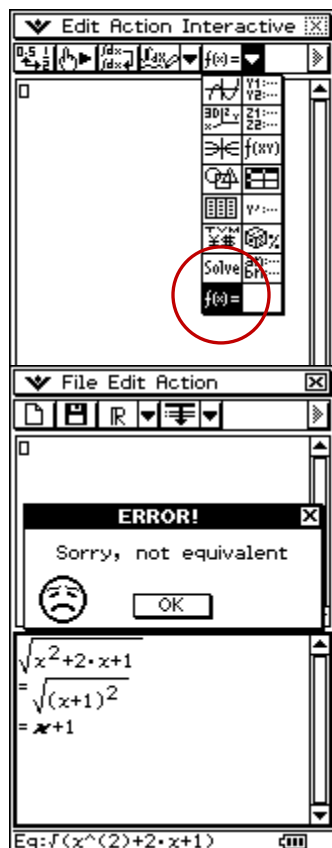
Change the lines to dotted lines.

Make sure all the equations are selected (check marks in boxes) and then press the graph button $.
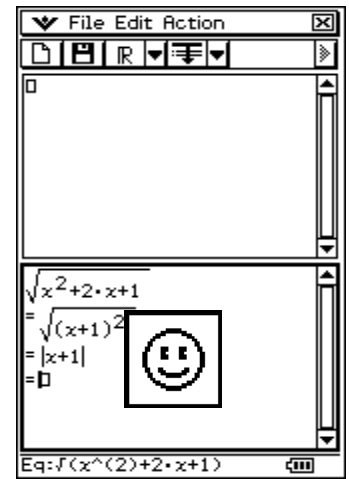
Verify

Verify can be found on the toolbar in Main. It allows the user to do the work themselves while having ClassPad check if their steps are correct.

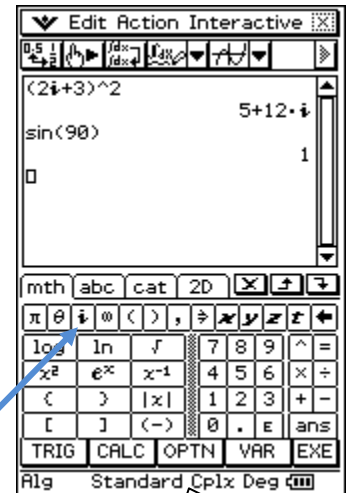If you make an incorrect step, you will get an Error message.

If you make a correct step, you will get a smiley face and be allowed to continue.

Modes

The status bar tells you which modes you are in and can be changed by tapping the mode with the stylus. To do work with complex numbers or with degrees instead of radians, you will need to change modes.
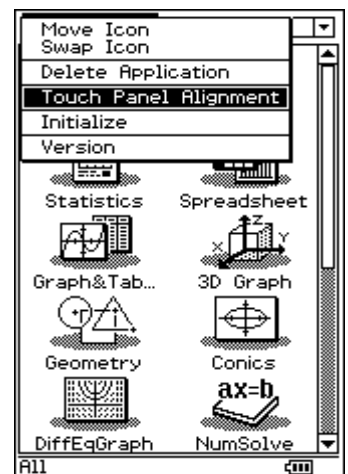
Note: The imaginary number i can be found on the Keyboard.

Modes – change by tapping

Touch Panel Alignment

If your stylus seems to be missing its mark from time to time you can realign your Touch Panel by going to the Application Menu and tapping on Menu at the top of the screen.

Links

http://edu.casio.com/products/cpeactivity/

4