



hp calculators

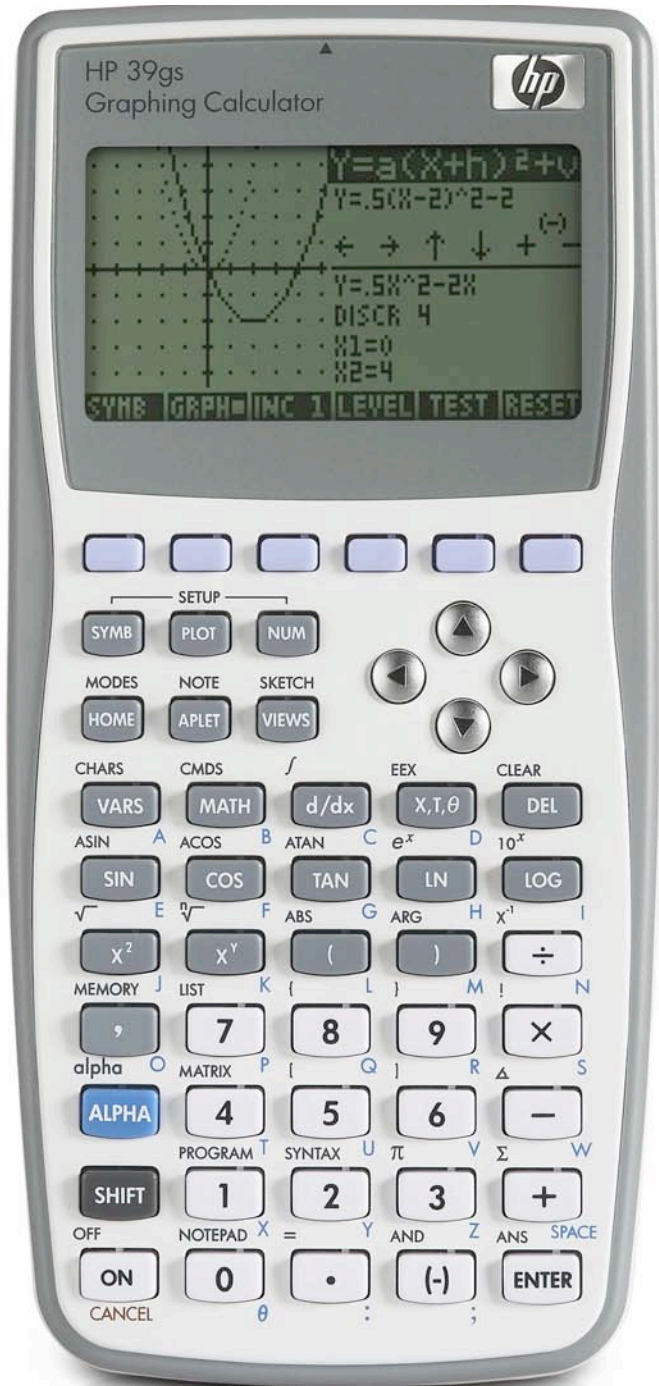
HP 39gs Menus and common views

The MATH menu

CHOOSE boxes

SYMB, PLOT & NUM and SETUP views

The VIEWS menu



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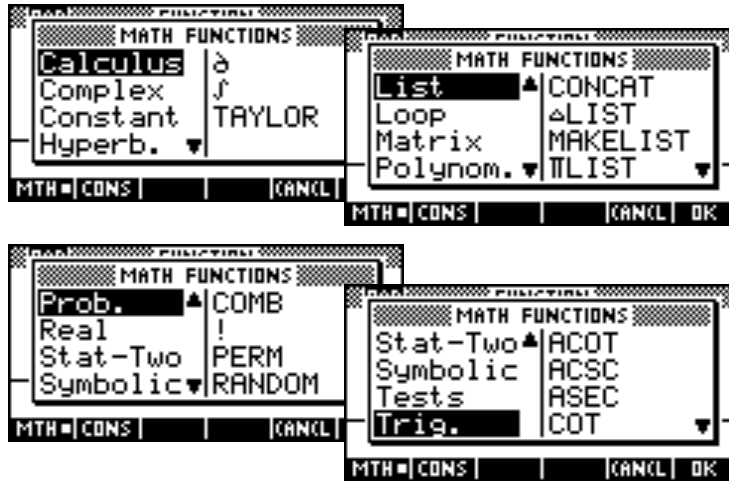
HP 39gs Menus and common views

The MATH menu

The MATH menu contains all the functions that would not fit on the keyboard. There are some very powerful and useful functions included in this menu.

The functions are grouped into categories, which are listed in the table below:

- Calculus
- Complex
- Constant
- Hyperbolic
- List
- Loop
- Matrix
- Polynomial
- Probability
- Real
- Stat-Two
- Symbolic
- Tests
- Trig.

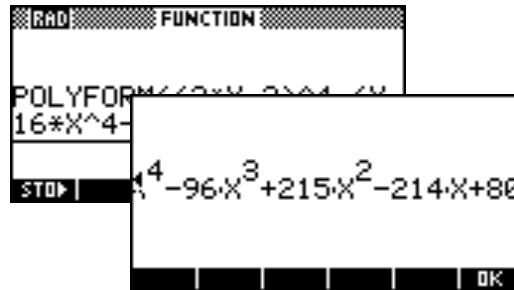
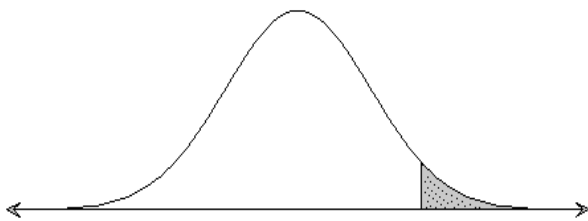


Tip: To jump straight to a particular category, simply type the 1st letter of the word. For example, to access the Polynomial functions, press 7 ('P'). There is no need to press ALPHA first.

The total number of functions available in these categories is far too large to cover here. Instead we will simply present a few representative samples.

Problem #1: - Expand and simplify using the POLYFORM function.

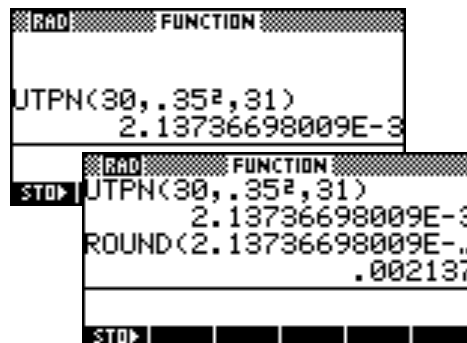
The POLYFORM function works with any variable, not just with X. In this example the results are shown to the right after pressing SHOW and then scrolling to view the second part of the equation.



Problem #2: - A shipment of bolts is known to have a mean length of 30mm with a standard deviation of 0.35mm. What proportion of the shipment can be expected to be more than 31mm long? Give your answer rounded to 4 significant figures.

The first function used here is UTPN (Upper Tailed Normal Probability) and can be found in the Probability category of the MATH menu. The second is the ROUND function which is found in the Real category.

This answer can now be COPY'd and rounded as required.



CHOOSE boxes

Many of the views on the calculator involve the use of CHOOSE boxes. You can recognize this by the appearance of the CHOOSE button in screen key 2 position (see right).



When you press the CHOOSE button you will be presented with a menu of the choices which are available for that option.

There are two shortcuts which can be very helpful in this.

1. Pressing the first letter of a choice will take you straight to that choice without even the need to press CHOOSE first. There is no need to press ALPHA when using this shortcut. For example, in the screen above, positioning the highlight on the Angle Format box as shown and pressing the TAN button (for 'G') will change to Grads.

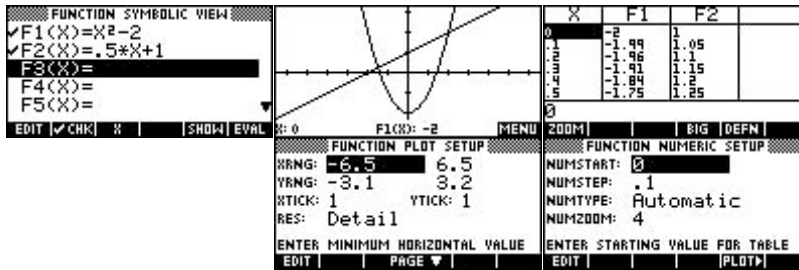
2. Pressing the + button repeatedly will cycle through all the choices available for that option. For example, pressing + in the Angle Format position above will cycle from Radians (the default) to Grads, to Degrees and back to Radians.

SYMB, PLOT & NUM and SETUP views

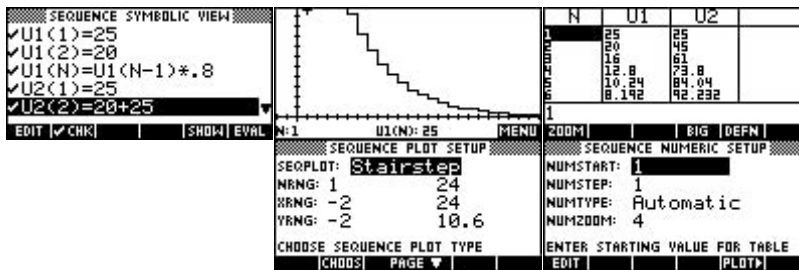
With a few exceptions, all aplets have a PLOT, NUMeric and SYMBolic view. The PLOT and NUM views each have a SETUP view controlling their appearance. Two of the most commonly used aplets, all having very similar appearance, are shown below. Other aplets may have very different views.

These views are chosen so as to mirror the way in which most people work mathematically. Generally, most people will enter an equation (in the SYMB view) and then either plot it (in the PLOT view) or explore it in tabular form (in the NUM view).

The Function aplet



The Sequence aplet





The VIEWS menu

The VIEWS menu appears when you press the VIEWS button. It is highly context sensitive in that its contents vary according to what view you are in and what aplet you are using.

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For example:

Context	VIEWS menu	Comments
The Function aplet SYMB view		These options give access to alternatives to the normal PLOT view, such as a split PLOT/TABLE view or overlaying one PLOT view onto another.
The Statistics aplet NUM view		The Statistics aplet has far fewer options. The Auto Scale option in Statistics is very useful.

E-lessons are aplets that can be downloaded from the internet and used in normal work and as teaching tools. More information on these can be found in the learning module on Aplets and e-lessons.

In all e-lessons the **VIEWS** menu is the primary method of controlling the aplet. The programmer creates the **VIEWS** menu as part of the process of planning and programming the e-lesson.

Some examples of the **VIEWS** menu from e-lessons are given below. They can be found at various web sites.

Context	VIEWS menu	Comments
The Curve Areas aplet		This e-lesson is a teaching tool. It guides students to discover the use of anti-differentiation in finding areas under curves. Students use a series of approximations via rectangles and trapeziums.
The Linear Programming aplet		This e-lesson can be used to analyze and solve linear programming problems.