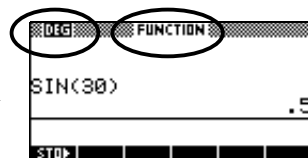


## Angle and Numeric settings

It is critical to your efficient use of the HP39G that you understand how the angle and numeric settings work. For those upgrading from the HP38G this is particularly important, since the behavior is significantly different.

On the HP39G, when you set the angle measure or the numeric format in the **MODES** view, this setting applies *only* to the currently active aplet (the one highlighted in the **APLET** view). *This means that if you change active aplet then these settings may change also.*

For example, suppose you have been performing trig calculations in the **HOME** view with the Function aplet being currently active, and have set the angle measure to DEG.

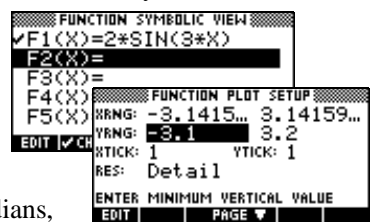


If you were to now change to the Solve aplet in order to solve an equation then the settings would revert to those of the Solve aplet, which would probably be radians unless you had also changed those as well. Radian measure is the default for all aplets and thus also for **HOME** unless you change it. Performing the same calculation in **HOME** would now give a different result (see above right).

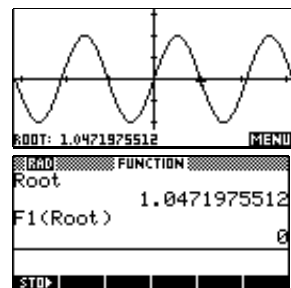


Although this may seem to be a strange way of doing things, there is actually a very good reason for it. The HP38G did not behave this way and it caused a number of users to have difficulties as you'll see.

Suppose we define a trig function in the Function aplet as shown right.



The default setting for the Function aplet is radians, so if we set the axes to extend from  $-\pi$  to  $\pi$ , the graph would look as shown right.

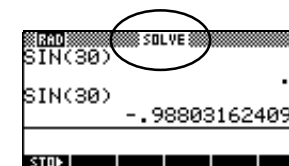


In the **PLOT** view shown, the first positive root has been found (covered later in the book) as  $x=1.0471\dots$

On the HP39G, if we now change to the **HOME** view and perform the calculation shown right, we expect that the answer should be zero, as indeed it is.

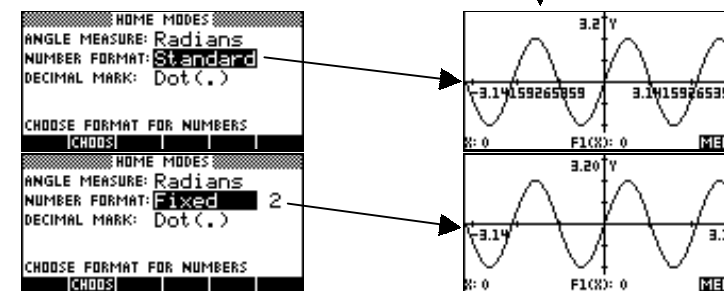
However, this is only the case because the angle measures of **HOME** and the Function aplet agree. On the HP38G the default setting for the Function aplet was radians, while **HOME** had a default setting of degrees. This meant that a calculation such as the one above would give incorrect results, and caused considerable confusion to some students, even resulting in HP38Gs being returned to dealers as 'faulty'.

The only drawback of the HP39Gs method of handling this is that you might change aplets and forget that this may also change the settings. For this reason, the name of the active aplet is shown at the top of the **HOME** view as a reminder.



Another reason for the change was to allow the numeric settings for aplets to be chosen easily. On the HP38G the numeric setting for **HOME** did not affect the aplet setting, but there was no way provided to adjust the aplet setting.

On the HP39G you can see that if we turn Labels on and then **PLOT**, the numeric mode affects the axis labels.



This setting also applies to the appearance of equations and results displayed using the **SHOW** command.

**Remember:** Under the HP39s system, if you want to work in degrees then you will need to choose that setting in the **MODES** view and possibly set it again if you change to another aplet. Although this may seem inconvenient at times, there are good reasons for it.