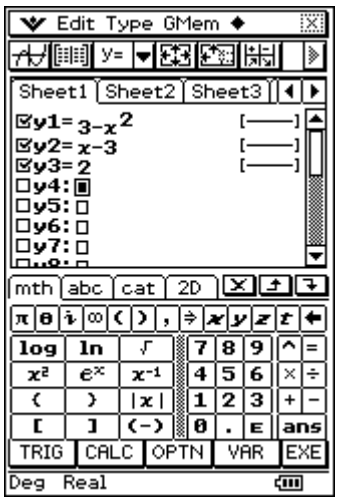
Graph the function below in Graph and Table.

$$f(x) = \begin{cases} 3 - x^2 & -1 \le x < 2 \\ x - 3 & x \ge 2 \\ 2 & \textit{Elsewhere} \end{cases}$$



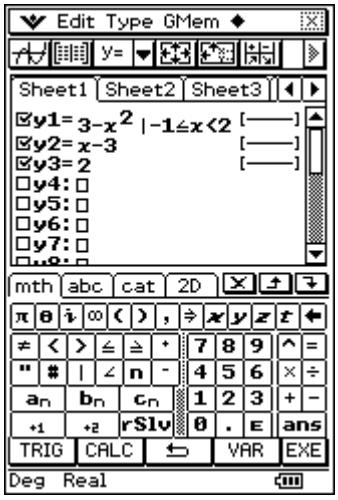
Start by entering the 3 functions (without restrictions) in **y1**, **y2** and **y3**.

Tap onto the end of the function in **y1**.

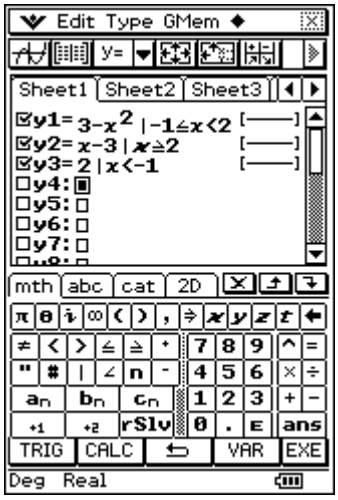
Tap the **mth** tab and then OPTN.

Tap the 'given' symbol | .

Complete the rest of the inequality and tap **EXE**.

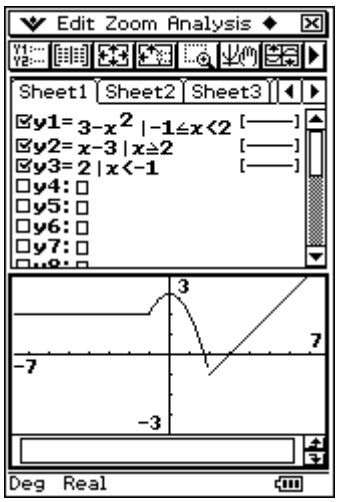


Do the same for **y2** and **y3**.

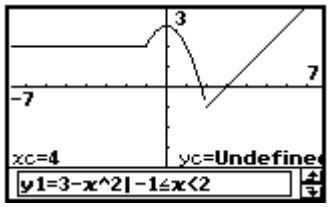


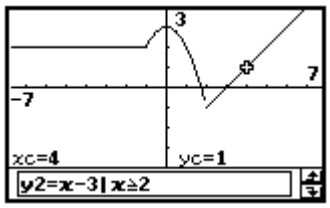
Tap  .

*(Tap **Zoom, Quick Initialise** to achieve the scale shown at right.)*



Note that when tracing along such a piecewise function, it is necessary to use the up-down cursor key to 'jump' from one function to another.





Note that piecewise functions entered this way in Graph and Table <u>cannot</u> be integrated and so on over their entire domain.

An alternative and more flexible method is shown in the Intermediate - Main section, also titled Piecewise Defined Functions.

This alternative method <u>does allow</u> integration, tracing, etc over the whole domain.
