Functions and Graphing II

Checking the local maximum and minimum on cubic functions

Q1.Plot the following cubic functions and find the local max. and min.

(i) $x^3 - 3x^2 - 9x + 4$
(ii) $x^3 - 6x^2 + 9x - 1$
(iii) $2x^3 - 6x^2 - 18x - 5$
(iv) $8 + 24x + 3x^2 - x^3$
(v) $x(x^2 + 3x - 24)$

Q2. Find the corresponding y values for each of the above functions when

(i) $x = 2$
(ii) $x = 0$
(iii) $x = 5.5$

Step 1: **Input cubic function** ***y =***

Step 2: **Press *Graph***

Step 3: ***2nd CALC***

Step 4: **Scroll down the list and go to**

3:minimum

OR

4:maximum

Step 5: **Left Bound? will appear on the screen**

Move the cursor one place to the left and press ENTER

Right Bound? will appear on the screen

Move the cursor one place to the right and press ENTER

Guess? and then ENTER

Step 6: **In addition to finding the local maximum and the local minimum we can now find the value for y when x =? repeat steps 1 to 3 and then choose 1:value**