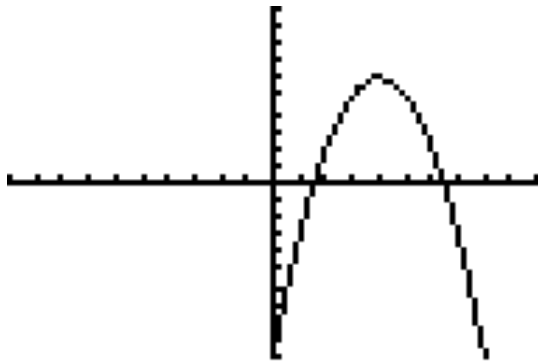# Finding Maximum and Minimum

using the TI-83/84

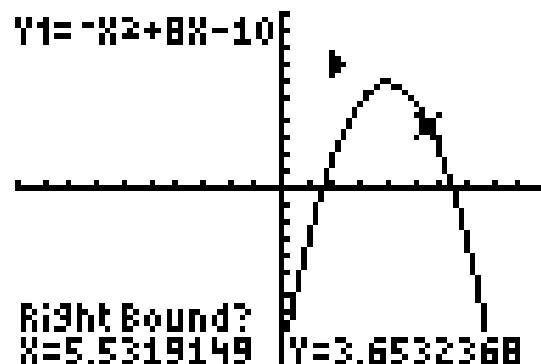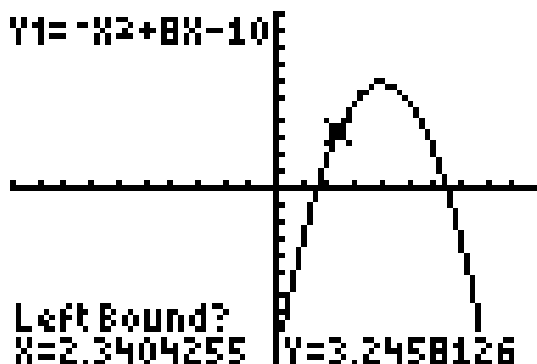**Step 1** – Press Y=, and enter the equation.

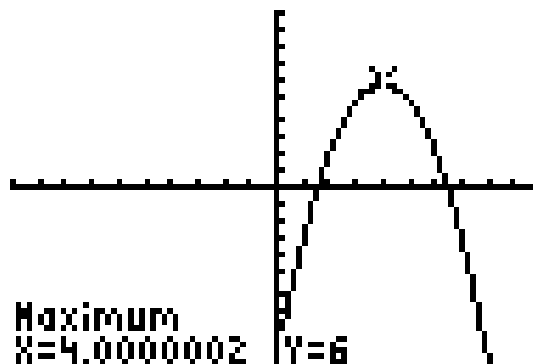**Step 2** – Graph the function with the maximum on the screen. (ZOOM, '6: ZStandard' is a good way to start.)
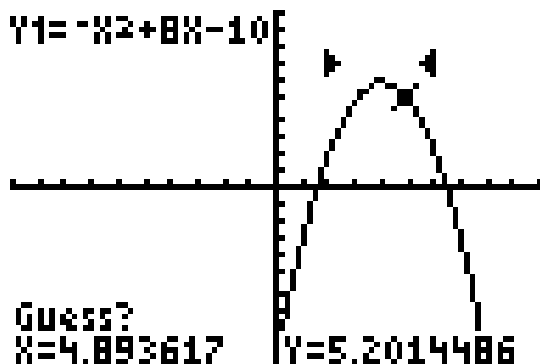

Step 3 – Press 2ND and then CALC (with the TRACE button). Select '4: maximum'. (or '3: minimum')

Step 4 – At the 'Left Bound?' prompt, use the left and right arrows to move the blinking cursor to the left of the maximum. Press the ENTER button.

Step 5 – At the 'Right Bound?' prompt, use the left and right arrows to move the blinking cursor to the right of the maximum. Press the ENTER button.

Y1=-X2+8X-10

Left Bound?
X=2.3404255   Y=3.2458126

Y1=-X2+8X-10

Right Bound?
X=5.5319149   Y=3.6532368

Step 6 – At the 'Guess?' prompt, push the ENTER button. The coordinates of the maximum (or minimum) will be at the bottom of the screen!

Y1=-X2+8X-10

Guess?
X=4.893617   Y=5.2014486

Maximum
X=4.0000002   Y=6

Try one yourself!

Find the maximum and minimum of the function x^3-3x^2-3x+4.

Answer:

Maximum
X=-.4142129   Y=4.6568542

Minimum
X=2.4142147   Y=-6.656854