Warm-Up December 10, 2018

1. Determine the axix of symmetry of $x^2 - 6x + 5 = 0$.

   a. x=0 b. x=3 c. x=-2 d. x=-1

2. What are the coordinates of the vertex of the graph $y = 2x^2 - 8x + 1$?

   a. (-2, 7) b. (-2, 9) c. (2, -7) d. (2, 9)

3. Solve $5x + 4y = 12$
   $3x + 5y = 15$

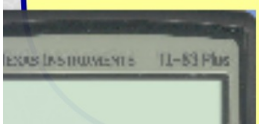
   a. (0, 3) b. (3, 0) c. (-1, 1/2) d. (-2, 6)

Solving Quadratic Equations by using the Graphing Calculator

$y = 2x^2 - 4x + 9$

$y = 4x^2$

$y = -x^2 + 3x - 9$



Step 1

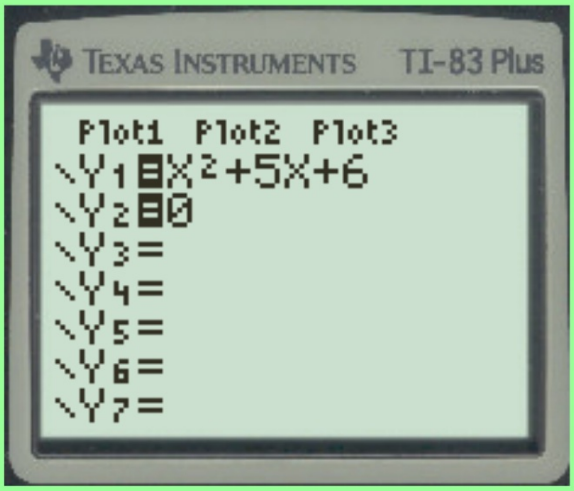
Solve using the calculator:

Example 1: $y = x^2 + 5x + 6$

Steps in Calculator:

y1 = type the equation

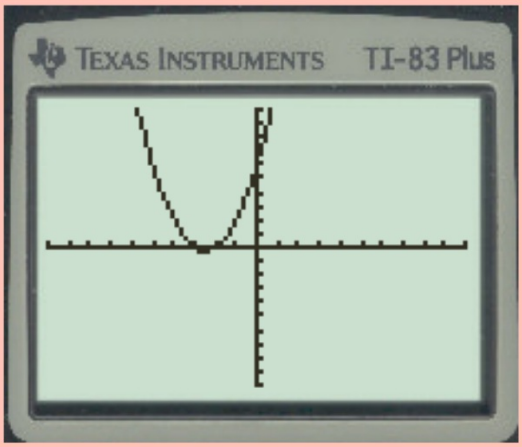
y2 = 0



Step 2:

On the Calculator

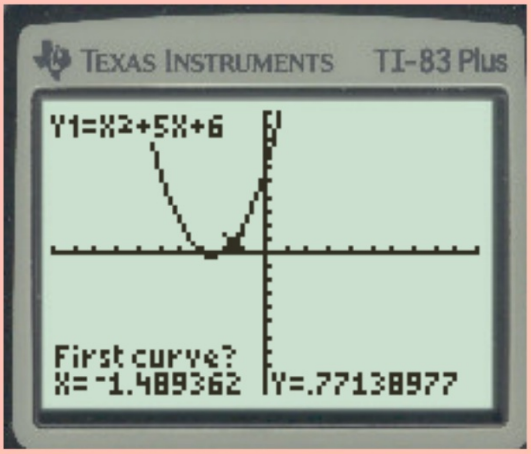
-Zoom 6



Step 3:

On the Calculator

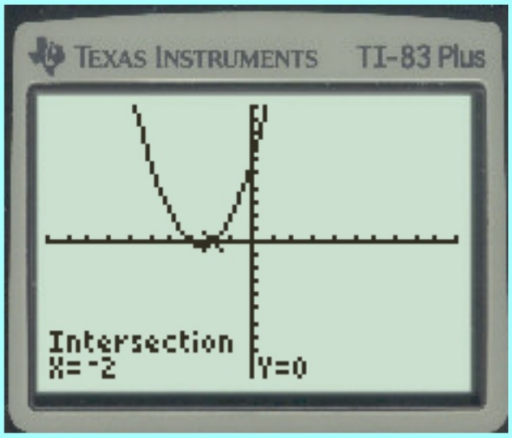
- 2ND TRACE
- 5: Intersection
-move near the x-intercepts



Step 4:

On the Calculator

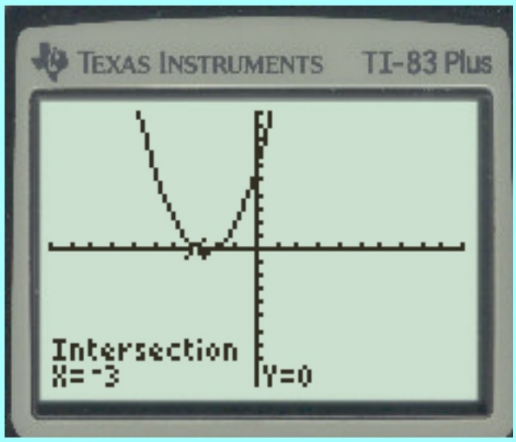
- Enter Enter Enter



Step 5:

On the Calculator
-2nd-Trace-5
-Move cursor close to the other intersection
-Enter Enter Enter

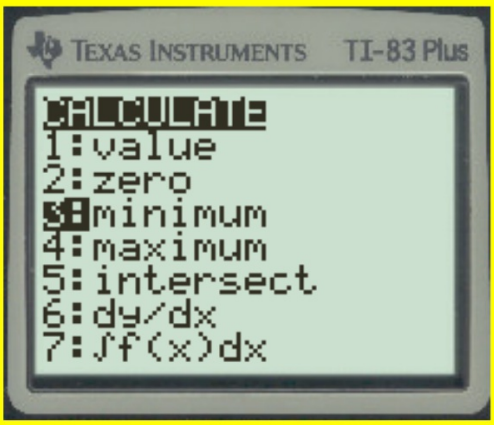
The intersections are (-2, 0) and (-3, 0), so the roots are {-2, -3}



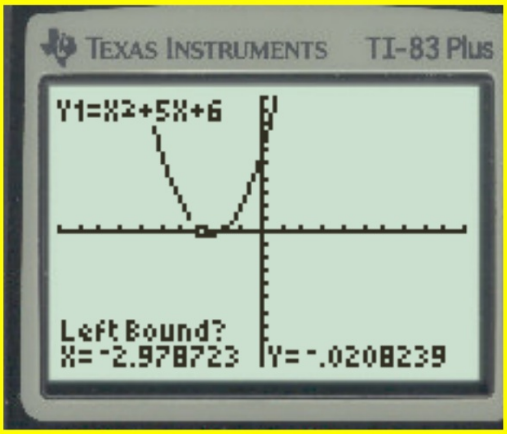
Step 6: Finding the Vertex on the Calculator

On the Calculator

-2nd Trace
-Select Min if a is +
-Select Max if a is -

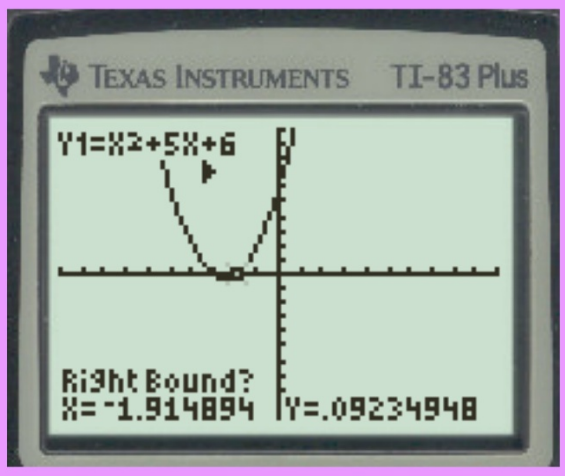


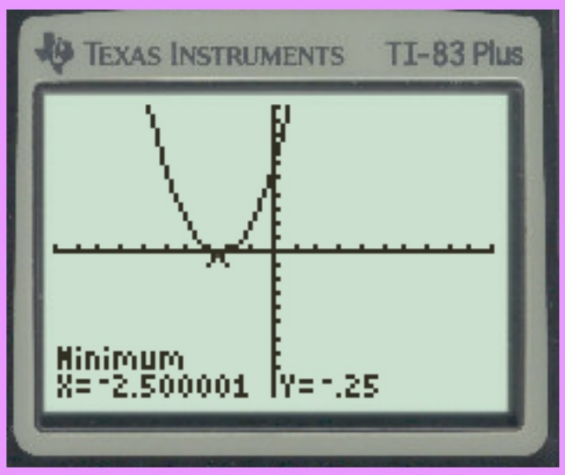
-When the calculator asks you for left bound put the cursor to the left of the vertex and press ENTER.



-When the calc asks for right bound put the cursor to the right of the vertex and press ENTER.

-Hit ENTER again





The vertex is (-2.5, -.25)

Solve using the graphing calculator and identify the vertex. If you get a decimal round to the nearest hundreth.

1. $y = x^2 + 4x + 4$

2. $y = -x^2 - 6x + 5$

3. $y = 2x^2 - 8x + 5$

4. $y = x^2 + 8x + 16$

5. $y = 3x^2$

6. $y = -2x^2 + 4x - 3$

7. $y = x^2 + 16$

8. $y = 2x^2 + 7x + 4$