

Unit 8. Day 16  
SOLVING BY GRAPHING (WITH A CALCULATOR!)

What happens if I don't have pretty, rational x-intercepts? For example ... solve the following by factoring ...  
 $x^2 - 4x + 1 = 0$ . Perhaps our calculator could help us! Take it out ...

1. Solve  $y = x^2 - 4x + 1$  by graphing.  
 $(.26, 0)$   $(3.73, 0)$

Let's do another!

2. Solve  $y = x^2 - 5x + 3$  by graphing.  
 $(.69, 0)$   $(4.3, 0)$

Last one together!

3. Solve  $y = 5x^2 - 3x + 1$  by graphing.  
*none*

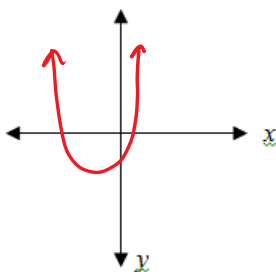
And one on your own ...

4. Solve  $y = x^2 - 6x + 4$  by graphing.  
 $(.76, 0)$  and  $(5.23, 0)$

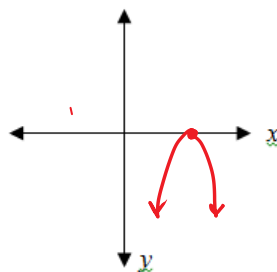
STEPS

- ① enter equation into y=
- ② zoom 6 → GRAPH
- ③ Find zero → 2ND TRACE  
↓  
ZERO  
↓  
left/right bound  
ENTER

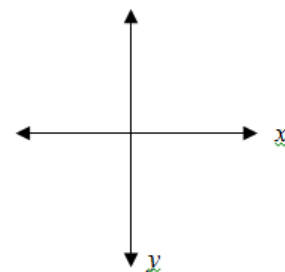
Number of Solutions of a Quadratic Equation



A quadratic equation has 2 solutions if the graph of its function has 2 x intercepts.



A quadratic equation has 1 solution if the graph of its function has 1 x intercept.



A quadratic equation has no real solution if the graph of its function has 0 x intercepts.