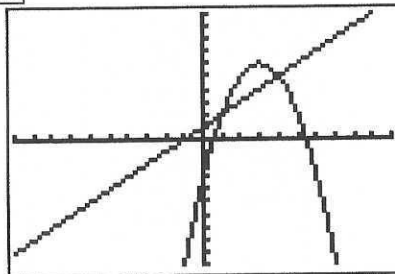


TI 83/84: Finding The Coordinates Of An Intersection On Your Calculator

- **ZOOM** Standard.
- Enter these equations, then press **GRAPH**

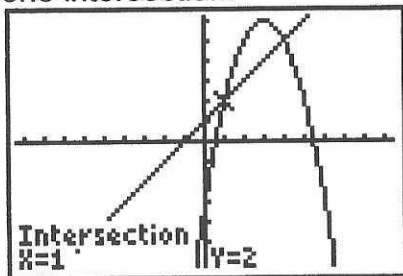
```

Plot1 Plot2 Plot3
Y1=-X^2+6X-3
Y2=X+1
Y3=
Y4=
Y5=
Y6=
Y7=
    
```

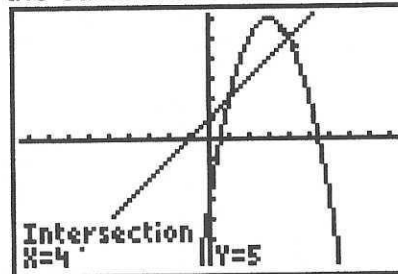


- Press **2nd**, then **CALC** (above the **TRACE** key).
- Choose **5: intersect**.
 If you have a TI – 86: Press **GRAPH**, **More**, **Math**, **ISECT**
 If you have a TI – 89: Press **GRAPH**, **F5: Math**, **5:Intersection**
- The calculator will ask you for the first curve, the second curve, and a guess for the intersection:
 - The calculator will choose the first equation on your list as the first curve -- if you want to choose a different equation, use the up and down arrows.
 - Similarly, the calculator will choose the second equation on the list as the second curve, but you can choose any equation you want.
 - **If you only have two equations graphed, just press **ENTER** twice for "First curve?" and "Second curve?".**
 - The **guess** should be the x-value as close to the intersection as you can get. You can type in a number, or you can use your left and right arrows to get there.
- After you press **ENTER** for your guess at the intersection, the calculator will try a lot of numbers near your guess to try and find a point that is as close as possible to an intersection. The better your guess is, the more likely the calculator is to hit the answer exactly. (If it gets it a little bit wrong, it will only be by a millionth of a unit or so -- but it can make your answer look silly.)

one intersection:



the other intersection:



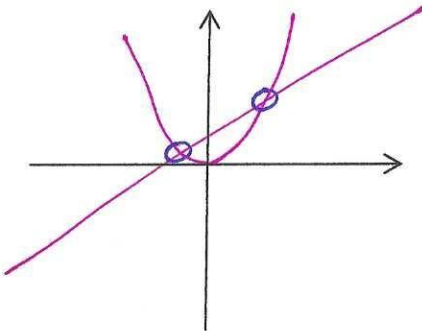
If you get an answer that you think is silly, **2nd** **CALC** the intersection again, but this time type in what you think the exact x-value should be for your guess. On the TI-83/84, the calculator will then (usually) stay on the exact answer.

Practice for Finding Intersections

For each problem:

- graph the functions on your calculator (ZOOM Standard is a good scale).
- sketch the graphs on this paper,
- circle the intersections,
- then find their coordinates by using your calculator.
- Round decimals to two places.
- *Some answers are at the bottom of this page!*

(1) $y = 1 + x$ and $y = x^2$

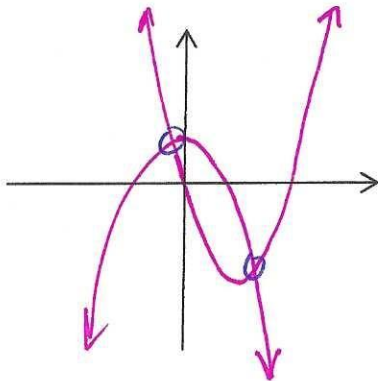


2nd **CALC** intersect

$$(x, y) \approx (-0.62, 0.38)$$

$$(x, y) \approx (1.62, 2.62)$$

(2) $y = x^2 - 4x$ and $y = 2 - x^2$



$$(x, y) \approx (-0.41, 1.83)$$

$$(x, y) \approx (2.41, -3.83)$$

$$(1) (-0.62, 0.38), (1.62, 2.62)$$