INTERSECT
TI-83 QUICK REFERENCE

To find the intersection of the graph of two functions you will use the intersect feature in the CALC menu.

1. Enter the two functions in the Y= screen and ensure that the two functions are selected. NOTE: These functions are referred to as “curves” by the calculator.
2. Press [2nd] [CALC TRACE] to activate the CALC menu.
3. Press [5] to select the intersect feature.
4. Press [ENTER] to select the first curve.**
5. Press [ENTER] to select the second curve.
6. Move the cursor close to a point of intersection and press [ENTER].
7. The coordinates of the point of intersection will be displayed.
8. Repeat from the second step to find additional points of intersection.

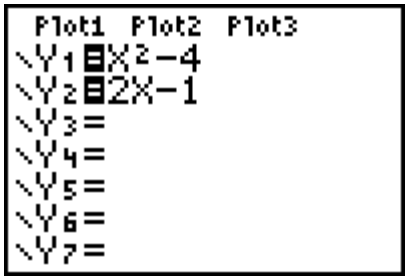
** If you have more functions graphed than the two for which you wish to find the point(s) of intersection, press the up (or down) arrow until the appropriate function is selected.

Lamar Middleton, Polk Community College, 1997.

EXAMPLE
INTERSECT - USING THE TI-83

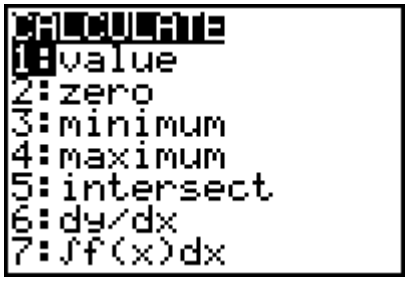
We will find the intersection of the graphs of $f(x) = X^2 - 4$ and $f(x) = 2X - 1$. You will be instructed step-by-step. **After** you execute a step, your screen should appear as indicated below the instructions.

Enter the two functions in the Y= screen. Ensure that the functions are "selected."

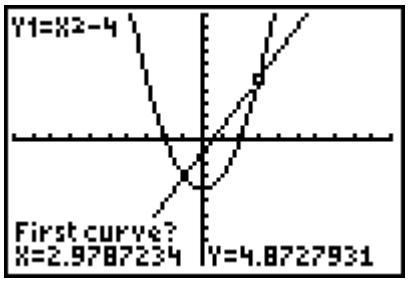


You may graph the functions if you wish. This would allow you to ensure that all points of intersection are in the window, but this is not required. These particular functions may be graphed with a ZOOM STANDARD.

Press 2nd CALC (TRACE)

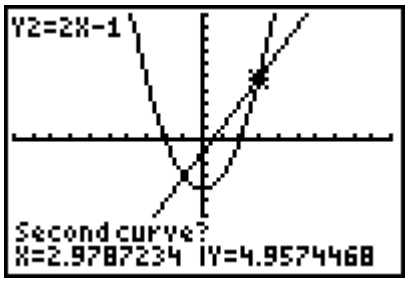


Press 5 for **intersect**.



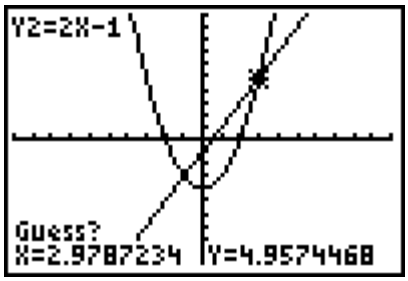
The calculator is asking you to identify the first curve.

Press ENTER to select Y1.



The calculator is asking you to identify the second curve.

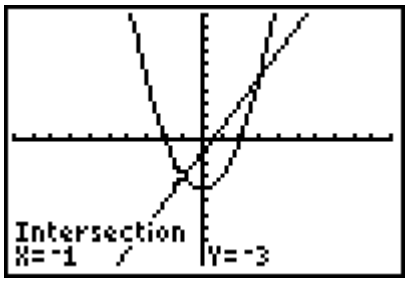
Press ENTER to select Y2.



You are being asked for a guess as to the point of intersection. We will find the point of intersection at the left.

Move the cursor close to the leftmost point of intersection

and press ENTER. The point of intersection will be displayed.

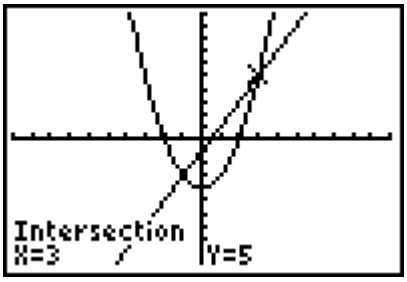


To find the 2nd point of intersection, press

CALC

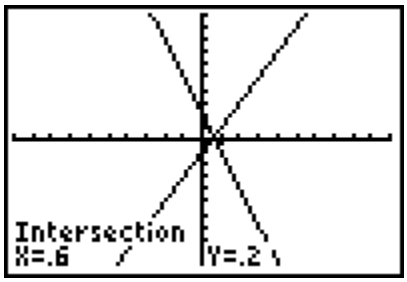
2nd TRACE 5

and repeat the process but move the cursor close to the rightmost point of intersection when asked for your guess. Your other point of intersection is shown below.

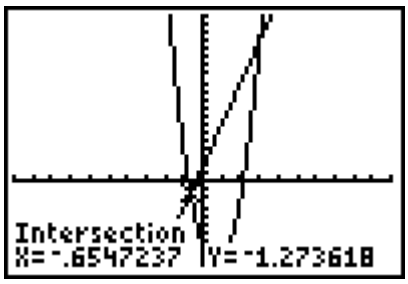


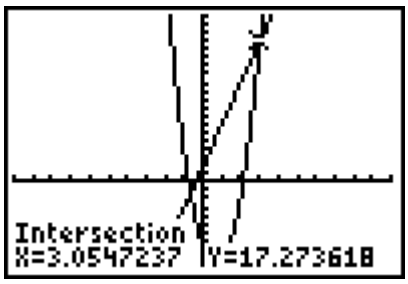
EXERCISES with ANSWERS

1. Find the intersection of Y=2X - 1 and Y=-3X + 2.



2. Find the intersection of Y=5X + 2 and $Y=5X^2 - 7x - 8$.
HINT: Set your window to Xmin=-10, Xmax=10, Ymin=-10, Ymax=20.





3. Find the intersection of Y=-3X - 7 and $Y=X^2 - 6x - 7$.
HINT: Set your window to Xmin=-10, Xmax=10, Ymin=-20, Ymax=10.