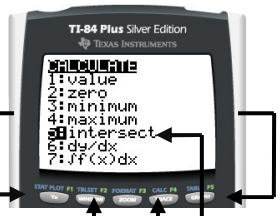
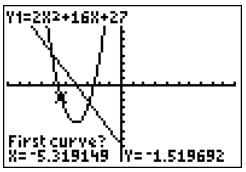
Intersections on a TI-83 or TI-84

How To Start:

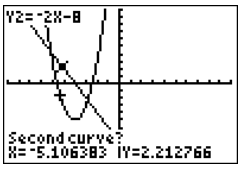
1. Graph the functions.
2. Change your viewing window if needed.
3. The intersection point(s) should be visible.
4. Press the 2nd, TRACE (the CALC option).
5. Choose 5: intersect.



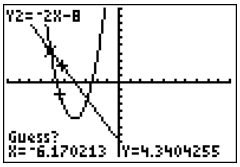
What to do once you have requested 5: intersect:



First Curve? – The calculator is requesting that you make sure the blinking crosshair is somewhere on one of the graphs. Use the left/right arrow keys to verify, use the up/down arrow if you need to jump to another graph and then press enter.



Right Bound? – Make sure the crosshair is on the other graph. Use the left/right and up/down arrow keys. Press enter when it is.



Guess? - The calculator is asking you to place the blinking crosshair somewhere close to where the actual intersection is located. This is especially important if there happens to be more than one intersection point.

WARNING – Multiple Intersections: Many students forget to check for all intersection points. While the graph above has only 2, many problems in Calculus have intersection points that are outside the normal calculator viewing window. Be sure to check for multiple intersection points and that you know how to find them.

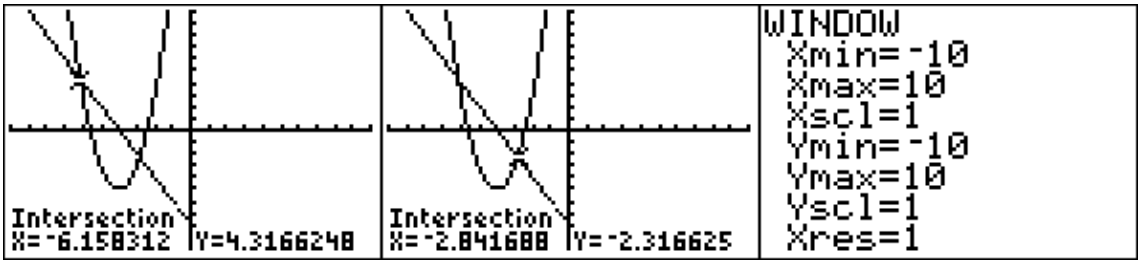
Time to practice… Find the coordinates where the following graphs intersect.

1. $y = 2x^2 + 16x + 27$
   $y = -2x - 8$
2. $y = 0.8e^{0.7x}$
   $y = |6x - 3| - 2$
3. $y = sec\left(\frac{x}{8}\right)$
   $ln(x^2 + 3)$

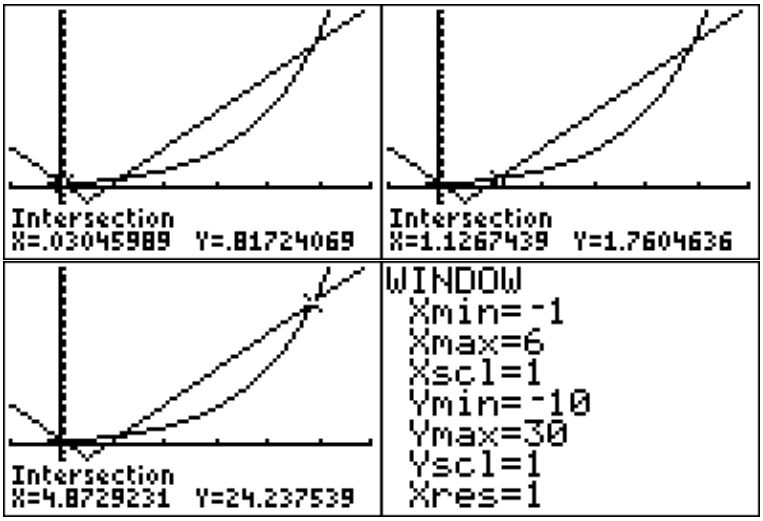
Intersection on a TI-83 or TI-84

ANSWER KEY

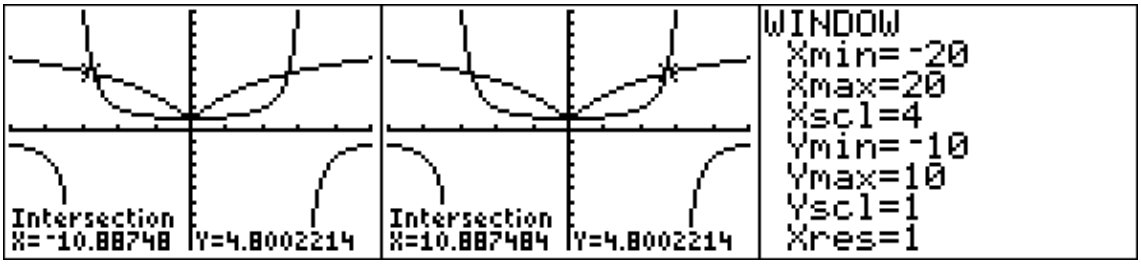
1. -



2. -



3. -



Special Note about #3 –
Question 3 technically has an infinite number of solutions.
Zooming out, we see the following …