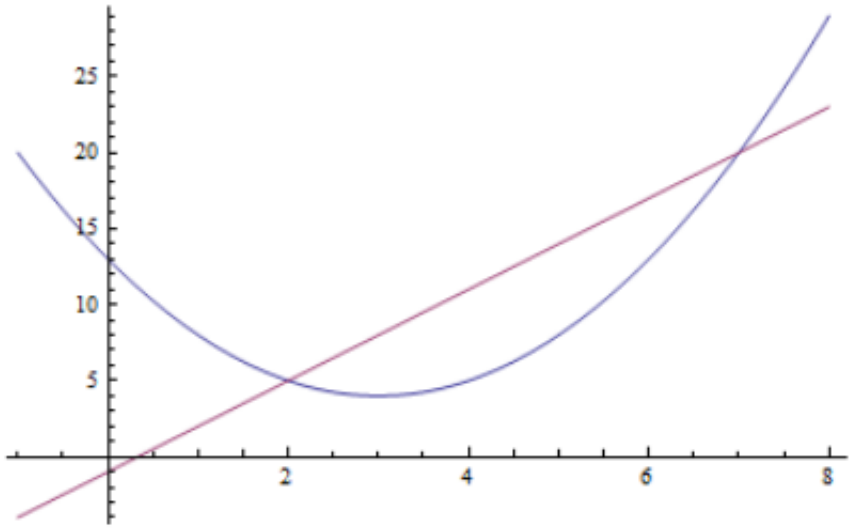
Recitation # 4: Volume by Shells & Length of Curves

Group work:

Problem 1 *Set up an integral that will compute the volume of the solid generated by revolving the region bounded by the curves* $y = x^2 - 6x + 13$ *(i.e.* $x = 3 \pm \sqrt{y-4}$*) and* $y = 3x - 1$ *about:*



Use both the washer method as well as the shell method for each problem. Which method would you prefer for each problem? Why?

(a) *the* x*-axis*

(b) $y = -4$

(c) $y = 22$

(d) *the* y*-axis*

(e) $x = -3$

(f) $x = 9$