Work-It-Out Day 7: Sections 6.1,6.2 and 6.3 Math 142 - Spring 2016

1. Find the area enclosed by the graphs of y = 4x, y = 24 - 8x, y = 2.

2. Find the area enclosed by the graphs of $x = y^2 - 9$, x = 15 - 2y.

3. The base of a solid is a triangle bounded by the axes and the line 2x + 3y = 12, and its cross setions perpindicular to the y-axis are equilateral triangles. Find it's volume.

4. Find an equation for the volume of a cone of height H whose base is an ellipse with semimajor axis A and semiminor axis B. (Note the area of an ellipse is πab .

5. Find the volume of the solid obtained by rotating the region enclosed by the curves $y = x, y = 4 - x, y = (x - 2)^2$ about the x-axis.

6. Find the volume of the solid obtained by rotating the region between the lines y = 2, x = 0, and $y = \sqrt{x}$ about the line x = -2.