Math 101 – WORKSHEET 8
AREA BETWEEN CURVES, VOLUMES

(1) Find the total area of the following planar regions. It will be useful to sketch the region first.

(a) The finite region bounded by the y-axis, the graph of $y = \arcsin(x)$ and the line $y = \frac{\pi}{2}$.

(b) (Quiz, 2015) The finite region to the left of the y-axis and to the right of the curve $x = y^2 + y$.

(2) Solids of revolution
   (a) The area between the x-axis, the curve $y = x^2$ and the line $x = 5$ is revolved about the x-axis. What is the volume of the resulting region?

   (b) (Final, 2014) Find the volume of the solid generated by rotating the finite region bounded by $y = \frac{1}{x}$ and $3x + 3y = 10$ about the x-axis. It will be useful to sketch the region first.