Math 1211: Recitation #3 Winter 2014

Name: **A#:** **Section:**

1. Find the area bounded between $y = \cos x$ and $y = \sin 2x$ on the interval $0 \leq x \leq \frac{\pi}{2}$. Begin by sketching this region, being sure to appropriately label your diagram.

   Hint: You will require the identity $\sin 2x = 2 \sin x \cos x$.

2. Find the area bounded between the curves $y^2 = x + 2$ and $y = x$. Begin with a relevant sketch.

3. The base of a solid is the region bounded between the curves $y = x^2$ and $y = 9$, and its cross sections perpendicular to the x-axis are squares. Find the volume of this solid.

4. Let $\mathcal{R}$ be the region bounded between the curves $y = 1/x^2$, $y = 0$, $x = 1$, and $x = 2$. Sketch the region $\mathcal{R}$, and find the volume of the solid obtained by revolving $\mathcal{R}$ around the x-axis.