Name..

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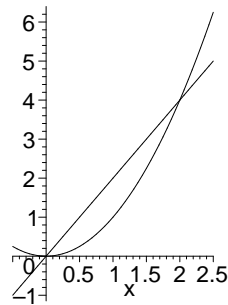
Math 1210-3

Quiz 9

April 18, 2008

Show all work for complete credit!

1) Consider the region bounded by the graphs of $y = x^2$ and $y = 2\,x$.

1a) Find the area of this region. (The region is sketched below.)

(2 points)

1b) Consider the object created by rotating the region above about the x-axis. Compute its volume using planar slabs (which are washers in this case). You may want to redraw the sketch above, and draw and label a typical washer, to help set up the integral.

(4 points)

1c) Recompute the the volume in part (1b), but using cylindrical shells rather than planar slabs. You may want to redraw the region, and draw and label a typical cylindrical shell, to help set up the integral.

(4 points)