

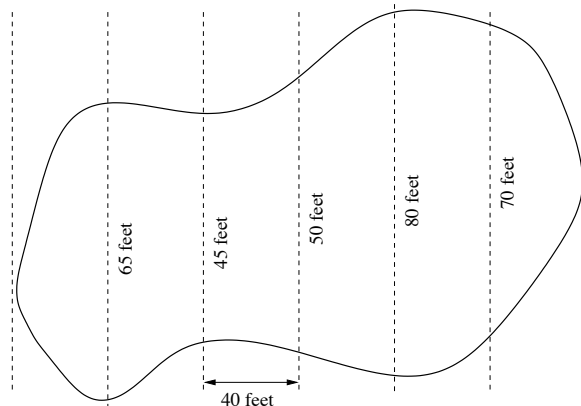
Name _____

Quiz Section _____

In this work sheet we'll study the problem of finding the area of a region bounded by curves. We'll first estimate an area given numerical information. Then we'll use calculus to find the area of a more complicated region.

The Lake

1 The widths, in feet, of a small lake were measured at 40 foot intervals. Estimate the area of the lake.



Area Bounded by Three Curves

2 On the grid below sketch the graphs of $y = 4$, $y = x^2$ and $y = \sqrt{27x}$. (The last one is just a piece of a sideways parabola).



3 Shade the “triangular” region bounded by the graphs of the three functions that lies above the horizontal line.

9 Compute the area of the right sub-region. Add the two areas together to get the total area.

10 Recompute the area using the following trick. Solve for x as a function of y in the two non-constant functions. Find the area by integrating with respect to y . Is this easier?