

Homework 3

Sections 8.2 & 8.5

Due: 3-13-14

1. The base of a solid is the region in the xy -plane bounded by the y -axis and the lines $y = 1 - x$, $y = 2x + 5$ and $x = 3$. Each cross section perpendicular to the x -axis is an equilateral triangle. Find the volume of the solid.
2. A 30-lb ball hangs at the bottom of a cable that is 50 ft long and weighs 20 lb (assume the cable has a constant density). The entire length of cable hangs over a cliff. Find the work done to raise the cable and get the ball to the top of the cliff.