For each three dimensional object described below,

- a. Sketch the solid described
- b. Set up an integral that gives the volume of the object
- c. Evaluate the integral
 - 1. The region bounded by y = 4 2x in the first quadrant is rotated about the x-axis

2. The region bounded by
$$y = \frac{1}{\sqrt{1+x^2}}$$
, the x-axis, $x = -1$ and $x = \frac{1}{\sqrt{3}}$ is rotated about the x-axis

- 3. The region from #1 is rotated about the line y = -3
- 4. The region bounded by $y = \frac{1}{x}$, x = 1, and the x-axis is rotated about the x-axis. Notice this region is unbounded on the right