

**MAT 137 (Calculus II) Prof. Swift**  
**In-class worksheet: Computing Volume of Solids by Parallel Slices**

Let  $\mathcal{R}$  be the triangle in the  $x$ - $y$  plane with vertices  $(0, 0)$ ,  $(2, 0)$ , and  $(2, 1)$ .

1. Sketch the region  $\mathcal{R}$ .
2. Find the volume of the solid whose base is  $\mathcal{R}$ , and the cross sections perpendicular to the  $x$  axis are squares.
3. Find the volume of the solid obtained by rotating the region  $\mathcal{R}$  about the  $x$ -axis.