Quiz #2, 9/2
Math 157 (Calculus II), Fall 2025

Problem 1 is worth 5 points, and Problem 2 is worth 5 points, for a total of 10 points. Remember to *show your work* on all problems!

1. Let R be the region below the curve $y = \frac{1}{x}$ from $x = 1$ to $x = 2$.

   (a) Compute the volume of the solid obtained by rotating R about the x-axis.

   (b) Compute the volume of the solid obtained by rotating R about the y-axis.

   (c) Which of the solids from (a) and (b) above has a greater volume?

2. A 5 meter cable hangs off the side of a wall. The cable has a weight of 20 newtons. How much work is done lifting the cable up the wall? (**Hint**: since the problem gives you the *weight* of the cable, and not its mass, you do not need to use $g = 9.8\ m/s^2$ anywhere.)