

Quiz #2, 1/25
Math 157 (Calculus II), Spring 2024

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 10 meter cable hangs off the side of a wall. The cable has a weight of 50 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 $g = 9.8 \text{ m/s}^2$ anywhere.)