

Name: _____

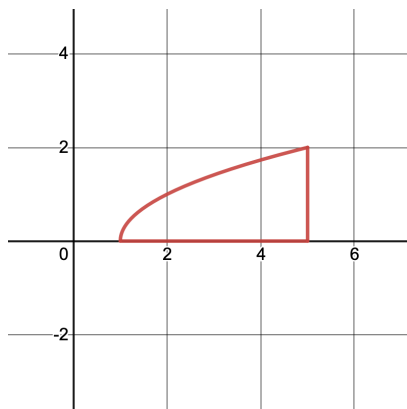
Quiz 5

Math 252

You have 20 minutes to complete this quiz. When you're finished, first check your work if there is time remaining, then turn it in. You may use your class notes (i.e. not the online notes), and a scientific calculator, but not a graphing one. You may not consult other people or the internet. **Show all your work.**

1. (4 points) Write the formula for the arc length of a function $f(x)$ between $x = -4$ and $x = 2$.

2. (8 points) The region bounded by $y = \sqrt{x-1}$, $y = 0$, $x = 1$, and $x = 5$ is rotated about the x -axis. Find the volume of the solid created **by using the shell method**.



- 3.** (8 points) A disk with radius π has radial density $\rho(r) = \sin(r)$. Find the mass of the disk.