

Name:
Department:

Grade: /10

Math 101, Calculus I, Fall 2023, Sec. 1, HTK
Quiz 5, Fri., Dec. 1

1. Let R be the region in the first quadrant bounded by $y = x$ and $y = \frac{2}{1+x^2}$. Let S be the region in the second quadrant bounded by $y = -x$ and $y = \frac{2}{1+x^2}$.

(a) Write integrals for the areas of R and S .

(b) Write integrals for the volumes of the solids obtained by revolving R and S about the x -axis.

(c) Write integrals for the volumes of the solids obtained by revolving R and S about the y -axis.

(Use trial and error to find the points of intersection. Do NOT evaluate the integrals.)