

Quiz 5

Name:

Directions: Answer each question to the best of your ability. You may use a calculator, but you must show all work to receive full credit. For problems 1 and 2, set up your definite integral based on the Riemann sum with the conditions given. If it is helpful, draw a picture of the problem. (5 pts each)

1. Find the volume of the top half of a sphere with radius 10 taking vertical slices.

2. Find the area of a right triangle with height 15 and a hypotenuse of 30 taking EITHER horizontal or vertical slices.

3. Find the volume of revolution of $f(x) = \frac{4}{x}$ on $[2,5]$ around the x -axis.

4. Find the volume of revolution of the area between $f(x) = 2x^2$ and $g(x) = \frac{1}{2}x^3$ on $[0,4]$ around the x -axis.

5. Find the volume of revolution of the area between $f(x) = 2x^2$ and $g(x) = \frac{1}{2}x^3$ on $[0,4]$ around the y -axis.