

Name \_\_\_\_\_

1. (3 points) The region between the  $x$ -axis and the curve  $y = e^{-x}$  on the interval  $[0, \infty)$  is revolved around the  $x$ -axis. Compute the resulting volume.

2. (3 points) Evaluate the following integral. Use proper notation for each step in your work.

$$\int_2^{\infty} \frac{6}{x^3} dx$$

3. (2 points) Evaluate the following integral. Use proper notation for each step in your work.

$$\int_2^6 \frac{dx}{(x-2)^{3/2}}$$

4. (2 points) Evaluate the following integral. Use proper notation for each step in your work.

$$\int_3^{\infty} \frac{10x}{e^x} dx$$