

**Math 152 Quiz #4**  
**February 4, 2009**

Name: \_\_\_\_\_

Show all work and simplify your answers as much as possible.

1. (6 pts.) Let  $R =$  Region bounded by  $y = \frac{1}{x}$ , the  $y$ -axis,  $y = 1$ , and  $y = 2$ .

Find the volume of the solid obtained from rotating  $R$  about the  $y$ -axis.

2. (4 pts.) Find the volume of the following solid  $S$ .

The base of  $S$  is the region bounded by  $y = e^x$  and the  $x$ -axis for  $0 \leq x \leq 1$ .

Cross-sections perpendicular to the  $x$ -axis are **squares**.