NAME AND SECTION:_____

INSTRUCTOR'S NAME:_____

1. What is the volume of a cylinder if h is the height of the cylinder, and r is the radius of the base?

2. We are going to compute the volume of a cone of height h and radius r using definite integrals.

   (a) Slice the cone with evenly spaced cuts perpendicular to the axis and approximate each piece with a cylinder. Make a drawing.

(b) Can you write down a formula for the volume of the cylinders if we use n of them?

(c) Can you use a definite integral to express the volume of the cone?

(d) What's the formula that you got for the volume of the cone?

3. Compute a formula for the volume of the sphere using the same method and definite integrals, given that the radius is r.

4. Compute a formula for the truncated cone using the previous method, given that the height is h, the bigger radius R, and the smaller radius r.