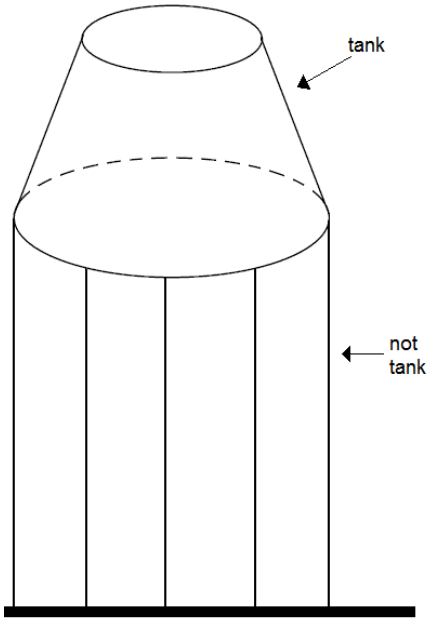
Name _____

Homework 8
Section 8.1

Note that the importance of this assignment is the *process*. Simply using the appropriate geometric formula that yields the correct volume is not sufficient for credit. Each solution should contain the volume of an individual slice, along with the volume of the entire solid.

1. (5) Number 36 from section 8.1 of the textbook

2. (8) A water tank is in the shape of a frustum of a right circular cone. The tank was created by taking the bottom 7 feet of a cone which had a base radius of 6 feet and a height of 12 feet. The tank sits on a pedestal so that the base of the tank is 8 feet above the ground.
   Setup a definite integral which represents the volume of the tank, with "slices" being measured from the ground.
   How much water can the tank hold?



3. (7) Number 13 from section 8.1, but use **horizontal** slices, rather than the vertical slices pictured. Do not use the vertical symmetry of the cylinder – i.e. do not simply double the volume of the top half. *Hint:* think about where you want to measure the vertical "height" to a slice from.