1. Consider an isosceles triangle of altitude 7 and base 4.

(a) Label the picture above with any variables you will need.

(b) Find a formula for the area of the slice indicated. Reduce your formula to one variable.

(c) Integrate over the range of this variable to find the area of the triangle.
2. Consider a solid cylinder of radius 5 cm and length 8 cm.

(a) Label the picture above with any variables you will need.

(b) Find a formula for the volume of the slice indicated. Reduce your formula to one variable.

(c) Integrate over the range of this variable to find the volume of the cylinder.
3. Consider a cone of height 4 inches and base radius 3 inches.

(a) Label the picture above with any variables you will need.

(b) Find a formula for the volume of the slice indicated. Reduce your formula to one variable.

(c) Integrate over the range of this variable to find the volume of the cone.
4. Consider a solid hemisphere of radius 2 cm.

(a) Label the picture above with any variables you will need.

(b) Find a formula for the volume of the slice indicated. Reduce your formula to one variable.

(c) Integrate over the range of this variable to find the volume of the hemisphere.