Applied Math 40S

Name _____

Design and Measurement Hand-In Assignment 2
Area/Volume Addition & Subtraction

Complete the following questions in the spaces provided. Round to **2 decimal places** when necessary.
Show all work to arrive at an answer. Hand in this assignment when finished.

Due date: _____

1. A pet store owner wants to build an aquarium out of panes of glass. The aquarium will have the
    dimensions shown in the diagram below. Bear in mind the aquarium will have NO TOP.

a) Calculate the amount of glass needed to build the aquarium in ft^2.

b) The glass manufacturer only sells glass by the square inch. How many in^2 of glass is needed to
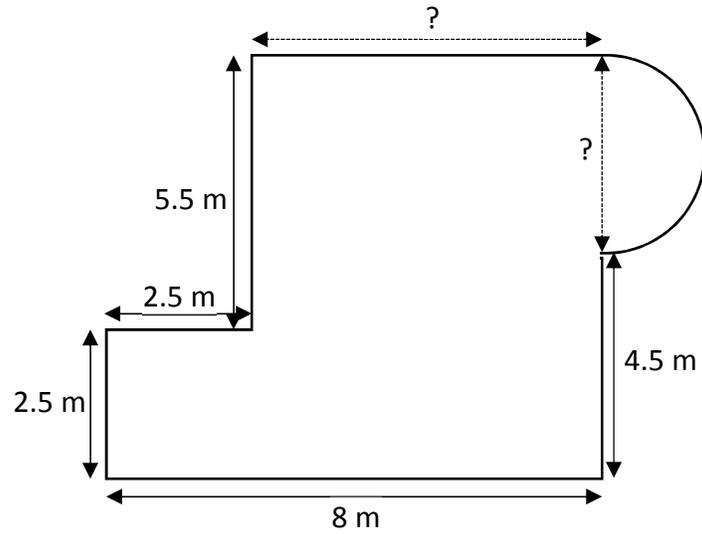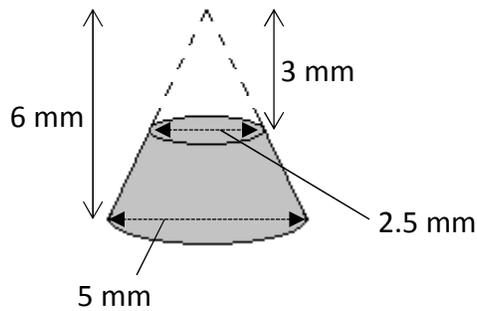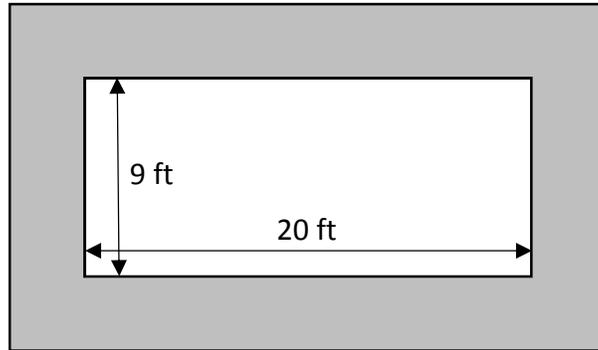   build this aquarium?

2. You want to lay tiles on the main part of your basement floor. The floor plan is shown below (not to scale). What is the area of the space that is to be tiled? (HINT: Determine the missing measurements FIRST.)

3. Find the volume of the shaded section of the diagram below (not to scale):

4. Cynthia wants to put a cement walkway around the outside of her yard. The walkway is *4 feet wide* on each side. The walkway is the shaded part of the diagram below:

a) In order to make room for the cement blocks for the walkway, Cynthia has to have the grass and dirt removed to a depth of 3 in. Calculate the volume of dirt and grass to be removed, in ft³.

b) The person she hires to remove the dirt and grass needs to know how much material needs to be removed in cubic yards. Convert your answer to question a) to cubic yards.

c) The person making and delivering the concrete blocks needs to know the area to be covered with the blocks. Calculate the area of the shaded part of the diagram above.