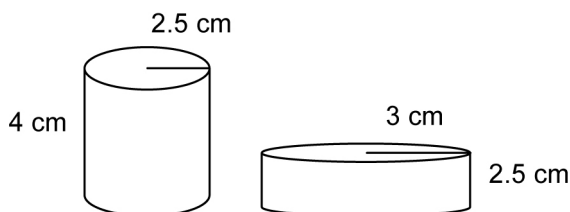Name: _____   Date: _____
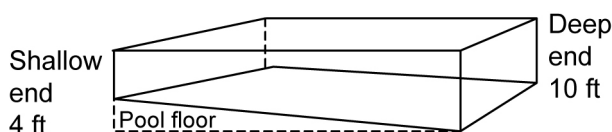
Practice: Solve Problems Involving Surface Area and Volume

1. Gloria is trying to decide which container of face cream to buy. They are both marked $8.99. Which container gives a better value?

2. This 100-ft by 40-ft swimming pool has a shallow end and a deep end. What is the volume of water in the pool?
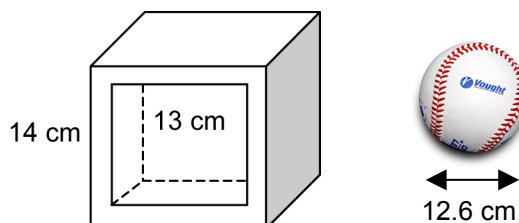

3. The Canadian two-dollar coin consists of two metals fused together. The outer silver-coloured ring is made of nickel and the inner gold-coloured core is aluminum bronze. The diameter of the coin is 28 mm and its thickness is 1.8 mm. The diameter of the inner core is 18 mm.
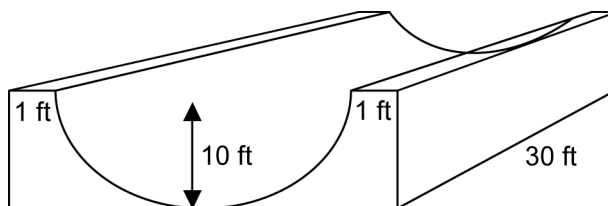

a) How much aluminum bronze is used to make the gold-coloured core?
b) How much nickel is used to make the silver-coloured ring?
c) What percent of the coin's total volume is the volume of the core?

4. Marco plans to mount his autographed baseball inside a shadow box. The shadow box is an open cube with exterior side length 14 cm and interior side length 13 cm.

a) What is the surface area of the shadow box?
b) How much empty space will be left in the cube after the baseball has been mounted inside?

5. Max Sports Company packages golf balls. Each golf ball has diameter 42 mm.
a) What are the dimensions of the smallest rectangular prism that will hold 3 golf balls? Draw its net.
b) What are the dimensions of the smallest cylinder that will hold 3 golf balls? Draw its net.
c) Find the surface area of the prism in part a) and the cylinder in part b). Which container requires less material?

6. Synergy Corporation designs skateboard ramps. One of their designs is a semi-cylinder carved out of a rectangular prism.

a) What is the volume of the curved piece that is removed?
b) What is the volume of the finished skateboard ramp?