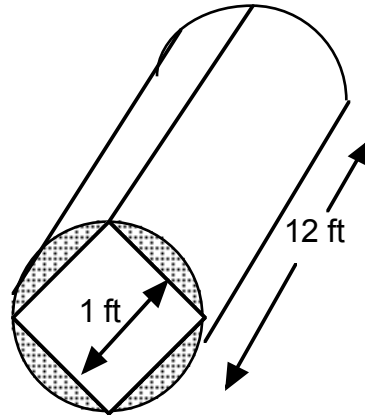


**Honors Geometry Solids -- REVIEW**

**Name:**

1. To cut a square beam out of a cylindrical log the edges are cut off. How much of the wood is wasted?



2. A rectangle has width 2.5 inches and length 4.0 inches. If both length and width are increased by the same amount,  $x$ , the total area increases by  $12 \text{ in}^2$ . Find the value of  $x$ .

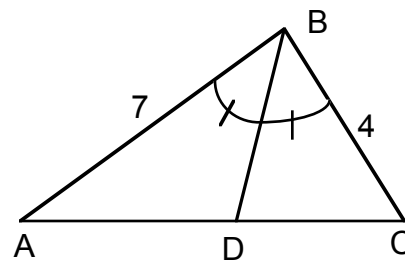
3. Two cannon balls, made of the same material, have diameters of 9 inches and 12 inches respectively.

a) Find the ratios of their surface areas  
(DON'T use formulas for spherical surface area.)

b) The smaller cannon ball weighs 19 lbs, find the weight of the larger ball.

4. When the sides of triangle are all doubled the area is increased by  $108\text{cm}^2$ . What is the area of the original triangle? *(Not 54 or 108, think harder).*

5. What is the ratio of the areas of  $\triangle ABD$  and  $\triangle CBD$ ?



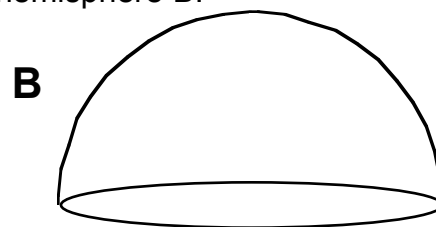
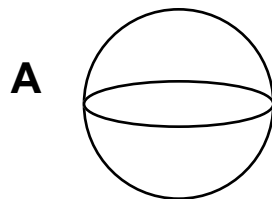
(a) 7:4

(b) 49:16

(c) 1:1

(d) can't be determined

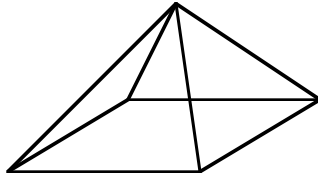
6. The radius of sphere A is half the radius of hemisphere B.



a) What is the ratio of the volumes?

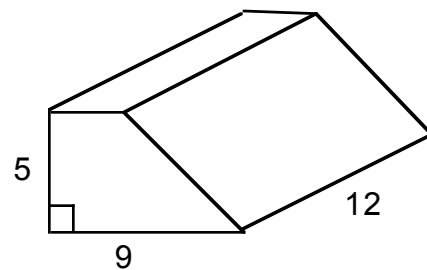
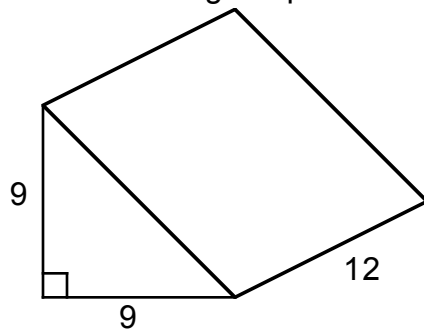
b) What is the ratio of the total surface areas?

7. The base of an equilateral pyramid is a square. The edges all measure 8 cm.



- a) What is the measure of a polyhedral angle on the base?
- b) What is the measure of the polyhedral angle at the vertex?
- c) What is the total surface area?
- d) What is the total volume?
- e) If a similar pyramid had 5 times the volume, what would the length of the edges be (to the nearest tenth)?

8. The top is cut off a triangular prism as shown.



- a) Find the percentage change in volume.
- b) Find the percentage change in total surface area