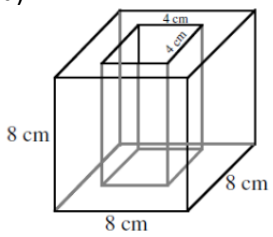
Name:_____ Date:_____

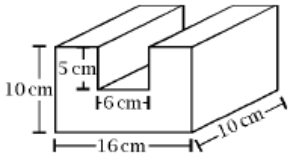
HW Math 8 Section 9.4 Problem Solving with Volume:

1. Given each composite solid, find the volume

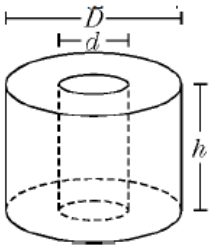
a)



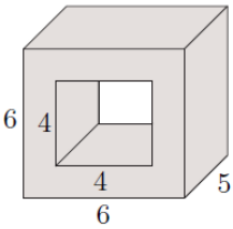
b)



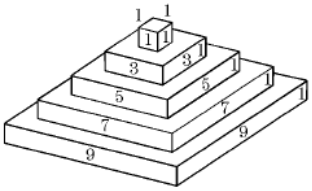
c) $D = 24cm,\ d = 6cm,\ h = 18cm$



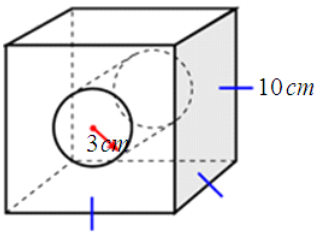
d)



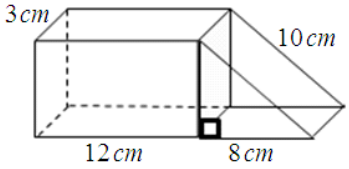
e)



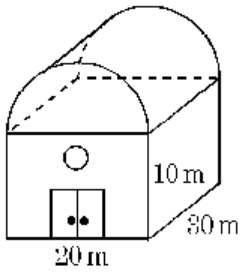
f)



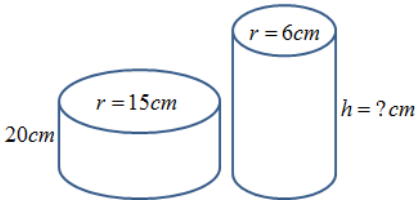
g)



h)



2. If the volumes of the two cylinders are equal, then what is the height of the second cylinder?

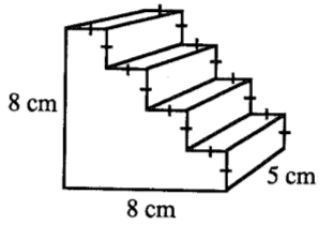


3. A rectangular sheet of metal 80cm by 64m is to be rolled into a cylinder. Which way should it be rolled to make a cylinder with the maximum volume?

4. A large water tank in the shape of a rectangular prism is 14m by 20m by 6m. Jim and his team need to fill this tank with water using cylindrical buckets that are 30cm tall with a radius of 15cm. How many buckets of water does he need to fill the tank up?

5. A cylinder with a radius of 5cm and a height of 20cm is placed inside a rectangular prism that fits perfectly in it. What is the amount of space inside the rectangular prism that is not occupied by the cylinder?

6. What is the volume of the following prism?



7. The areas of three of the faces of the rectangular box shown are 10cm2, 12cm2, and 30cm2. What is the volume of the box?