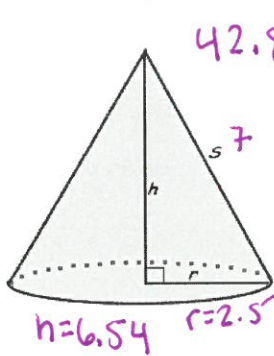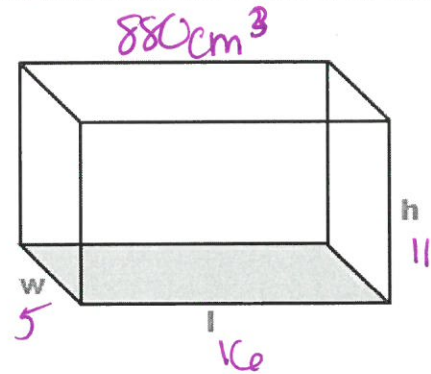Level 3:

1. Brian is serving spherical scoops of ice cream, each with a diameter of 4 inches. How many much money would he charge if each cubic inch costs 7 cents?

   $2.35

2. You have a cone with a diameter of 5cm and a slant height of 7cm. You also have a rectangular prism with the dimensions of 16cm long, 11cm wide, and 5cm tall. How many cones filled with water will it take to fill the rectangular prism? Show your work and explain.

   $42.81 cm^3$

   s 7
   h

   $h = 6.54$ $r = 2.5$

   20.56 Cones
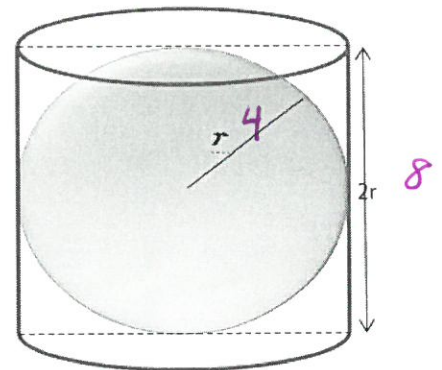
   $880 cm^3$

   h
   11
   w
   5
   l
   16

3. As represented in the diagram below, the cylinder has a solid sphere inside of it. Calculate the amount of space left in the cylinder. The radius of the sphere is 4 inches.

   sphere = 268.083
   cylinder = 402.124

   134.041 space left

   r 4
   2r   8

4. Dennis is at the Iowa State Fair and has a scoop of ice cream with radius 3 cm. The scoop rests on top of a sugar cone that has a diameter of 6cm and a slant height of 8cm. While standing in the sun, he gets distracted by Donald Trump's helicopter overhead. When he looks down, his ice cream has completely melted. Assuming the volume of melted ice cream is similar to that of the original frozen ice cream, will the melted ice cream overflow the cone?

   sugar cone = 199.485
   scoop = 113.097

   no it will all fit