

Name: _____

Period: **1** **2** **3** **4** **5** **6** **7**
(circle appropriate period)

Directions: Show all work in the indicated spaces. In order to earn full marks, your work as well as your answer must be correct. Partial credit will be given for well-presented partially correct work. You may use a calculator, but you must show your work; circle your final answer.

PAPERS COMPLETED IN PEN WILL NOT BE GRADED

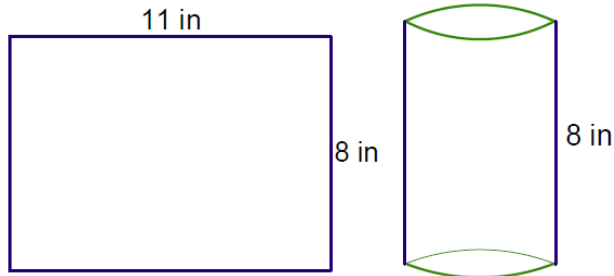
Volume of Prisms and Cylinders

Task

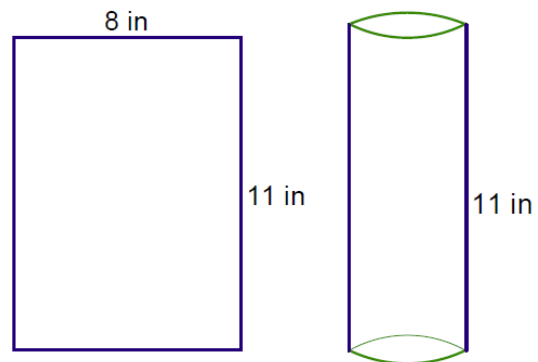
A sheet of paper is folded into a cylinder so that the paper creates lateral area of the cylinder. The first cylinder is formed by folding the paper horizontally, and the second one is folded vertically.

1) Estimate which cylinder will have a greater volume.

Cylinder A



Cylinder B



Using complete sentences, explain your choice.

2) For each cylinder above, find the area of the base. (Remember that the length of the rectangular lateral are will go around the circular base of the cylinder. Use the steps below to guide your work)

Cylinder A	Cylinder B
Circumference of the base = _____	Circumference of the base = _____
Radius of the base = _____	Radius of the base = _____
Area of the base = _____	Area of the base = _____

3) Find the volume of each cylinder

$V_{\text{Cylinder A}} = \text{_____}$

$V_{\text{Cylinder B}} = \text{_____}$

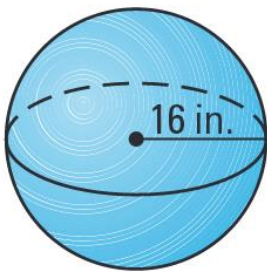
4) Was your estimate from question 1 correct? Explain what guided your initial estimate.

5) Name the two parameters that affect volume size.

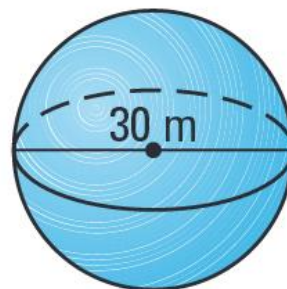
Volume of Spheres

Calculate the volume of the object. Round your answer to the nearest hundredth.

6)



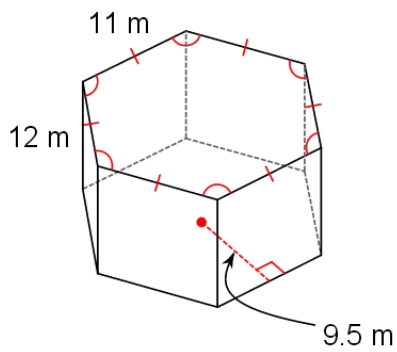
7)



8) An ice cream cone is 10 centimeters deep and has a diameter of 4 centimeters. A spherical scoop of ice cream that is 4 centimeters in diameter rests on top of the cone. If all the ice cream melts into the cone, will the cone overflow? Explain.

Find the volume of the pentagonal prisms.

9)



10)

