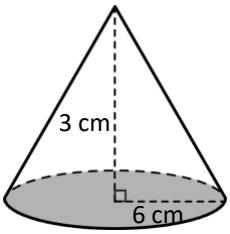
Name: _____ Period: _____

Unit 5: Solids Review

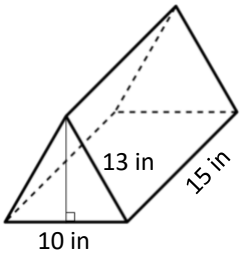
Topic #1: I can identify the type of solid and use the appropriate formula to find the volume.

Directions: For each of the solid figures below, name the type of solid and calculate the volume. Show all your work and leave your answer in **exact form**.

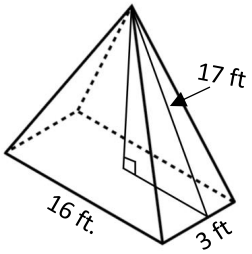
1.



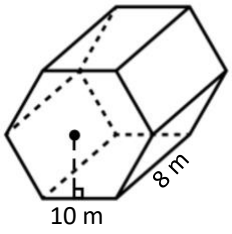
2.



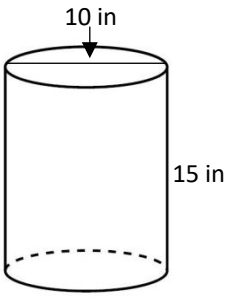
3.



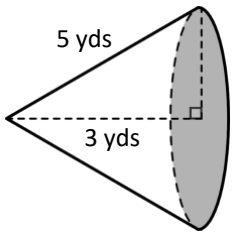
4.



5.



6.



Topic #2: I can find the volume and surface area of scaled solids.

Directions: Read each question carefully. Show all your work and clearly state your final answer.

1. The volume of a rectangular prism was scaled by a factor of $\frac{1}{8}$. By what factor was the surface area scaled by? By what factor were the dimensions scaled by?

2. A cylinder's surface area was scaled by a factor of $\frac{9}{25}$. By what factor was the volume scaled by? By what factor were the dimensions scaled by?

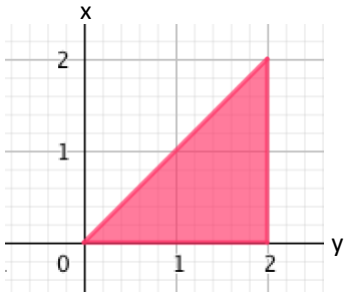
3. A flower shop got an order for a large floral arrangement, but the customer wants the same shaped vase as the shop's standard vase. Their standard vases have a volume of $93\ cm^3$; however the large floral arrangement requires a vase that has a volume of $2{,}511\ cm^3$. What would the volume be scaled by? What would the surface area be scaled by?

4. A company wanted to offer a jumbo size bag of their chips, but want to keep the shape of the bag the same. The surface area of the original size chip bag is $50\ in^2$ and they want the new surface area to be $3200\ in^2$. What would the volume be scaled by? What would each dimension be scaled by?

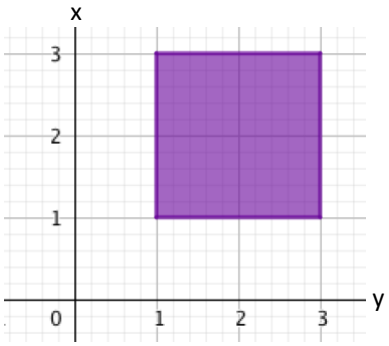
Topic #3: I can identify the solid formed by rotating a two-dimensional figure over a line and calculate the volume of the resulting solid.

Directions: State the solid that is formed by rotating the two dimensional figure about the given line. Draw a diagram of that solid and label its dimensions. Then, calculate the volume of the solid. Leave your answer in **exact form**.

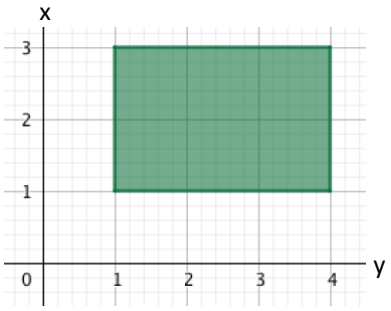
1. Rotate the triangle below around the x-axis.



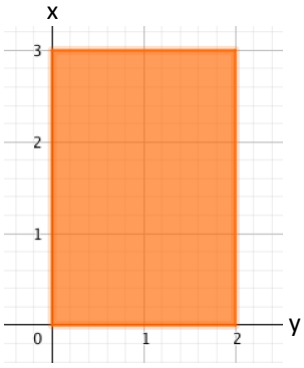
2. Rotate the square below around the y-axis.



3. Rotate the rectangle below around the x-axis.



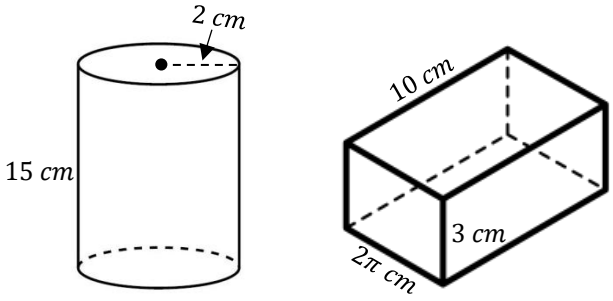
4. Rotate the rectangle below around the y-axis.



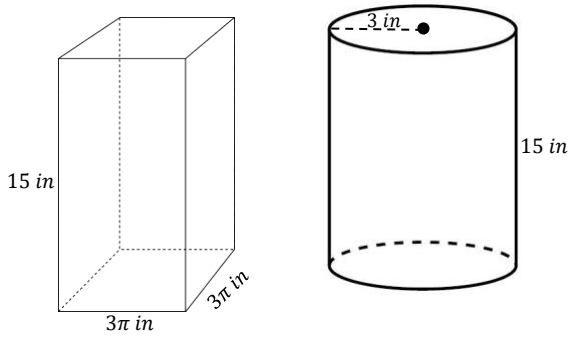
Topic #4: I can determine if two solids have the same volume.

Directions: For each pair of solid figures below, determine if they have the same volume. Explain your answer completely and show all work.

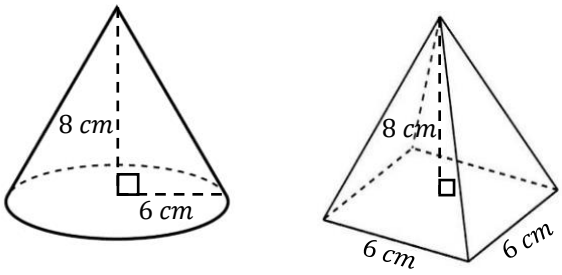
1.



2.



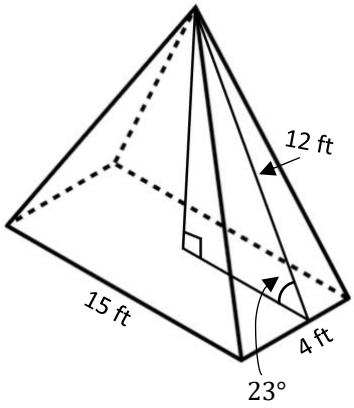
3.



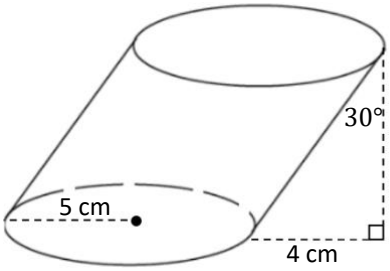
Topic #5: I can use trigonometry to find missing side lengths of solid figures.

Directions: Calculate the volume of each solids below. Show all your work and round your answer to the nearest tenth.

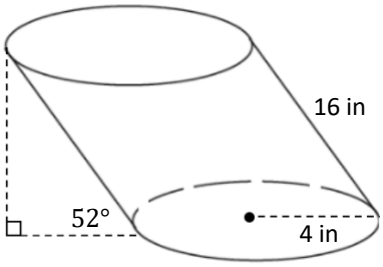
1.



2.



3.



4.