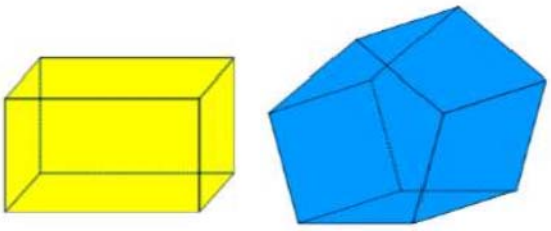
Geometry CC – Mr. Valentino Name: _____
Unit 11 Day 6: Volume of Spheres and Compound Figures Date: _____ Per: _____

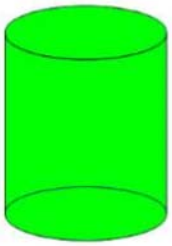
Aim: How can we find the volume of spheres and compound figures?

Do Now: Write down the formulas for each figure and describe each letter of the formula

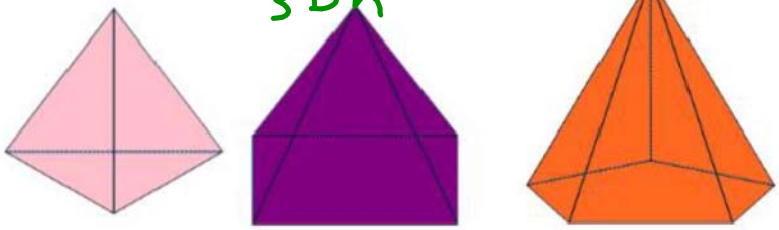
1) Volume of a prism = Bh



2) Volume of a cylinder = $\pi r^2 h$

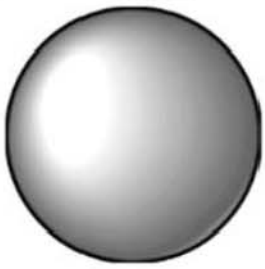


3) Volume of a pyramid = $\frac{1}{3}Bh$



4) Volume of a right circular cone = $\frac{1}{3}\pi r^2 h$

5) Volume of a sphere:



$\frac{4}{3}\pi r^3$

6) Find the volume of a sphere whose diameter is 24 inches (nearest tenth)

$V = \frac{4}{3}\pi r^3$

$V = \frac{4}{3}\pi (12)^3$

NORMAL FLOAT AUTO REAL DEGREE MP

(1/3)*π*5*5*12 314.1592654

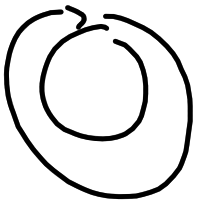
(4/3)*π*12^3 7238.229474

4*π*12^3 21714.68842

Ans/3 7238.229474

in^3

7) Find the volume of a sphere whose circumference is 8π feet. (nearest thousandth)



$V = \frac{4}{3}\pi r^3$

$V = \frac{4}{3}\pi (4)^3$

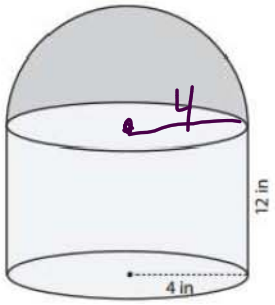
$V = 268.083 ft^3$

$C = \pi d$ circumference!

$\frac{8\pi}{\pi} = \frac{\pi d}{\pi}$

$8 = d$ $r = 4$

How can you find the volume of the compound figure? (nearest tenth)



cylinder $V = \pi r^2 h$

$V = \pi (4)^2 (12)$

$V = 603.19$

HALF SPHERE $V = \frac{4}{3}\pi r^3$ divide by 2 at the end

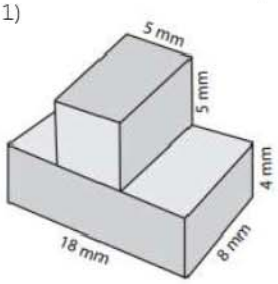
$V = \frac{4}{3}\pi (4)^3 = 268$

$V = \frac{268}{2} = 134.04$

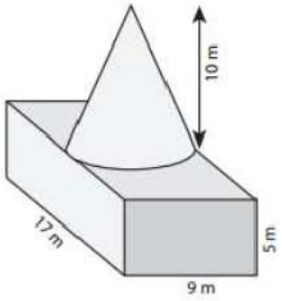
$737.2 in^3$

Find the volume of the compound figures (to the nearest hundredth where necessary)

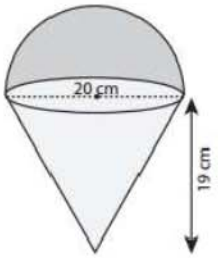
1)



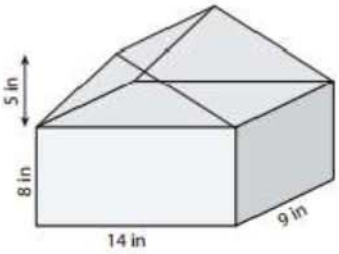
2)



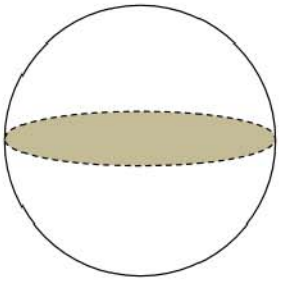
3)



4)

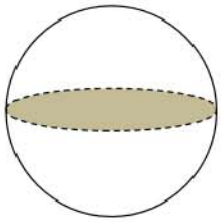


5) Find the volume of this sphere if the area of the shaded circle is 25π cm^2. (nearest tenth)

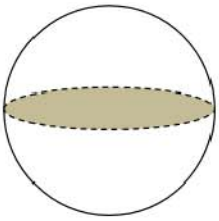


6) Find the volume of each sphere shown below: (nearest hundredth)

a] Circumference = 14π cm



b] Shaded area = 49π in^2



7) What is the radius of a sphere whose volume is 288π cm^3?