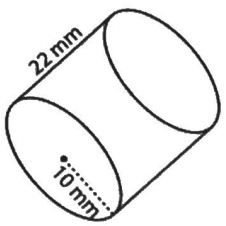
Geometry
Unit 6 Volume
Day 2 – Practice Cylinder and Cones

Name Key

Date _____ **Block** _____

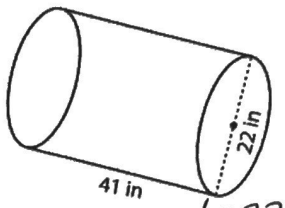
1. **Find the Volume** $V = \pi r^2 h$



$V=(10)^2(22)\pi$

Volume= $2200\pi mm^3$

2. **Find the Volume**



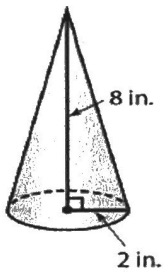
$V=(11)^2(41)\pi$

$d=22$

$r=22/2=11$

Volume= $4961\pi in^3$

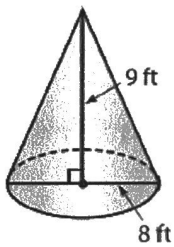
3. **Find the Volume** $V = \frac{1}{3}\pi r^2 h$



$V=\frac{\pi(2)^2(8)}{3}$

Volume= $\frac{32\pi}{3}\ in^3$

4. **Find the Volume**



$V=\frac{\pi(4)^2(9)}{3}=\frac{144\pi}{3}=48\pi$

Volume= $48\pi\ ft^3$

5. **A cylinder has a volume of 2001.2 in³. If its height is 13, find its diameter.**

$V = \pi r^2 h$ $\quad \frac{2001.2}{\pi}=\frac{\pi r^2(13)}{\pi}$ $\quad \frac{637}{13}=\frac{r^2(13)}{13}$ $\quad \sqrt{r^2}=\sqrt{49}$ $\quad r=7$

Diameter= $14\ in$

$diam = 2 \cdot rad.$ $\quad 2(7)$

6. **A cylinder with a radius of 3 in has a volume of $86 in^3$ Find the height of the cylinder.**

$V = \pi r^2 h$ $\quad \frac{86}{\pi}=\frac{\pi(3)^2 h}{\pi}$ $\quad \frac{27.37}{9}=\frac{9h}{9}$

Cylinder= $h = 3.04\ in$

7. **A cone has height of 15 ft with a volume of $3014.4 ft^3$ Find the radius of the cone.**

$V = \frac{1}{3}\pi r^2 h$ $\quad 3.\ 3014.4=\frac{\pi(r^2)(15)\cdot 3}{3}$ $\quad \frac{9043.2}{15}=\frac{\pi(r^2)(15)}{15}$ $\quad \frac{602.88}{\pi}=\frac{\pi r^2}{\pi}$ $\quad \sqrt{191.9}=\sqrt{r^2}$

Radius= $13.85 ft$

8. **A cone has a diameter of 18 inches with a volume of 2544.69 in³. Find the height of the cone.**

$V = \frac{1}{3}\pi r^2 h$ $\quad r=\frac{18}{2}=9$ $\quad 3.\ 2544.69=\frac{\pi(9)^2 h\cdot 3}{3}$ $\quad \frac{7634.07}{81}=\frac{81\pi h}{81}$ $\quad \frac{94.25}{\pi}=\frac{\pi h}{\pi}$ $\quad 30=h$

Height= $30 in$