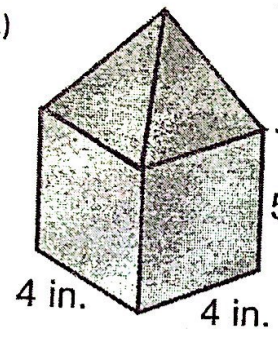
Name: _____

**Worksheet: Volume Practice**

**You must show your work for each problem!!!**

1)



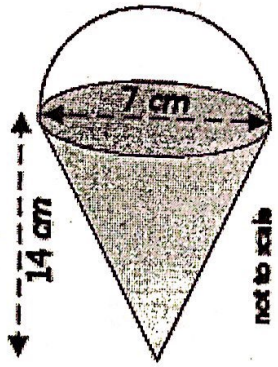

Pyramid
$V = \frac{lwh}{3}$
$V = \frac{4 \cdot 4 \cdot 6}{3}$
$V = \frac{96}{3}$
$V = 32$

Prism
$V = lwh$
$V = 4 \cdot 4 \cdot 5$
$V = 80$

80
+32
112

$112 in^3$

2)



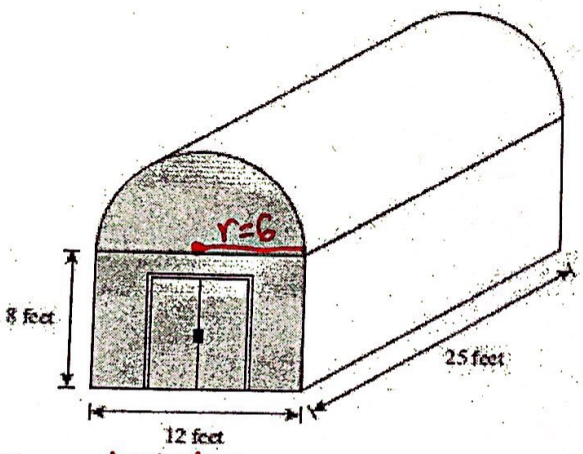

Cone
$V = \frac{\pi r^2 h}{3}$
$V = \frac{\pi \cdot 3.5^2 \cdot 14}{3}$
$V \approx \frac{538.783}{3}$
$V \approx 179.6$

Hemisphere
$V = \frac{\left(\frac{4}{3}\pi \cdot 3.5^3\right)}{2}$
$V \approx \frac{179.6}{2}$
$V \approx 89.8$

179.6 + 89.8

$V \approx 269.4 cm^3$

3)

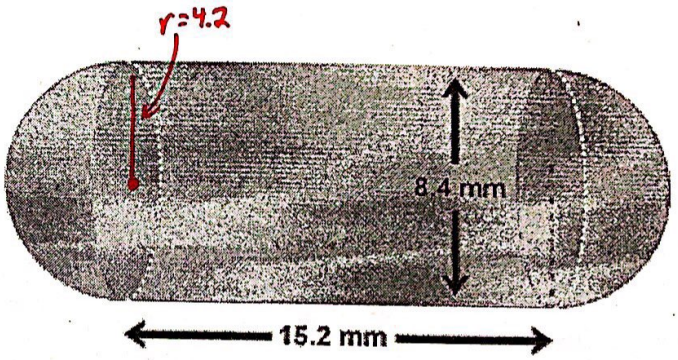



Prism
$V = 8 \cdot 12 \cdot 25$
$V = 2400$

$\frac{1}{2}$ Cylinder
$V = \frac{1}{2}(\pi \cdot 6^2 \cdot 25)$
$V \approx \frac{1}{2}(2827.4)$
$V \approx 1413.7$

$V \approx 3813.7 ft^3$

4)




2 hemispheres = 1 sphere

Sphere
$V = \frac{4}{3}\pi \cdot 4.2^3$
$V \approx 310.3$

Cylinder
$V = \pi \cdot 4.2^2 \cdot 15.2$
$V \approx 842.3$

$V \approx 1152.7 mm^3$

5) The volume of a cylinder is $2156\pi$ in$^3$. The height is 11 in. Find the radius.

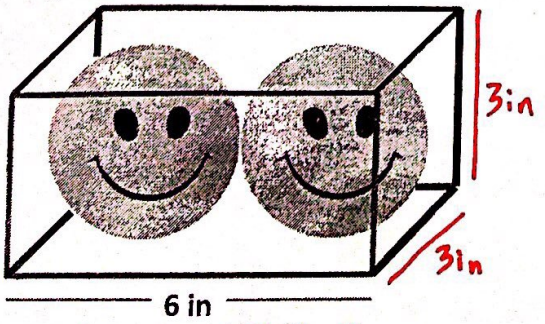
$V = \pi r^2 h$

$\frac{2156\pi}{11} = \frac{\pi r^2 \cdot 11}{11}$

$196 = r^2$

$r = 14$ in

6) Below is a box with 2 smiley face balls inside. They fit snugly inside the box – the sides of each ball touch the top, bottom, front, back, and both sides of the box. What is the volume of the empty space in the box? (Hint: use the given length to find the diameter of a ball. This can help you find the other dimensions of the box)




diameter of 1 ball = 3in

Box – 2 spheres

Box
$V = 6 \cdot 3 \cdot 3$
$V = 54 in^3$

Sphere
$V = \frac{4}{3}\pi \cdot 1.5^3$
$V \approx 14.137$

Empty Space
$54 - 2(14.137)$

$V \approx 25.7 in^3$