

Compound Solids

Remember: "B" means "area of the base"

Name: Key Class: _____

What is the volume of each compound solid?

$Vol = Bh$
 $= 7 \cdot 5 \cdot 2$
 $= 70 \text{ cm}^3$

$Vol = Bh$
 $= 2 \cdot 5 \cdot 2$
 $= 20 \text{ cm}^3$

Volume: 90 cm³

$Vol = Bh$
 $= 4 \cdot 3 \cdot 7$
 $= 84 \text{ cm}^3$

$Vol = Bh$
 $= 1 \cdot 4 \cdot 7$
 $= 28 \text{ cm}^3$

Volume: 112 cm³

$Vol = Bh$
 $= 4 \cdot 4 \cdot 3$
 $= 48 \text{ cm}^3$

$Vol = Bh$
 $= 4 \cdot 4 \cdot 2$
 $= 32 \text{ cm}^3$

Volume: 80 cm³

$Vol = Bh$
 $= 4 \cdot 3 \cdot 7$
 $= 84 \text{ cm}^3$

$Vol = Bh$
 $= 1 \cdot 3 \cdot 6$
 $= 18 \text{ cm}^3$

Volume: 102 cm³

$Vol = Bh$
 $= 4 \cdot 4 \cdot 8$
 $= 128 \text{ cm}^3$

$Vol = Bh$
 $= 5 \cdot 2 \cdot 8$
 $= 80 \text{ cm}^3$

Volume: 208 cm³

$Vol = Bh$
 $= 2 \cdot 2 \cdot 10$
 $= 40 \text{ cm}^3$

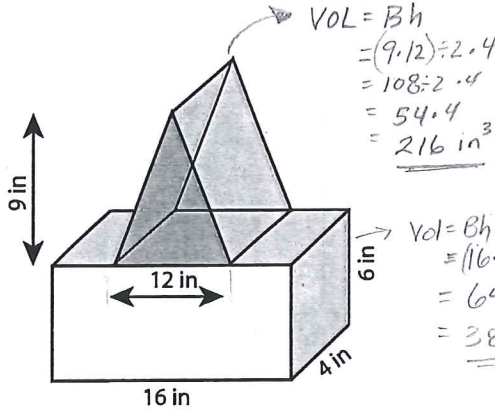
$Vol = Bh$
 $= 5 \cdot 10 \cdot 5$
 $= 250 \text{ cm}^3$

Volume: 290 cm³

Volume - Compound Shapes

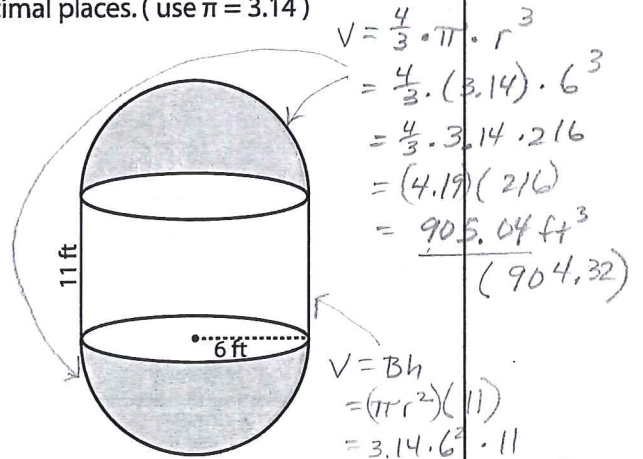
Find the volume of each figure. Round the answer to two decimal places. (use $\pi = 3.14$)

1)



$$\begin{aligned} \text{VOL} &= Bh \\ &= (9 \cdot 12) \div 2 \cdot 4 \\ &= 108 \div 2 \cdot 4 \\ &= 54 \cdot 4 \\ &= 216 \text{ in}^3 \end{aligned}$$

2)



$$\begin{aligned} V &= \frac{4}{3} \cdot \pi \cdot r^3 \\ &= \frac{4}{3} \cdot (3.14) \cdot 6^3 \\ &= \frac{4}{3} \cdot 3.14 \cdot 216 \\ &= (4.19) (216) \\ &= 905.04 \text{ ft}^3 \end{aligned}$$

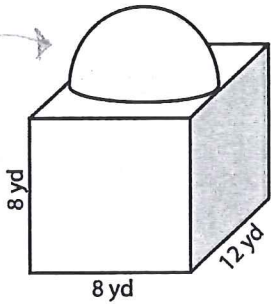
$$\begin{aligned} V &= Bh \\ &= (\pi r^2) (11) \\ &= 3.14 \cdot 6^2 \cdot 11 \\ &= 1243.44 \text{ ft}^3 \end{aligned}$$

Volume = 600 in³

Volume = 2147.76 ft³
(2148.48)

3)

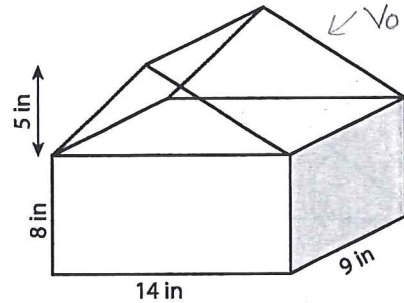
$$\begin{aligned} \text{Vol} &= \frac{4}{3} \cdot \pi \cdot r^3 \\ &= \frac{4}{3} \cdot 3.14 \cdot 4^3 \\ &= \frac{12.56}{3} \cdot 64 \\ &= 4.19 \cdot 64 \end{aligned}$$



$$\begin{aligned} \text{Vol} &= Bh \\ &= 8 \cdot 12 \cdot 8 \\ &= 768 \text{ yd}^3 \end{aligned}$$

Volume = 901.98 cm³
(902.08 cm³)

4)

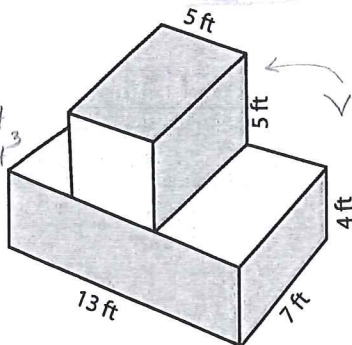


$$\begin{aligned} \text{Vol} &= Bh \\ &= 14 \cdot 9 \cdot 8 \\ &= 1008 \text{ in}^3 \end{aligned}$$

$$\begin{aligned} \text{Vol} &= Bh \div 2 \\ &= (5 \cdot 14) 9 \div 2 \\ &= 70 \cdot 9 \div 2 \\ &= 630 \div 2 \\ &= 315 \text{ in}^3 \end{aligned}$$

Volume = 1323 in³

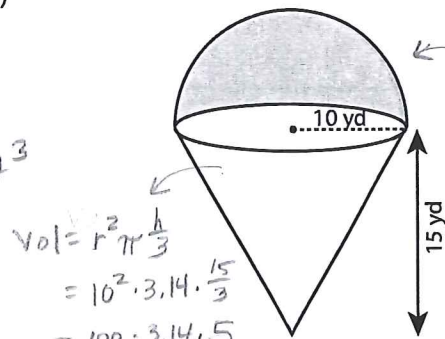
6)



$$\begin{aligned} \text{Vol} &= Bh \\ &= 13 \cdot 7 \cdot 4 \\ &= 364 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{Vol} &= Bh \\ &= 5 \cdot 5 \cdot 7 \\ &= 175 \text{ ft}^3 \end{aligned}$$

Volume = 539 ft³



$$\begin{aligned} \text{Vol} &= \frac{4}{3} r^3 \pi \\ &= \frac{4}{3} \cdot 10^3 \cdot 3.14 \\ &= \frac{4}{3} \cdot 1000 \cdot 3.14 \\ &= 4186.7 \\ &\div 2 \\ &= 2093.35 \text{ yd}^3 \end{aligned}$$

$$\begin{aligned} \text{Vol} &= r^2 \pi \frac{h}{3} \\ &= 10^2 \cdot 3.14 \cdot \frac{15}{3} \\ &= 100 \cdot 3.14 \cdot 5 \\ &= 1570 \text{ yd}^3 \end{aligned}$$

Volume = 3663.35 yd³