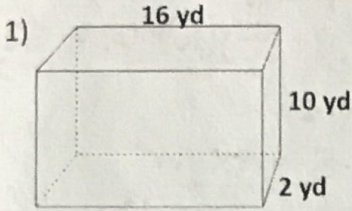
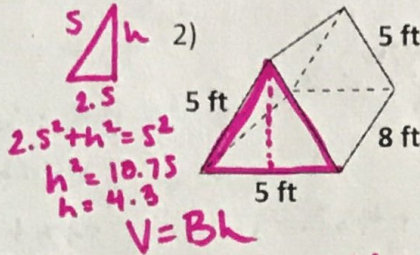


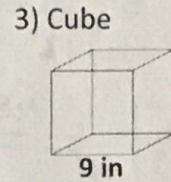
Directions: Find the volume of each shape with the given information.



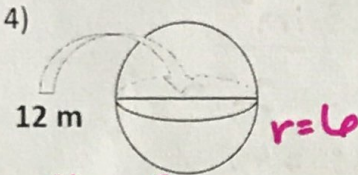
$V = l \cdot w \cdot h$   
 $V = 16 \cdot 2 \cdot 10 = \boxed{320 \text{ yd}^3}$



$V = Bh$   
 $B = \text{triangle } (\frac{1}{2}bh)$   
 $B = \frac{1}{2}(5)(4.3) = 10.75$   
 $V = 10.75(8) = \boxed{86 \text{ ft}^3}$

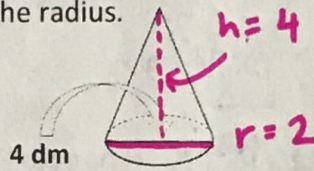


$V = l \cdot w \cdot h$   
 $V = 9 \cdot 9 \cdot 9$   
 $V = \boxed{729 \text{ in}^3}$

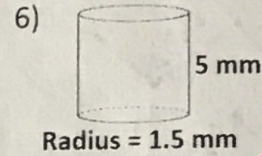


$V = \frac{4}{3} \pi r^3$   
 $V = \frac{4}{3} \pi (6^3) = \boxed{288\pi \text{ m}^3}$   
 OR  
 $\boxed{904.78 \text{ m}^3}$

5) The height is double the radius.

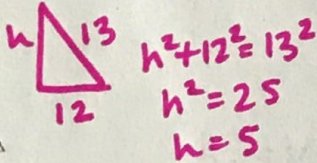
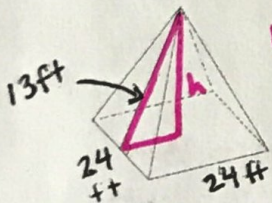


$V = \frac{1}{3} Bh$   
 $B = \text{circle } (\pi r^2)$   
 $B = \pi (2^2)$   
 $V = \frac{1}{3} \pi (2^2)(4) = \boxed{5.33\pi}$   
 OR  
 $\boxed{16.76}$



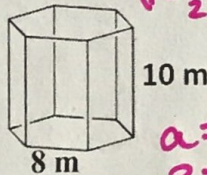
$V = Bh$   
 $B = \text{circle}$   
 $B = \pi (1.5^2)$   
 $B = 2.25\pi$   
 $h = 5$   
 $V = 2.25\pi(5) = \boxed{11.25\pi \text{ mm}^3}$   
 OR  
 $\boxed{35.34 \text{ mm}^3}$

7) Regular (square) Pyramid



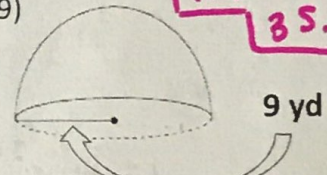
$V = \frac{1}{3} Bh$   
 $B = \text{square } (bh)$   
 $B = 24(24) = 576$   
 $h = 5$   
 $V = \frac{1}{3}(576)(5) = \boxed{960 \text{ ft}^3}$   
 $V = (\frac{1}{3})(6.93)(48)(10) = \boxed{1063.2 \text{ m}^3}$

8) Regular Prism



$V = \frac{1}{2} ap \cdot h$   
 $a = 6.93$   
 $p = 48$   
 $h = 10$

9)



$V = \frac{4}{3} \pi r^3$   
 $V = \frac{4}{3} \pi (9^3) = \boxed{1526.81 \text{ yd}^3}$

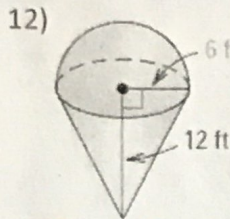
10) The volume of a ball is  $972\pi \text{ cm}^3$ . What is the radius of this ball to the nearest tenth?

$\frac{4}{3} \cdot \frac{4}{3} \pi r^3 = 972\pi \cdot \frac{3}{4}$   
 $\pi r^3 = 729\pi$   
 $r^3 = 729$   
 $r = \boxed{9}$

11) The circumference of the Earth is estimated to be about  $7920\pi$  miles. What is the estimated volume of the Earth?

$\frac{2\pi r}{(2\pi)} = \frac{7920\pi}{(2\pi)}$   
 $r = 3960$   
 $V = \frac{4}{3} \pi r^3$   
 $V = \frac{4}{3} \pi (3960^3) = \boxed{2.601 \times 10^{11} \text{ mi}^3}$

Directions: Find the volume for each composite figure.



Hemisphere:

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

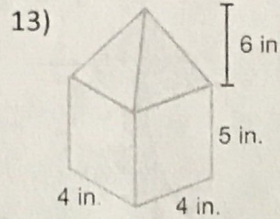
$$904.78 \text{ ft}^3$$

Cone:  $V = \frac{1}{3}Bh$   
 $B = \text{circle } (\pi r^2)$   
 $B = \pi(6^2) = 36\pi$   
 $h = 12$   $V = \frac{1}{3}(36\pi)(12)$

$$V = 452.39 \text{ ft}^3$$

$$V = \frac{4}{3}\pi(6^3) = 452.39 \text{ ft}^3$$

$$452.39 + 452.39 =$$



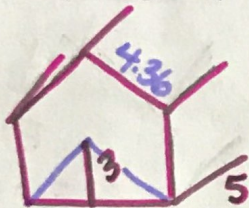
Pyramid:  $V = \frac{1}{3}Bh$   
 $B = \text{square } (bh)$   
 $B = 4(4) = 16$   
 $h = 6$   
 $V = (\frac{1}{3})(16)(6) = 32 \text{ in}^3$

Box:  $V = l \cdot w \cdot h$

$$V = 4 \cdot 4 \cdot 5 = 80 \text{ in}^3$$

$$32 + 80 = 112 \text{ in}^3$$

13) A regular pentagonal (5 sides) prism has an apothem of 3 inches and a height of 5 inches. What is the volume of the pentagonal prism?



$$V = \frac{1}{2}ap \cdot h$$

$$V = (\frac{1}{2})(3)(21.8)(5) = 163.5 \text{ in}^3$$

①  $\triangle 36^\circ$   $\frac{360}{5}$

③  $3 \tan 36 = 2.18$

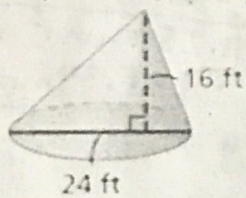
②  $\triangle 36^\circ$   $x$

$$\tan 36 = \frac{x}{3}$$

④  $2.18 \times 2 = 4.36$

⑤  $P = 4.36 \cdot 5 = 21.8$

14) Find the volume of each figure.

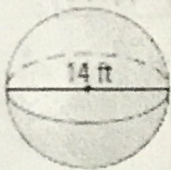


$$V = \frac{1}{3}Bh$$

$$B = \pi(12^2)$$

$$h = 16$$

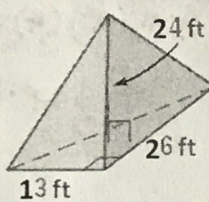
$$V = (\frac{1}{3})(\pi)(12^2)(16) = 2412.74 \text{ ft}^3$$



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

$$V = \frac{4}{3}\pi(7^3)$$

$$V = 1436.76 \text{ ft}^3$$



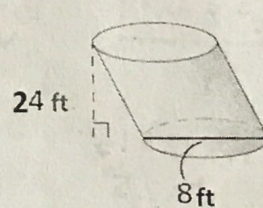
$$V = \frac{1}{3}Bh$$

$$B = \text{triangle}$$

$$B = \frac{1}{2}(13)(26) = 169$$

$$h = 24$$

$$V = (\frac{1}{3})(169)(24) = 1352 \text{ ft}^3$$

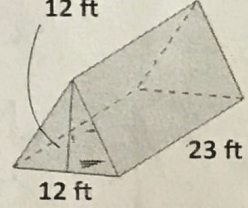


$$V = Bh$$

$$V = \pi r^2 \cdot h$$

$$V = \pi(4^2)(24)$$

$$V = 384\pi \text{ or } 1206.37$$



$$V = Bh$$

$$B = \frac{1}{2}bh$$

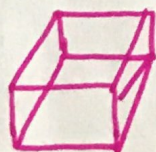
$$B = (\frac{1}{2})(12)(12)$$

$$B = 72 \quad h = 23$$

$$V = 72(23)$$

$$V = 1656 \text{ ft}^3$$

15) What is the volume of a rectangular prism that has a height that is 12 inches, a width that is half the height, and a length that is four inches longer than the width?



$$V = l \cdot w \cdot h$$

$$h = 12 \quad l = 10$$

$$w = 6$$

$$V = 12(6)(10)$$

$$V = 720 \text{ in}^3$$

16) A cube has an edge length of 6.5 in. If the dimensions of the cube are multiplied by  $\frac{1}{5}$  describe the effect on the volume.

$$(\frac{1}{5})^3 = \frac{1}{125}$$

Vol. is multiplied by  $\frac{1}{125}$ .