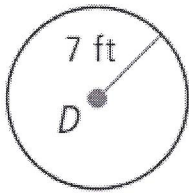


1. The area of $\odot D$ in terms of π .



circle area = πr^2
 $= \pi(7)^2$
area = $49\pi \text{ ft}^2$

2. The circumference of $\odot T$ in which $A = 16\pi \text{ mm}^2$.

$C = \pi d$
 $C = \pi(8)$
 $C = 8\pi \text{ mm}$

$\pi r^2 = 16\pi$
 $r^2 = 16 \rightarrow r = 4$
~~Area~~ so $d = 8$

3. Speakers come in diameters of 4in, 9in, and 16in. Find the area of each speaker to the nearest tenth.

4in $\rightarrow A = \pi r^2 \rightarrow A = \pi(2)^2 \rightarrow$ **$A = 4\pi \text{ in}^2$ or 12.6 in^2**

9in $\rightarrow A = \pi(4.5)^2 \rightarrow$ **$A = 20.25\pi \text{ in}^2$ or 63.6 in^2**

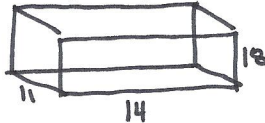
16in $\rightarrow A = \pi(8)^2 \rightarrow$ **$A = 64\pi \text{ in}^2$ or 201.1 in^2**

#4-7 Find the volume of each figure:

4. A right rectangular prism with edge length 11ft and height 18cm

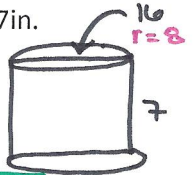
width 11cm, 14cm

$V = Bh$
 $(l \cdot w)$
 $V = (11 \cdot 14)(18) =$ **2772 cm^3**



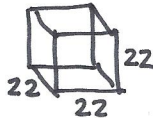
6. A cylinder with diameter 16in and height 7in.

$V = Bh$
 (πr^2)
 $V = (\pi 8^2)(7) =$ **$448\pi \text{ in}^3$**



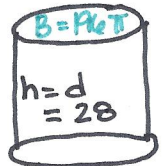
5. A cube with edge length 22ft.

$V = Bh$
 $(l \cdot w)$
 $V = (22 \cdot 22)(22) =$ **$10,648 \text{ ft}^3$**

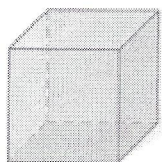


7. A cylinder with base area $196\pi \text{ cm}^2$ and height equal to the diameter.

$V = Bh$
 (πr^2)
 $V = (\pi 14^2)(28) =$ **$5488\pi \text{ cm}^3$**



8. The edge length of the cube is tripled. Describe the effect on the volume.



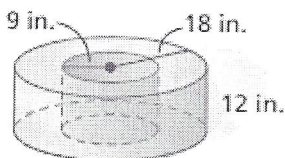
2 m
New = 6m

original volume = $Bh = (l \cdot w)h = (2 \cdot 2)(2) = 8 \text{ m}^3$

new volume = $Bh = (l \cdot w)h = (6 \cdot 6)(6) = 216 \text{ m}^3$

*Volume is multiplied by 27.

9. Find the volume of the composite figure. Round the nearest tenth.



small cylinder = $V = Bh = (\pi 9^2)(12) = 972\pi$

Big cylinder = $V = Bh = (\pi 18^2)(12) = 3888\pi$

composite figure = $3888\pi - 972\pi$

$= 2916\pi \text{ in}^3$

(subtract blk figures are inside of each other, so less volume).

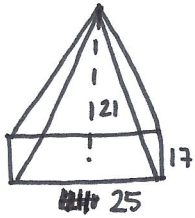
10. A rectangular pyramid with length 25cm, width 17cm, and height 21cm.

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

(l · w)

$$V = \frac{1}{3} (25 \cdot 17) (21)$$

$$V = 2975 \text{ cm}^3$$



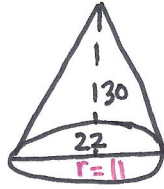
12. A cone with diameter 22cm and height 30cm.

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

(πr^2)

$$V = \frac{1}{3} (\pi 11^2) (30)$$

$$V = 1210\pi \text{ cm}^3$$



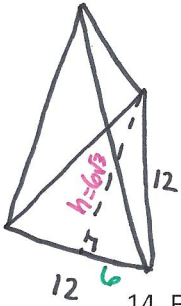
11. A regular triangular pyramid with base edge length 12in, and height 10in.

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

($\frac{1}{2}bh$)

$$V = \frac{1}{3} (\frac{1}{2} (6) (6\sqrt{3})) (10)$$

$$V = 103.9 \text{ in}^3$$



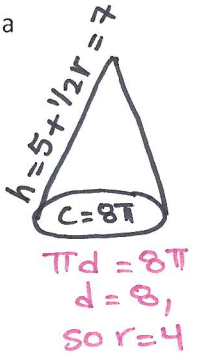
13. A cone with base circumference 8π m and a height 5m more than $\frac{1}{2}$ the radius.

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

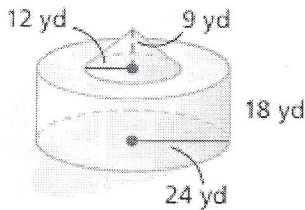
(πr^2)

$$V = \frac{1}{3} (\pi 4^2) (7)$$

$$V = \frac{112\pi}{3} \text{ or } 117.3 \text{ m}^3$$



14. Find the volume of the composite figure. Give your answer in terms of π .



$$\text{cone} = \frac{1}{3} Bh = \frac{1}{3} (\pi r^2) (9) = \frac{1}{3} (\pi 12^2) (9) = 432\pi$$

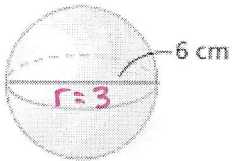
$$\text{cylinder} = Bh = (\pi r^2) (18) = (\pi 24^2) (18) = 10368\pi$$

$$\text{composite figure} = 10368\pi + 432\pi$$

$$= 10800\pi \text{ yd}^3$$

(add b/c figures are stacked, so more volume).

15. Find the volume. Give your answer in terms of π .



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

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

$$V = 36\pi \text{ cm}^3$$

16. The volume of a sphere with great circle areas $36\pi \text{ in}^2$

$$\pi r^2 = 36\pi$$

$$r^2 = 36$$

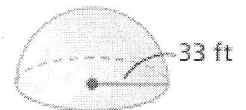
$$r = 6$$

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

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

$$V = 288\pi \text{ in}^3$$

17. The volume of the hemisphere



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

$$V = \frac{4}{3} \pi (33)^3$$

$$V = 47916\pi \rightarrow \div 2$$

$$V = 23,958\pi \text{ ft}^3$$