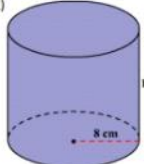


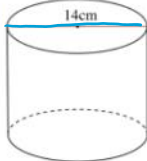
Topic 13 Review

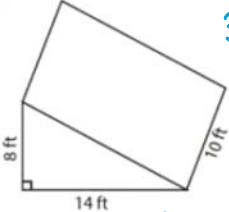
Thursday, May 6, 2021 7:31 AM

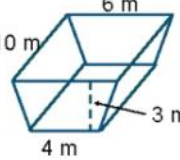
Review for Topic 13 Volume Test

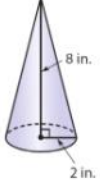
Find the Volume for the following shapes.

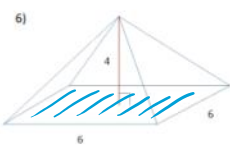
1)  $B = \pi r^2$
 $= \pi (8)^2$
 $= 64\pi$
 $= 201.06$
 $V = 201.06(15)$
 $V = 3015.93 \text{ cm}^3$

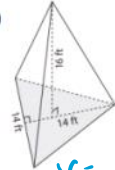
2) $d = 14$
 $r = 7$  $B = \pi (7)^2$
 $= 49\pi$
 $= 153.94$
 $V = 153.94(10)$
 $V = 1539.38 \text{ cm}^3$

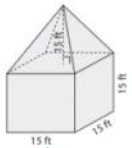
3)  $B = \frac{14(8)}{2}$
 $B = 56$
 $V = 56(10)$
 $V = 560 \text{ ft}^3$

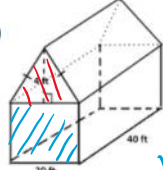
4)  $B = \frac{(6+4)3}{2}$
 $B = 15$
 $V = 15(10)$
 $V = 150 \text{ m}^3$

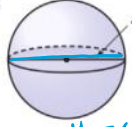
5)  $B = \pi (2)^2$
 $= 4\pi$
 $= 12.57$
 $V = \frac{12.57(8)}{3} = 33.52 \text{ in}^3$

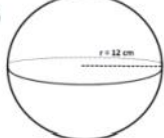
6)  $B = 6(6)$
 $= 36$
 $V = \frac{36(4)}{3} = 48$

7)  $B = \frac{14(14)}{2}$
 $B = 98$
 $V = \frac{98(16)}{3} = 522.67 \text{ ft}^3$

8)  Prism
 $B = 15(15)$
 $= 225$
 $V = 225(15)$
 $V = 3375$
Pyramid
 $B = 225$
 $V = \frac{225(15)}{3}$
 $V = 1125$
 $V = 3375 + 1125 = 4500$

9)  Prism
 $B = 18(20)$
 $= 360$
 $V = 360(40)$
 $V = 14400$
Prism
 $B = \frac{20(4)}{2}$
 $= 40$
 $V = 40(40)$
 $= 1600$
 $V = 16000 \text{ ft}^3$

10)  $d = 42$
 $r = 21$
 $V = \frac{4}{3}\pi (21)^3$

11)  $r = 12$
 $V = \frac{2}{3}\pi (12)^3$

$$V = Bh$$

Area of a Circle
 $A = \pi r^2$

Area of a Triangle

$$A = \frac{bh}{2}$$

Area of a Trapezoid

$$A = \frac{(b_1 + b_2)h}{2}$$

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

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



$$r = 21$$

$$V = \frac{4}{3} \pi (21)^3$$

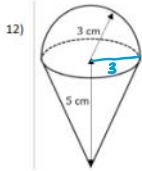
$$V = 38792.39 \text{ cm}^3$$



$$V = \frac{4}{3} \pi (12)^3$$

$$V = 7258.23 \text{ cm}^3$$

$$V = \frac{2}{3} \pi r^3$$



hemisphere

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

$$V = 56.55$$

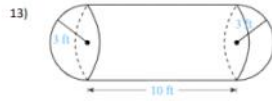
Cone

$$B = \pi (3)^2$$

$$= 28.27$$

$$V = \frac{28.27(5)}{3} = 47.12$$

$$V = 56.55 + 47.12 = 103.67$$



Sphere

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

$$113.10$$

+ Cylinder

$$B = \pi (3)^2$$

$$= 28.27$$

$$V = 28.27(10)$$

$$V = 282.70$$

$$V = 113.10 + 282.70$$

$$V = 395.80$$

Review

14) Convert from vertex form to standard form. $y = 3(x+4)^2 - 8$

$$(x+4)^2$$

$$(x+4)(x+4)$$

$$x^2 + 8x + 16$$

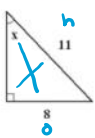
$$y = ax^2 + bx + c$$

$$y = -3(x^2 + 8x + 16) - 8$$

$$y = -3x^2 - 24x - 48 - 8$$

$$y = -3x^2 - 24x - 56$$

15) Solve for x. (Hint: SOHCAHTOA)



$$\sin x = \frac{8}{11}$$

$$x = \sin^{-1}\left(\frac{8}{11}\right)$$

$$x = 46.66$$

16) Solve $2x^2 + 7x - 4 = 0$

$$(2x^2 + 8x)(x - 4) = 0$$

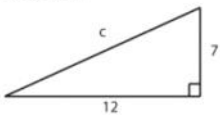
$$2x(x+4) - 1(x+4) = 0$$

$$(2x-1)(x+4) = 0$$

$$2x-1 = 0 \quad x+4 = 0$$

$$x = \frac{1}{2} \quad x = -4$$

17) Solve for x.



$$c^2 = 7^2 + 12^2$$

$$c^2 = 49 + 144$$

$$\sqrt{c^2} = \sqrt{193}$$

$$c = \sqrt{193}$$

$$c = 13.89$$