A.M.D.G.

Area & Volume (ch 12) Review: 1-11, 17, 19, 21

Note Title 5/12/2016

Volume:

d A pyramid with a height of 5 and a base area of 12

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

$$= \frac{1}{3}(12)(5)$$

$$= 4 \cdot 5 = 20$$

e A prism with a height of 5 and a base area of 12

$$V = Bh$$

$$12 \cdot 5 = 60$$

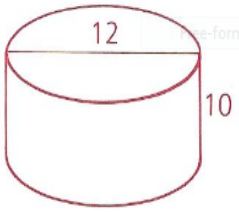
f A sphere with a radius of 2

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

$$\frac{4}{3}\pi 2^3 \qquad \frac{4}{3} \cdot 8 = \frac{32}{3}\pi$$

3 Find the volume and the total surface area of each solid.

a



$r = 6$

$C = \pi d$ $\pi r 2 \cdot 10$ $LA =$

$\pi 120$

L. A: bh

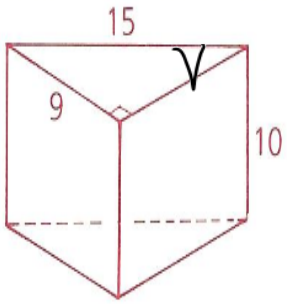
T. A = L. A. + Area of Base^2

36π

192π $240\pi + 120\pi$

360π

b



$LA = bh$

$(15)(10) = 150$

$(9)(10) = 90$

$(12)(10) = 120$

360

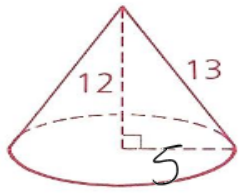
$SA = LA + 2 \cdot \frac{1}{2}bh$

$360 + 108 = 468$

$V = Bh$

$(54)(10) = 540$

c



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

$V = \frac{1}{3}(\pi 5^2)(12)$

$V = 25\pi(4)$

$V = 100\pi$

$LA + B$

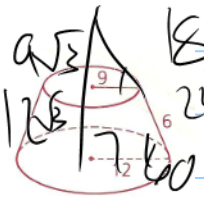
$\pi r l + \pi r^2$

$\pi(5)(13) + \pi 25$

$65\pi + 25\pi$

90π

21 A frustum of a cone is shown. Find the volume of this solid.



$V_1 = \frac{1}{3}Bh$

$\frac{x}{9} = \frac{6+x}{12}$

$12x = 9(6+x)$

$12x = 54 + 9x$

$-9x \quad -9x$

$3x = 54$

$x = 18$

$(-, 12, 24)$

$12(\sqrt{3}, 1, 2)$

$12\sqrt{3}$

$18 + 6 = 24$

$V_1 = -V_S$

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

$\frac{1}{3}(9^2\pi)(9\sqrt{3})$

$(81\pi)(3\sqrt{3})$

$243\sqrt{3}\pi$

$V_1 = \frac{1}{3}Bh$

$\frac{1}{3}(12^2\pi)(12\sqrt{3})$

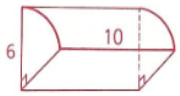
$144\pi \cdot 4\sqrt{3}$

$576\sqrt{3}\pi$

$-243\sqrt{3}\pi$

$333\sqrt{3}\pi$

19 A cylinder is cut into four equal parts. Find the total area of the part shown.



17 A hole with a diameter of 2 in. is drilled through a block as shown. Find the volume of the resulting solid to the nearest cubic inch.