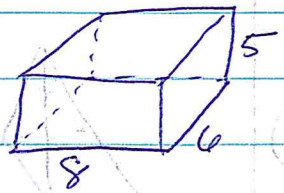
# P.518 Ch. 12 Review

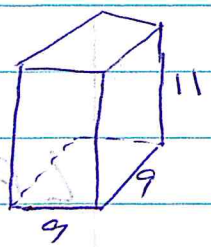
1) lateral edge

2) $LA = (7)(8)(12)$
$= 672 \text{ u}^2$




3) $TA = 28(5) + 2(8)(6)$
$= 140 + 96$
$= 236 \text{ u}^2$

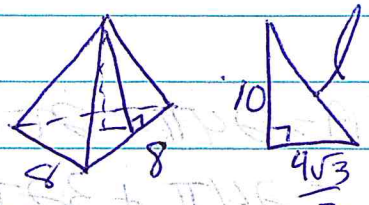
$V = (8)(6)(5)$
$= 240 \text{ u}^3$




4) $891 = (9)(9)(h)$ $TA =$
$11 = h$

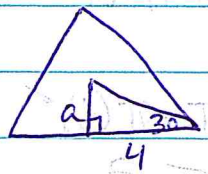
$TA = (36)(11) + 2(81)$
$= 396 + 162$
$= 558 \text{ u}^2$

5)



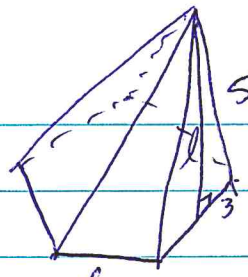

$10^2 + \left(\frac{4\sqrt{3}}{3}\right)^2 = \ell^2$

$V = \frac{1}{3}(16\sqrt{3})(10)$
$= \frac{160\sqrt{3}}{3} \text{ u}^3$



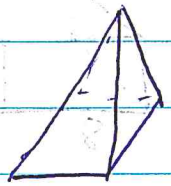

$a\sqrt{3} = 4$
$a = \frac{4\sqrt{3}}{3}$

$A_{base} = \frac{1}{2}\left(\frac{4\sqrt{3}}{3}\right)(8)(3)$
$= 16\sqrt{3}$

6) 


$\ell = 4$

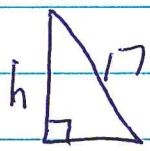
$LA = \frac{1}{2}(6)(5)(4)$
$= 60\ u^2$

7) 


$TA = 1920$ $A_{base} = 900u^2$

$1920 = (30)^2 + \frac{1}{2}(4)(30)\ell$
$1920 = 900 + 60\ell$
$1020 = 60\ell$
$17 = \ell$

$LA = \frac{1}{2}(4)(30)(17)$
$= 1020u^2$

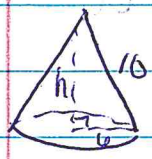
8) 


$h^2 + 15^2 = 17^2$
$h^2 + 225 = 289$
$h^2 = 64$
$h = 8$

$V = \frac{1}{3}(900)(8)$
$= 2400u^3$

9) $LA = 2\pi(4)(3)$
$= 24\pi u^2$

$TA = 24\pi + 2\pi(4)^2$
$= 24\pi + 32\pi$
$= 56\pi u^2$

10) 


$h = 8$

$LA = \pi(6)(10)$
$= 60\pi cm^2$

$SA = 60\pi + \pi(6)^2$
$= 96\pi cm^2$

$V = \frac{1}{3}\pi(6)^2(8)$ $= 96\pi cm^3$

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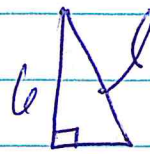
11) $8\pi = \frac{1}{3}\pi r^2(6)$

$8\pi = 2\pi r^2$

$4 = r^2$

$2 = r$




$2^2 + 6^2 = l^2$

$4 + 36 = l^2$

$40 = l^2$

$2\sqrt{10}\,cm = l$

12) $V_{old} = \pi r^2 h$

$V_{new} = \pi(2r)^2(\frac{1}{2}h)$

$= \pi(4r^2)(\frac{1}{2}h)$

$= \underline{2\pi r^2 h}$

Volume is doubled

13) $SA = 4(\frac{22}{7})(7)^2$

$= \frac{88}{1} \cdot \frac{49}{1}^{7}$

$= 616\,m^2$

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

$= 288\pi\ ft^3$

15) $484\pi = 4\pi r^2$

$121 = r^2$

$11 = r$

$V = \frac{4}{3}\pi(11)^3$

$= \frac{484\pi}{3}\ cm^3$

$= \frac{5324\pi}{3}\ cm^3$

16) 1:3

17) $(1:3)^2 = 1:9$

18) Vol ratio for whole Pyramids $= (1:3)^3$

$= 1:27$

ratio of volume of top to bottom $= 1:26$

19) $48\pi / 27\pi = 16/9$ $\quad \sqrt{\frac{16}{9}} = \frac{4}{3}$ $\quad$ V ratio $= 64:27$