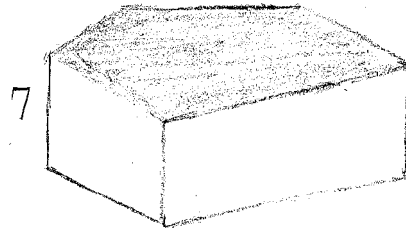


3. 12.4 #3, 4, 6, 9, 10, 12
A of Shaded face = 51

$$V = Ph$$

P is the area of a base

$$V = 51 \cdot 7 = \boxed{357 \text{ cu. units}}$$



April 3rd, 2009

4. $V = Ph$

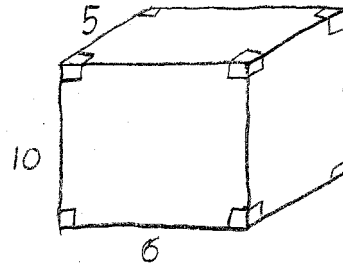
P is the area of a base

$$P = 5 \cdot 6 = 30 \text{ sq units}$$

$$V = 30 \cdot 10 = \boxed{300 \text{ cu units}}$$

$$\text{Total S.A.} = 2(60) + 2(30) + 2(50)$$

$$\text{Total S.A.} = 180 + 100 = \boxed{280 \text{ sq units}}$$

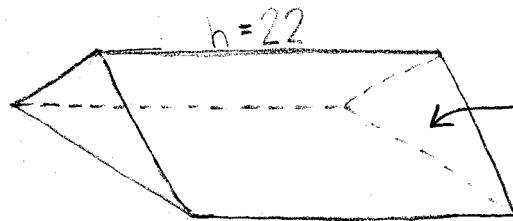


6. $V = 286 \text{ cu. units}$ $P = 13 \text{ sq units}$

$P = \text{Base Area}$

$$V = Ph$$

$$286 = 13h \quad h = \boxed{22} = \text{length of lateral edge}$$



could be any shape, not necessarily a triangle

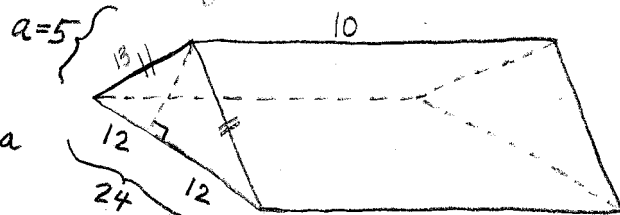
9. $V = Ph, h = 10$

P is the area of a base = $\frac{1}{2}ba$

$$a = \sqrt{13^2 - 12^2} = \sqrt{25} = 5$$

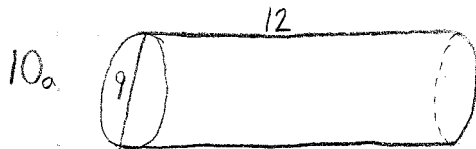
$$P = \frac{1}{2}(5 \cdot 24) = 60 \text{ sq. units}$$

$$V = 60 \cdot 10 = \boxed{600 \text{ cu. units}}$$



$$\text{T.A.} = 2P + 2(A \text{ of rect}) + (24 \cdot 10)$$

$$\text{T.A.} = 2(60) + 2(130) + 240 = \boxed{620 \text{ sq. units}}$$



$$V = Ph = \pi r^2 h = \pi (4.5^2)(12) = \boxed{243\pi \text{ cu. units}}$$

$$\text{TSA}_{\text{cyl}} = \text{LSA} + 2A_{\text{circle}} = 2\pi r h + 2(\pi r^2) = 2\pi(4.5)(12) + 2\pi(4.5^2) = \boxed{148.5\pi \text{ sq. Units}}$$

Let $B = \text{area of full circle} = \pi r^2$

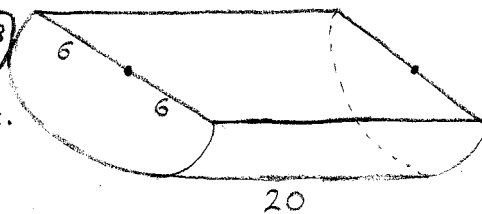
$$b \quad V = \frac{1}{2} Bh = \frac{1}{2} (36\pi) \cdot 20 = 360\pi \text{ un}^3$$

$$TSA_{\text{semi cyl}} = LSA + 2A_{\text{semicircle}} + A_{\text{rect.}}$$

$$TSA_{\text{semi cyl}} = \frac{1}{2} (2\pi rh) + 2 \frac{\pi r^2}{2} + 20(12)$$

$$TSA_{\text{semi cyl}} = 120\pi + \frac{2\pi(6^2)}{2} + 240$$

$$TSA_{\text{semi cyl}} = 156\pi + 240 \text{ sq. units}$$



12. $V = Bh$

$$B = \frac{6 \cdot s^2 \sqrt{3}}{4} = \frac{6 \cdot 6^2 \sqrt{3}}{4}$$

$$= \frac{1}{2} (3\sqrt{3}) (36)$$

$$= 54\sqrt{3}$$

$$V = Bh = (54\sqrt{3}) 10$$

$$= 540\sqrt{3} \text{ un}^3$$

$$TSA = 6 \text{ rect.} + 2 \text{ hex}$$

$$= 6(6 \cdot 10) + 2(54\sqrt{3})$$

$$= (360 + 108\sqrt{3}) \text{ un}^2$$

