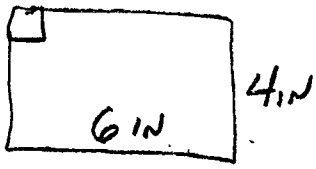
GEOMETRY TUES. 4-2-13 CLASS NOTES

Pyramid

(2)



BASE

$h = 17$ IN.

$V = \frac{1}{3} B h$

↑ Area

$V = \frac{1}{3}(24)17$

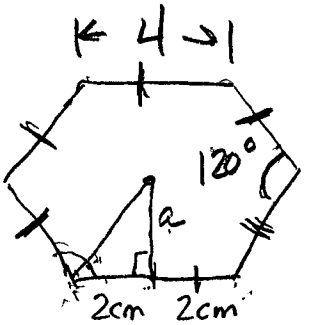
$V = 8 \cdot 17$

$V = 136 \text{ IN}^3$

Geometry BASE

TUES. 4-2-13 CLASS NOTES

(3)

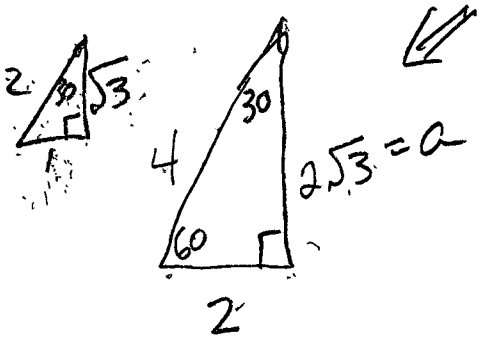


$V = ?$ $h = 4\sqrt{3}$ cm

* Assume regular hexagon

$(N-2)180 = (6-2)(180) = 720$

$\frac{720}{6} = 120°$



$A_{\text{Reg Hex}} = \frac{1}{2} a P$

$4 \cdot 6 = 24$

$A = \frac{1}{2} \cdot 2\sqrt{3} \cdot 24$

$A = \sqrt{3} \cdot 24$

$\therefore V = B h \left(\frac{1}{3}\right)$

$= \left(\sqrt{3} \cdot 24\right) \cdot \left(4\sqrt{3}\right) \cdot \frac{1}{3}$

$= 3 \cdot 24 \cdot 4 \cdot \frac{1}{3}$

$= \boxed{96 \text{ cm}^3}$

④ $V = ?$ hexagonal pyramid

$B = 25\text{ft}^2$ $h = 9\text{ft}$

$V = \frac{1}{3}Bh = \frac{1}{3} \cdot 25 \cdot 9 = \boxed{75\text{ft}^3}$

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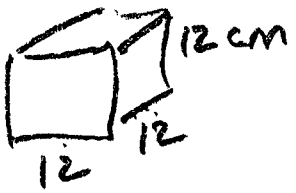
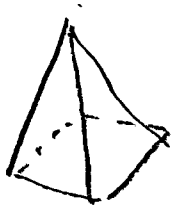
⑪ $V = ?$



$V = Bh = (12 \cdot 12)12$

$= 1728\,\text{cm}^3$



$h = 18$

$B = 12^2 = 144$ $V = \frac{1}{3}Bh$

$= \frac{1}{3}(144)18$

$= 6(144)$

$= 864\,\text{cm}^3$

$\therefore V_{TOTAL} = 1728 + 864$

$\boxed{V = 2592\,\text{cm}^3}$

(5) 2 sq. pyramids

5.7 mm ⇒ $5.7^2 = B$

h = 3 mm ⇒ $32.49\ mm^2$

$$\begin{array}{r} 5.7 \\ \times\ 5.7 \\ \hline 399 \\ 285 \\ \hline 32.49 \end{array}$$

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

$$V = \frac{1}{3}(32.49)3 = 32.49\ mm^3$$

$$\begin{array}{r} 32.49\ mm^3 \\ \times\ 2 \\ \hline 64.98\ mm^3 \end{array}$$

$$V = 65\ mm^3$$

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(6) $V_{CONE} = \frac{1}{3}Bh = ?$ $r = 9\ cm$, $h = 14\ cm$

$B \rightarrow \pi r^2$

$$= \frac{1}{3}(\pi 9^2)14$$

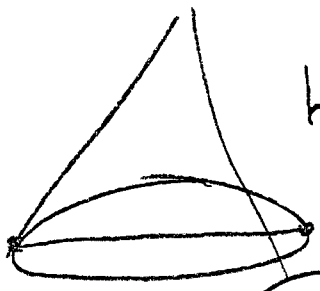
$$= \left(\frac{1}{3}\pi 81\right)14 = 27 \cdot 14\ \pi$$

$$V = (270 + 108)\pi$$

$$V = 378\pi\ cm^3 \quad \text{EXACT}$$

$V \approx 1187.522$ tenth. [2] $V \approx 1187.5\ cm^3$ APPROX

(7)



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

$\frac{1}{3}(\pi r^2)h$

$\frac{1}{3}(\pi 144)\overset{10}{\cancel{30}}$

$1440\pi \text{ in}^3$

EXACT

$V \approx 4523.893 \approx 4523.9 \text{ in}^3$

(19) $V = ?$ Cone, $B = 36\pi \text{ ft}^2$

$h = 2 \cdot r$

$A_{\odot} = 36\pi$ $\quad A = \pi r^2 = 36\pi$

$r^2 = 36$

$\therefore r = 6$

$h = 12$

$V = \frac{1}{3} B h$

$= \frac{1}{3}(36\pi)12$

$= 4 \cdot 36\pi$

$V = 144\pi \text{ ft}^3$

$V \approx 452.389$

$V \approx 452.4 \text{ ft}^3$