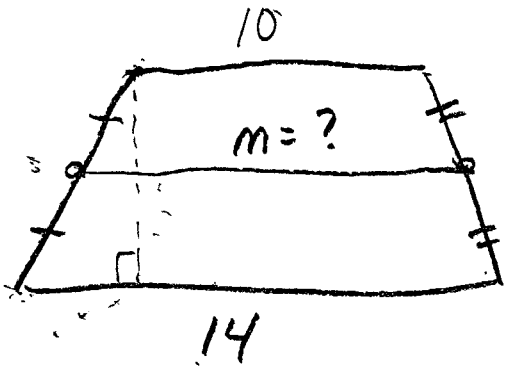
Geometry 5-6-13 Monday Class Notes

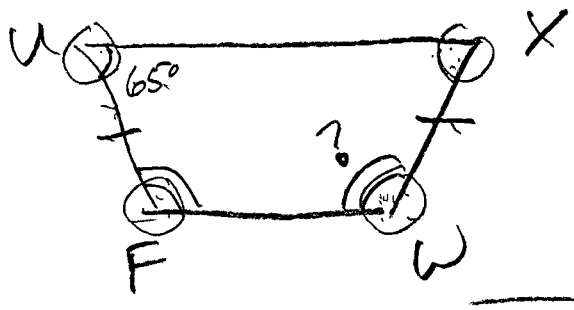
① $m = ?$



$m = \frac{10+14}{2} = \boxed{12 = m}$

---

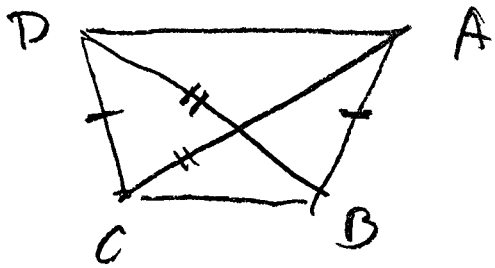
②



$\boxed{W = 180 - 65 = 115°}$

---

③



$BD = 16x + 2$

$AC = 19x - 1$

$BD = ?$

$16x + 2 = 19x - 1$

$-16x \quad\quad -16x$

$2 = 3x - 1$

$1 = x$

$BD = 16(1) + 2$

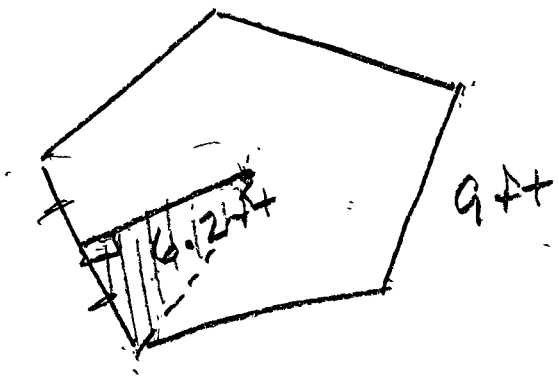
$\therefore \boxed{BD = 18}$

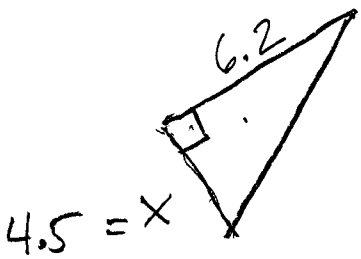
⑤ $V = ?$ Base

$h = 11$ ft

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

B = Base Area





$A_\Delta = \frac{1}{2}(4.5)(6.2)$

$A_\Delta = 4.5(3.1)$

$\therefore B = 10(13.95)$

$B = 139.5$

$V = \frac{1}{3}(139.5)(11)$

$V = (46.5)(11)$

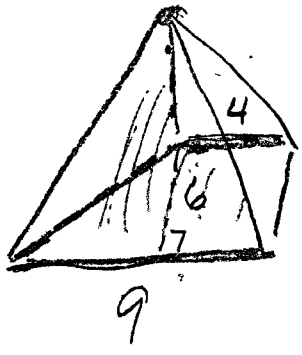
$\boxed{V = 511.5 \text{ ft}^3}$

$$\begin{array}{r} 4.5 \\ \times 3.1 \\ \hline 45 \\ 135 \\ \hline 13.95 \end{array}$$

$$\begin{array}{r} 46.5 \\ \times 11 \\ \hline 465 \\ 465 \\ \hline 511.5 \end{array}$$

(ex) trapezoidal pyramid $V = ?$

$h = 12\text{ m}$ $\quad V = \frac{1}{3}Bh$



$$A_{\text{trap}} = \frac{1}{2}(b_1 + b_2)h$$

$$= \frac{1}{2}(4+9)6$$

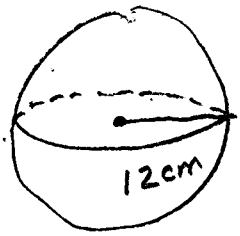
$$B = A_{\text{trap}} = 39\text{ m}^2 \qquad V_{\text{prism}} = (39)12$$

$$V_{\text{prism}} = 468\text{ m}^3$$

$$V_{\text{pyramid}} = \frac{1}{3}(468)$$

$$V_{\text{pyramid}} = 156\text{ m}^3$$

(6)



$V = ?$ $\quad V_{\text{sphere}} = \frac{4}{3}\pi r^3$

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

$V = 2304\pi \text{ cm}^3$

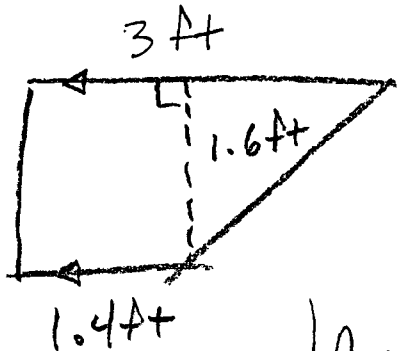
144
16

864
144

2304

---

(7)



$A = ?$

$A = \frac{1}{2}(b_1 + b_2)h$

$A = \frac{1}{2}(1.4 + 3)1.6$

$A = (4.4)(.8)$

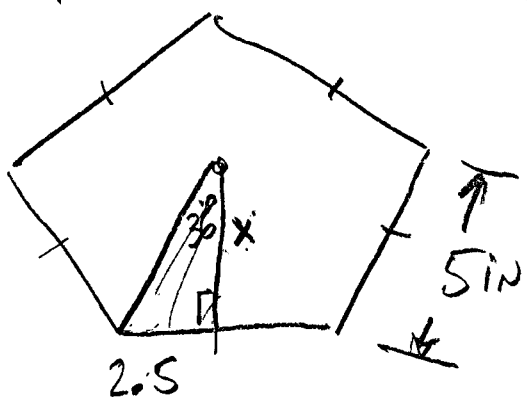
$A = 3.52 \text{ At}^2$ *

$A = 3.5 \text{ At}^2$

(9) $A = ?$

Perimeter = 25 in

Assume = Reg. Pentagon



$$x \tan 36^\circ = \frac{2.5}{x} \cdot x$$

$$x = \frac{2.5}{(.7265)} = 3.441$$

$$A_\Delta = \frac{1}{2}(2.5)(3.441)$$

$$= (1.25)(3.441) =$$

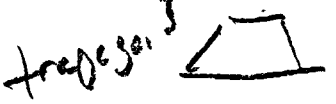
$$A_\Delta = 4.3013$$

$$A_{\text{pentagon}} = 10(4.3013)$$

$$\boxed{A = 43.013 \text{ in}^2}$$

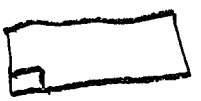
Area Formulas

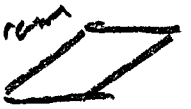
triangle $\triangle = \frac{1}{2}bh$

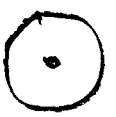
trapezoid  $= \frac{1}{2}(b_1 + b_2)h$

Length of midsegment

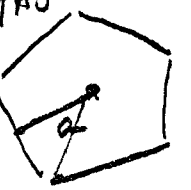
square  $= s^2$

rectangle  $= bh$

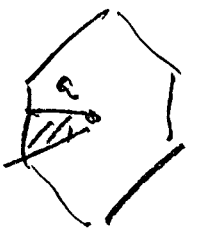
parallelogram  $= bh$

 $= \pi r^2$

pentagon

 $= \frac{1}{2}aP$

or  times 10

 $= \frac{1}{2}aP$

hexagon

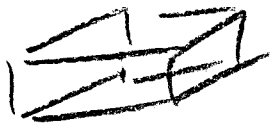
or  times 12

sphere

 $S.A. = 4\pi r^2$

Volume Formulas

Rectangular prism $\Rightarrow V = Bh$



B = bh

Rectangular pyramid $\Rightarrow V = \frac{1}{3}Bh$

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

Cone $\Rightarrow V = \frac{1}{3}(\pi r^2)h$

Cylinder $\Rightarrow V = \underbrace{(\pi r^2)}_{B}h$