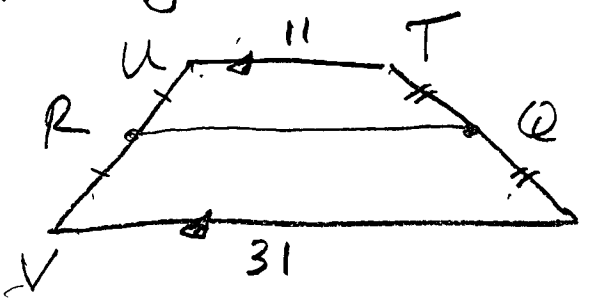
Geometry | Monday 4-8-13 | Class Notes

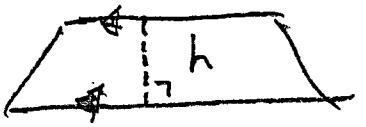
① Midsegment = ? $\overline{RQ}$ = ?

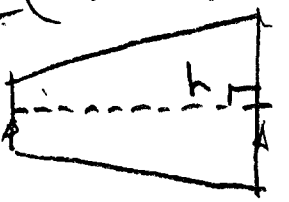


$\overline{RQ} = \frac{1}{2}(31+11)$

$\overline{RQ} = 21$ units

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





Trapezoidal Prism

$\cong$ ↑ BASES

SIDES OF ALL PRISMS ARE PARALLELOGRAMS

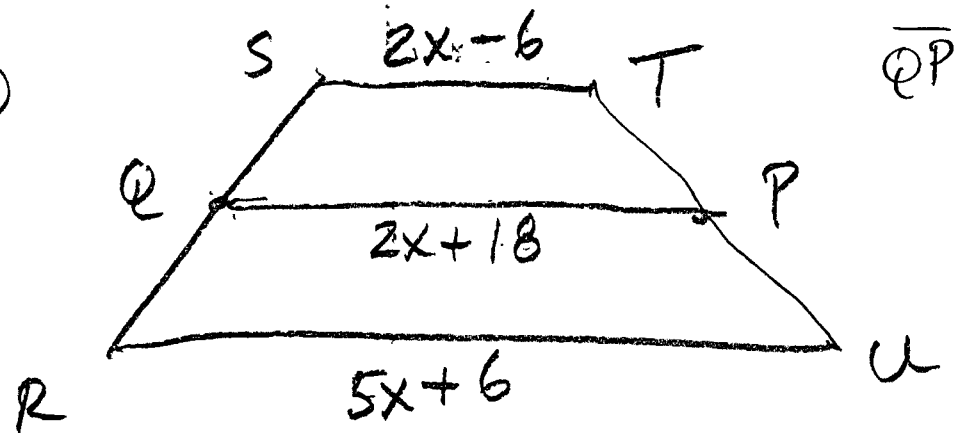
$V = Bh$

Area of Base

Trapezoidal Pyramid

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

(5)



$\overline{QP} = ?$

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

$$2x+18 = \frac{1}{2}\left[(2x-6)+(5x+6)\right]$$

$$2x+18 = \frac{1}{2}\left[2x-6+5x+6\right]$$

$$2\cdot[2x+18] = \frac{1}{2}[7x]\cdot 2$$

$$4x+36 = 7x$$
$$-4x \qquad -4x$$

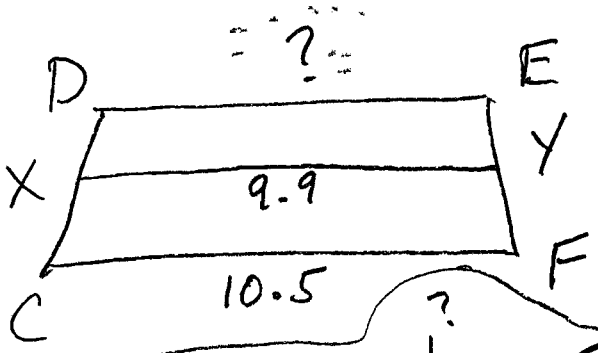
$$\frac{36}{3} = \frac{3x}{3}$$

$$12 = x$$

$$\overline{QP} = 2(12)+18$$

$$\overline{QP} = 42$$

(9.)



$\bar{M} = \frac{1}{2}(b_1 + b_2)$ ← ?

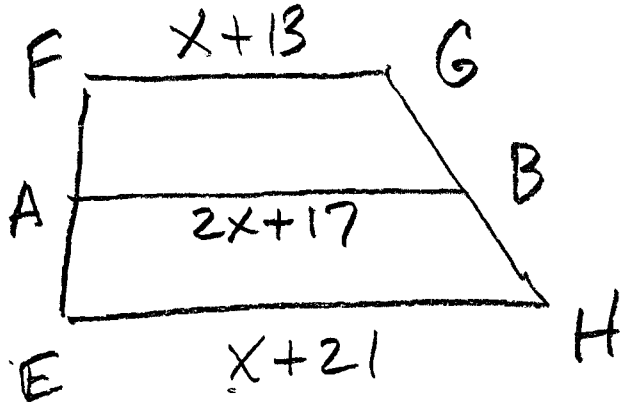
$2 \cdot 9.9 = \frac{1}{2}(b_1 + 10.5) \cdot 2$

$19.8 = b_1 + 10.5$

$-10.5 \qquad -10.5$

$\boxed{9.3 = b_1}$

(13)



FIND $\overline{EH}$ = ?

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

$$2x+17 = \frac{1}{2}((x+13)+(x+21))$$

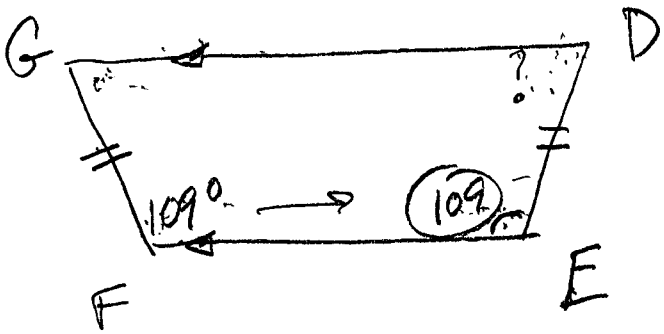
$$2x+17 = \frac{1}{2}[2x+34]$$

$$2x+17 = x+17$$

$$x = 0$$

$$\therefore \overline{EH} = 21$$

(17)



$m\angle EDG = \boxed{71^\circ}$

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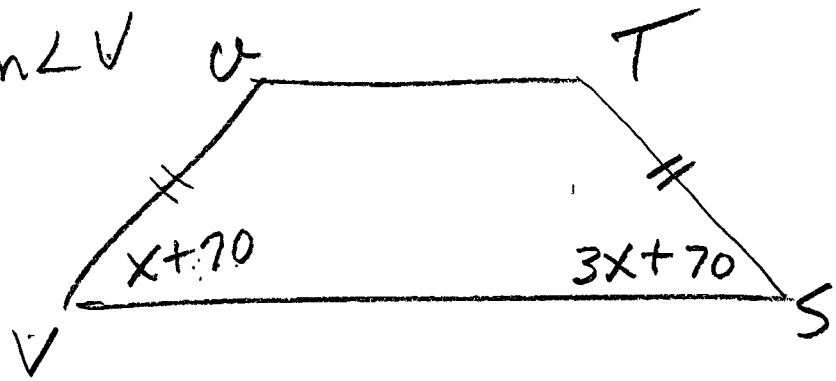
(21) $m\angle V$



$x + 70 = 3x + 70$

$-x \quad\quad -x$

$0 = 2x$

$0 = x$

$\therefore \boxed{m\angle V = 70^\circ}$

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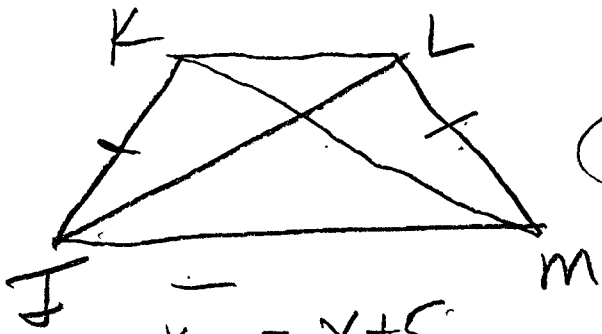
(22)



Length of diagonal

Diagonal are $\cong$

$KM = ?$

$KM = x + 5$

$\overline{JL} = 3x - 9$

$x + 5 = 3x - 9$

$14 = 2x$

$\therefore \boxed{x = 7}$

$\boxed{KM = (7) + 5 = 12}$

Quiz 3 Review

(1) $V = \frac{1}{3}Bh$ $\quad r = 2\ yd$, $h = 5\ yd$

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

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

$V = \frac{1}{3}(4\pi)5 = \frac{20}{3}\pi\ yd^3$

$\boxed{V = 6.7\pi\ yd^3}$

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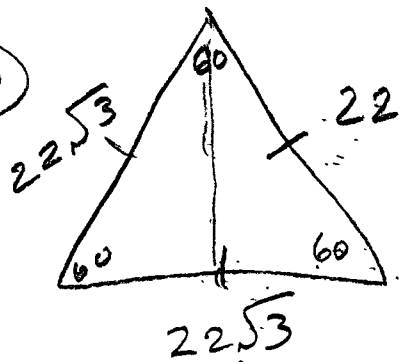
(10)

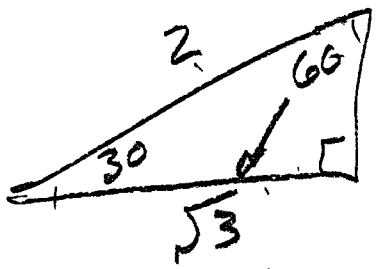


NORMAL $A = \frac{1}{2}bh$

$\rightarrow$ SAS $A = \frac{1}{2}(22\sqrt{3})(22\sqrt{3})\sin 60$

Heron's $= \sqrt{s\left(s-\frac{22}{\sqrt{3}}\right)\left(s-\frac{22}{\sqrt{3}}\right)\left(s-\frac{22}{\sqrt{3}}\right)}$

SOHCAHTOA



$\sin 60° = \frac{\sqrt{3}}{2}$

$A = \frac{1}{2}\left(\frac{11}{\cancel{22}}\cancel{2}\sqrt{3}\right)\left(\frac{11}{\cancel{22}}\cancel{2}\sqrt{3}\right)\frac{\sqrt{3}}{2}$

$A = 363\sqrt{3}$

$A = 363(1.7321)$

$\boxed{A = 628.7523}$

② $V = \frac{1}{3}Bh$ $a = 6.1$ km

$P = 42$ km

$= \frac{1}{3}\left(\frac{1}{2}(6.1)42\right)12$

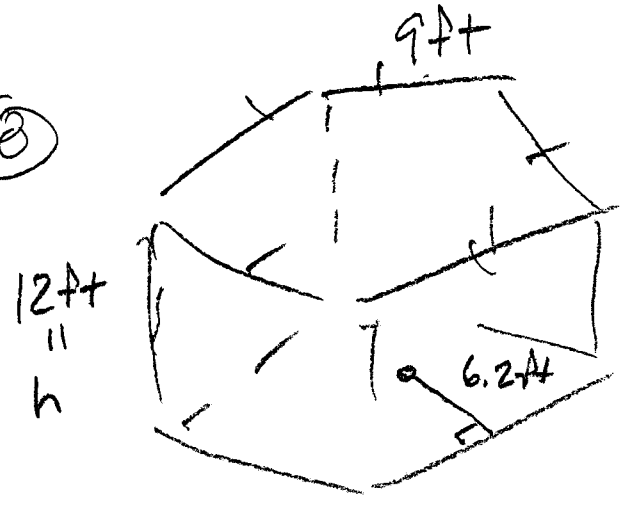
$= 4\left((3.05)(42)\right)$

$= 4(128.1)$

$\boxed{V = 512.4 \text{ km}^3}$

$$\begin{array}{r} 3.05 \\ \times\ 42 \\ \hline 610 \\ 1220 \\ \hline 128.10 \end{array}$$

(8)



$P = 45$

$a = 6.2$

$A = \frac{1}{2} a P$

$= \frac{1}{2}(6.2)45$

$= (3.1)(45)$

$A = 139.5$

B

Area of Base

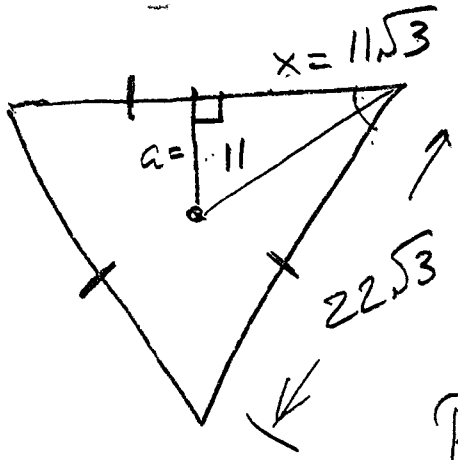
$V = Bh$

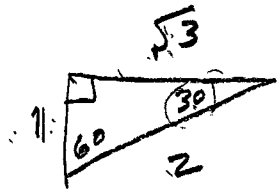
$V = (139.5)(12)$

$V = 1674 ft^3$

45
3.1
45
135
139.5
12
2790
1395
1674.0

(9.)





$P = 66\sqrt{3}$

$a = 11$

$A = \frac{1}{2} a P$

$= \frac{1}{2}(11)\overset{33}{\cancel{66}}\sqrt{3}$

$= 363\sqrt{3}$ ▣ $\sqrt{3} = 1.7321$

$A = 628.7^{3}$ UNITS^2