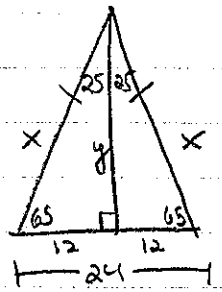
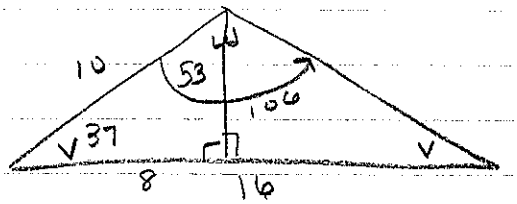
8.6

(6) 

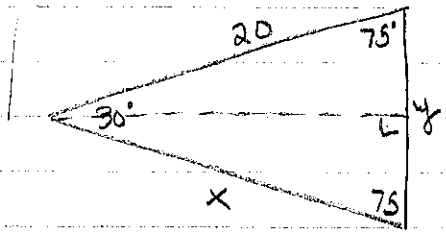
$\tan 65 = \frac{y}{12}$ $\quad \cos 65 = \frac{12}{x}$

$24 = y$ $\quad 28 = x$

(11) 

$\cos V = \frac{8}{10}$

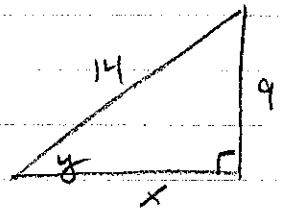
$V = 37°$

(12) 

$x = 20$

$\cos 75 = \frac{\frac{1}{2}y}{20}$

$10.4 \approx y$

(13) 

a) $9^2 + x^2 = 14^2$

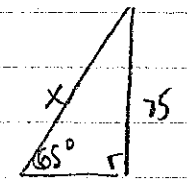
$x = \sqrt{115}$

b) $\sin y = \frac{9}{14}$

$y = 40°$

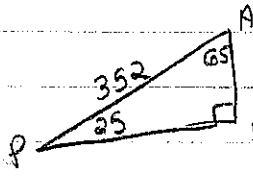
c) yes $\rightarrow \sqrt{115} \approx 10.7$ $\quad \tan 40 = \frac{9}{x}$

$10.7 \approx x$

(14) 

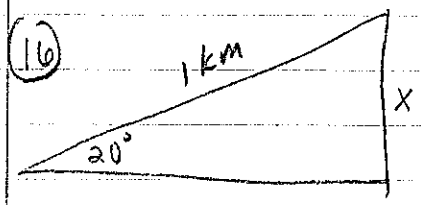
$\sin 65 = \frac{75}{x}$

$83 = x$

(15) 

$\sin 25 = \frac{AB}{352}$

$149 = AB$

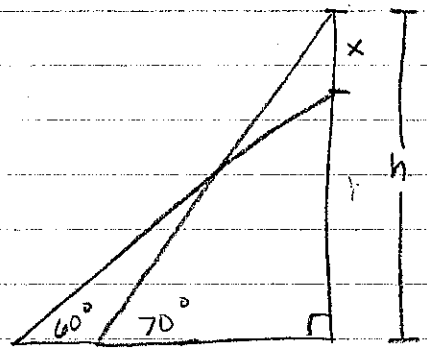
(16) 

$\sin 20 = \frac{x}{1}$

$.342 \text{ km} = x$

$342 \text{ m} \rightarrow 350 \text{m}$

(17)



$\sin 70 = \frac{h}{6}$

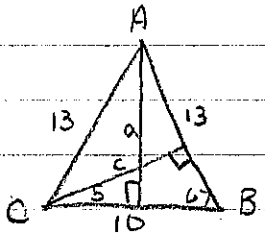
$0.94 = \frac{h}{6}$

$5.6 = h$

$\sin 60 = \frac{5.6 - x}{6}$

$0.4 = x$

(18)



a) $5^2 + a^2 = 13^2$

$a = 12$

b) $\tan C = \frac{12}{5}$

$m\angle C = 67°$

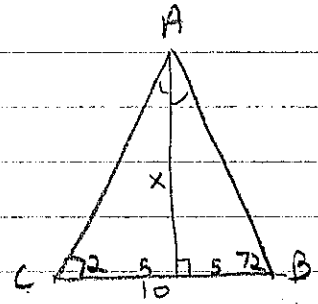
$m\angle B = 67°$

$m\angle A = 46°$

c) $\sin 67 = \frac{c}{10}$

$9.2 = c$

(19)



$\cos 72 = \frac{5}{AB}$

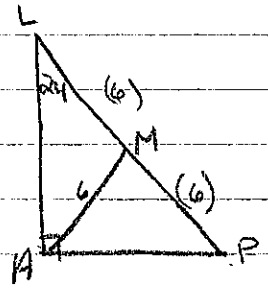
$16 = AB$

$16 = AC$

$\tan 72 = \frac{x}{5}$

$15 = x$

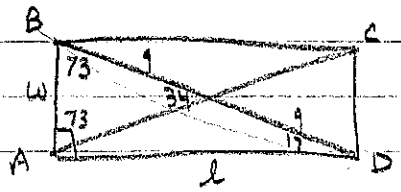
(20)



$\sin 24 = \frac{AP}{12}$

$5 \approx AP$

(21)



$180 - 34 = 146 \div 2 = 73$

$90 + 73 + 17 = 180$

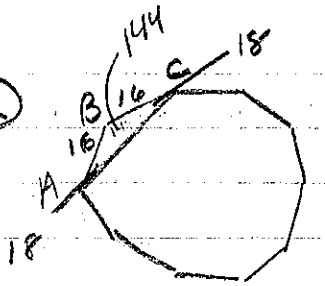
$\sin 73 = \frac{l}{18}$

$17 = l$

$\cos 73 = \frac{w}{18}$

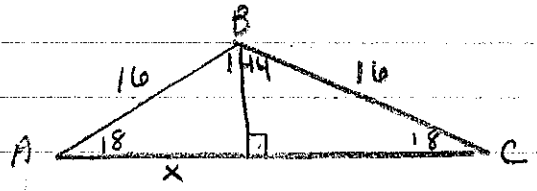
$5 = w$

(22)



$\frac{(10-2)\,180}{10}$

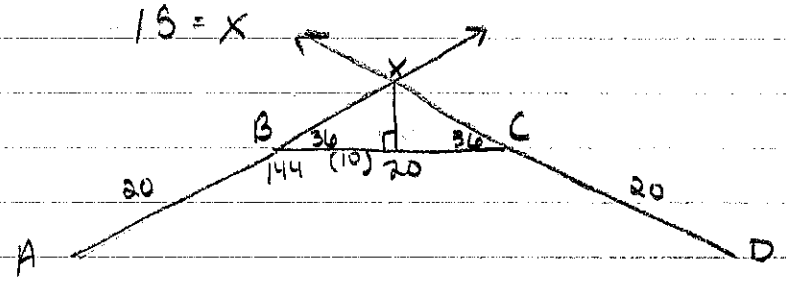
$1\angle = 144°$



$\cos 18 = \frac{x}{16}$ $\quad AC \approx 30$

$15 = x$

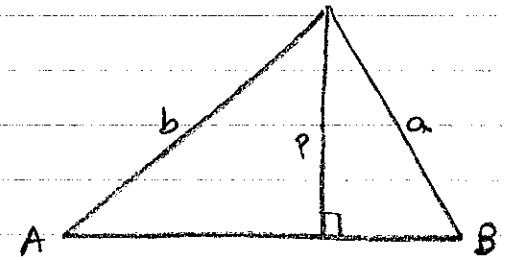
(23)



$\cos 36 = \frac{10}{BX}$

$12 \approx BX$

(24) Prove: $\frac{a}{\sin A} = \frac{b}{\sin B}$



$\sin A = \frac{p}{b}$ $\quad \sin B = \frac{p}{a}$

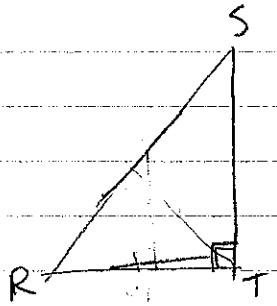
$b \cdot \sin A = p$ $\quad a \cdot \sin B = p$

$\frac{b \cdot \sin A}{\sin A} = \frac{a \cdot \sin B}{\sin A}$

$\frac{b}{\sin B} = \frac{a \cdot \sin B}{\sin A / \sin B}$

$\frac{b}{\sin B} = \frac{a}{\sin A}$

(25)



Prove: $(\sin R)^2 + (\cos R)^2 = 1$

$\sin R = \frac{ST}{RS}$ $\cos R = \frac{RT}{RS}$

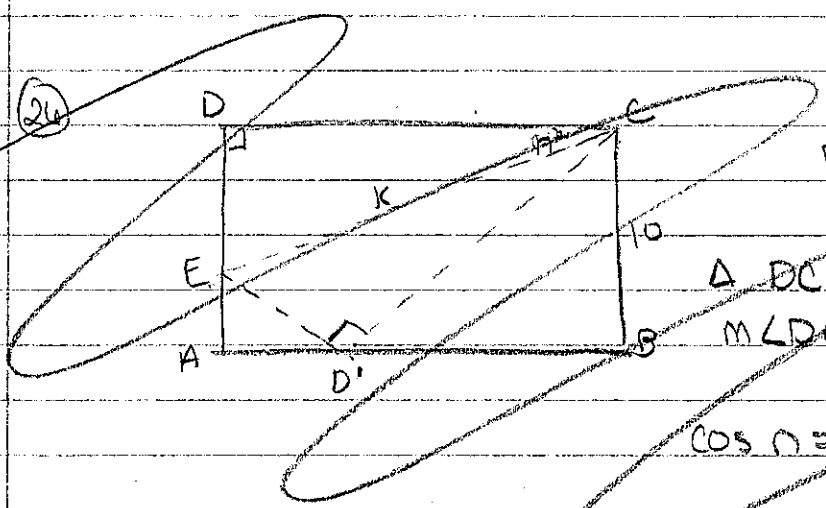
$(\sin R)^2 + (\cos R)^2 = \left(\frac{ST}{SR}\right)^2 + \left(\frac{RT}{RS}\right)^2$

$= \frac{ST^2}{SR^2} + \frac{RT^2}{SR^2}$

$= \frac{ST^2 + RT^2}{SR^2} \longrightarrow = ST^2 + RT^2$ (Pythag.)

$= 1$

(24)



Prove: $k = \frac{10}{\sin(2n)^\circ \cos n^\circ}$

$\triangle DCE \cong \triangle ECD'$

$m\angle DCD' = 2n$

$\cos n = \frac{DC}{k}$

$k = \frac{DC}{\cos n}$