

Trig Sec 1-3 p. 29 1-6, (9-30)m3, (35-41) boxed

①  $\cos \theta = \frac{a}{c}$

②  $\sin \theta = \frac{b}{c}$

③  $\tan \theta = \frac{b}{a}$

④  $\cot \theta = \frac{a}{b}$

⑤  $\sec \theta = \frac{c}{a}$

⑥  $\csc \theta = \frac{c}{b}$

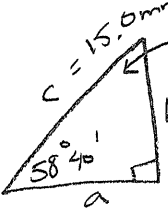
⑨  $\tan \theta$

⑫  $\sec \theta$

⑮  $\tan 35^\circ 20' = 0.709$

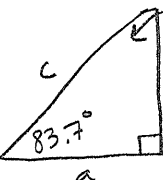
⑰  $\csc 18.3^\circ = 3.18$  ⑳  $\cot 54.9^\circ = 0.703$  ㉒  $\sec 51^\circ 40' = 1.11$

㉓  $\cos^{-1} 0.7153 = 44^\circ 20'$  ㉔  $\cos^{-1} 0.5559 = 52^\circ 34'$

⑳   $90 - 58^\circ 40' = 31^\circ 20'$   
 $b = 15.0 (\sin 58^\circ 40') = \left(\frac{b}{15.0}\right) 15.0$   
 $b = 12.8 \text{ mm}$

$\cos 58^\circ 40' = \frac{a}{15.0}$

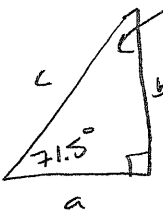
$a = 7.80 \text{ mm}$

㉑   $90 - 83.7 = 6.3^\circ$   
 $b = 3.21 \text{ km}$   $3.21 (\tan 6.3^\circ) = \left(\frac{a}{3.21}\right) 3.21$   
 $a = 0.354 \text{ km}$

$\sin 83.7^\circ = \frac{3.21}{c}$

$3.21 = \frac{(\sin 83.7^\circ)(c)}{\sin 83.7^\circ}$


$c = 3.23 \text{ km}$

㉒   $90 - 71.5 = 18.5^\circ$   
 $b = 12.8 \text{ in.}$   $12.8 (\tan 18.5^\circ) = \left(\frac{a}{12.8}\right) 12.8$   
 $a = 4.28 \text{ in}$

$\sin 71.5^\circ = \frac{12.8}{c}$

$12.8 = \frac{(\sin 71.5^\circ)(c)}{\sin 71.5^\circ}$

$c = 13.5 \text{ in}$

㉓   $90 - 28^\circ 30' = 61^\circ 30'$   
 $b = 63.8 \text{ ft}$   $63.8^2 + a^2 = 134^2$   
 $-63.8^2$   $-63.8^2$   
 $\sqrt{a^2} = \sqrt{13885.52}$   
 $a = 118 \text{ ft}$

$\sin^{-1} \left(\frac{63.8}{134}\right) = 28^\circ 30' = \theta$