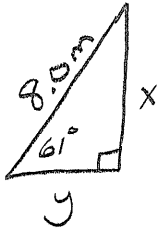


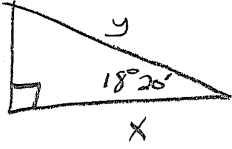
Trig Sec 1-4 p. 35 1-4, 7-10, 12, 13, 31

①  $8.0(\sin 61^\circ) = \left(\frac{x}{8.0}\right) 8.0$

$x = 7.0m$

② $8.0(\cos 61^\circ) = \left(\frac{y}{8.0}\right) 8.0$

$y = 3.9m$

③  $\tan 18^\circ 20' = \frac{70.0}{x}$

$x \tan 18^\circ 20' = 70.0$

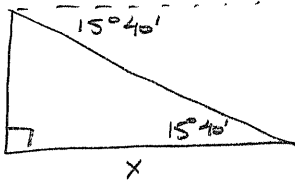
$\frac{x \tan 18^\circ 20'}{\tan 18^\circ 20'} = \frac{70.0}{\tan 18^\circ 20'}$

$x = 211m$

④ $\frac{\sin 18^\circ 20'}{1} = \frac{70.0}{y}$

$70.0 = y \frac{\sin 18^\circ 20'}{\sin 18^\circ 20'}$

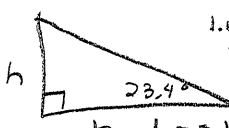
$y = 223m$

⑦  $\tan 15^\circ 40' = \frac{8240}{x}$

$x \tan 15^\circ 40' = 8240$

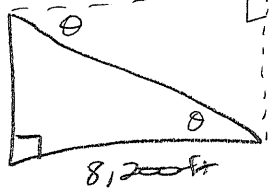
$\frac{x \tan 15^\circ 40'}{\tan 15^\circ 40'} = \frac{8240}{\tan 15^\circ 40'}$

$x = 29,400m$

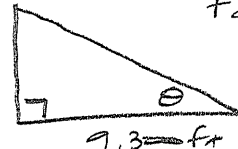
⑧  $1.00 \text{ km} (\tan 23.4^\circ) = \left(\frac{h}{1.00 \text{ km}}\right) 1.00 \text{ km}$

$b = 1.00 \text{ km}$ $h = 0.433 \text{ km}$

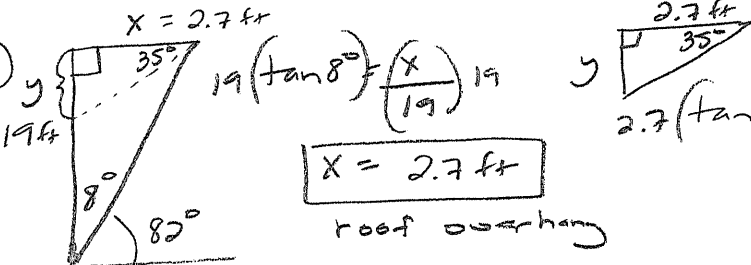
$h = 433m$

⑨  $\tan^{-1}\left(\frac{3300}{8200}\right)$

$\theta = 22^\circ$

⑩  $\tan^{-1}\left(\frac{3600}{9300}\right)$

$\theta = 21^\circ$

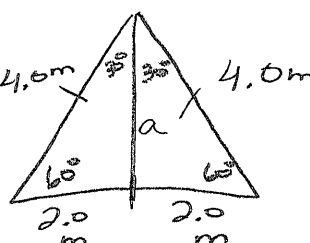
⑫  $19(\tan 8^\circ) = \left(\frac{x}{19}\right) 19$

$x = 2.7ft$

roof overhang

$2.7(\tan 35^\circ) = \left(\frac{y}{2.7}\right) 2.7$

$y = 1.9ft$

⑬  $a^2 + 2^2 = 4^2$

$\sqrt{a^2} = \sqrt{12}$

$a = 3.5m$

⑭ $x(\tan 42^\circ) = \left(\frac{y}{x}\right) x$

$y = x \tan 42^\circ \rightarrow$

$1.0 + x(\tan 25^\circ) = \left(\frac{x \tan 42^\circ}{1.0 + x}\right) 1.0 + x$

$\tan 25^\circ + x \tan 25^\circ = x \tan 42^\circ$

$-x \tan 25^\circ - x \tan 25^\circ$

$\tan 25^\circ = \frac{x(\tan 42^\circ - \tan 25^\circ)}{\tan 42^\circ - \tan 25^\circ}$

$x = 1.0742 \text{ km} \text{ or } 1.1 \text{ km}$

Shadow

$y = 1.0742 \tan 42^\circ = 0.97 \text{ km}$

or

$y = 1.1 \tan 42^\circ = 0.99 \text{ km}$