

		$\sin(\theta)$	$\cos(\theta)$	$\tan(\theta)$	$\csc(\theta)$	$\sec(\theta)$	$\cot(\theta)$
$\frac{\pi}{6}$	30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	2	$\frac{2\sqrt{3}}{3}$	$\sqrt{3}$
$\frac{\pi}{4}$	45°	$\frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	$\sqrt{2}$	$\sqrt{2}$	1
$\frac{\pi}{3}$	60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{2\sqrt{3}}{3}$	2	$\frac{\sqrt{3}}{3}$

$(\frac{1}{2}) \quad \frac{1}{2} \leftarrow$

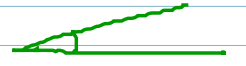
$\sin^{-1}(\theta) \neq \csc(\theta)$

$\csc(\theta) = \frac{1}{\sin(\theta)}$

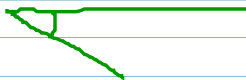
$\sec(\theta) = \frac{1}{\cos(\theta)}$

$\cot(\theta) = \frac{1}{\tan(\theta)}$

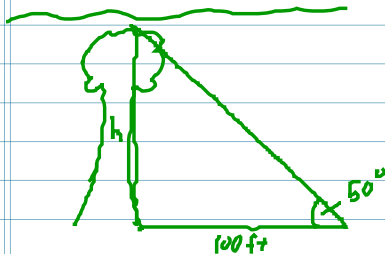
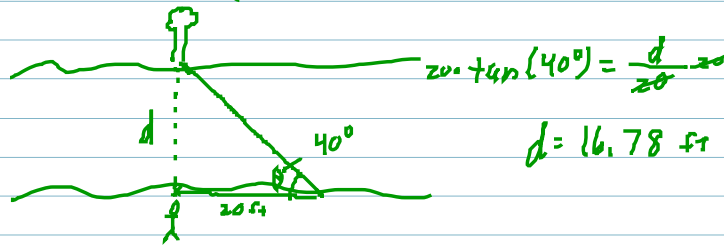
Angle of Elevation



Angle of Depression



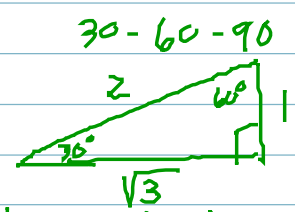
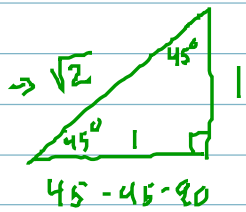
ceillometer



$\tan(50^\circ) = \frac{h}{100}$

$100 \cdot \tan(50^\circ) = h$

$119.18 \text{ ft} =$



		$\sin(\theta)$	$\cos(\theta)$	$\tan(\theta)$	$\csc(\theta)$	$\sec(\theta)$	$\cot(\theta)$
$\frac{\pi}{6}$	30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	2	$\frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$	$\sqrt{3}$
$\frac{\pi}{4}$	45°	$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	$\sqrt{2}$	$\sqrt{2}$	1
$\frac{\pi}{3}$	60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{2}{\sqrt{3}}$	2	$\frac{\sqrt{3}}{3}$

$(\frac{1}{2}) \quad \frac{1}{2} \leftarrow$

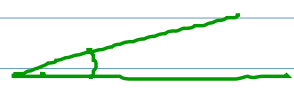
$\sin^{-1}(\theta) \neq \csc(\theta)$

$\csc(\theta) = \frac{1}{\sin(\theta)}$

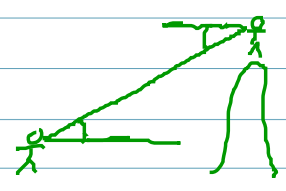
$\sec(\theta) = \frac{1}{\cos(\theta)}$

$\cot(\theta) = \frac{1}{\tan(\theta)}$

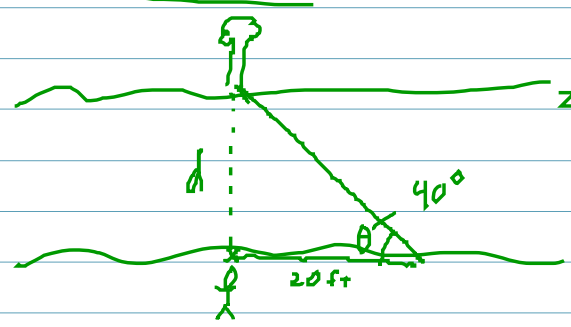
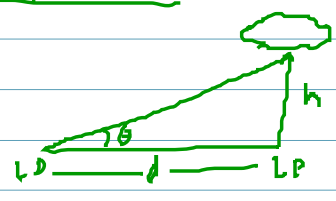
Angle of Elevation



Angle of Depression

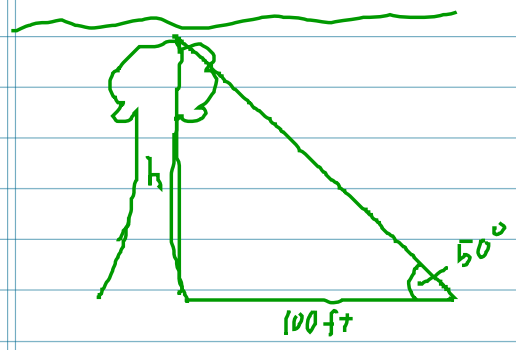


calometer



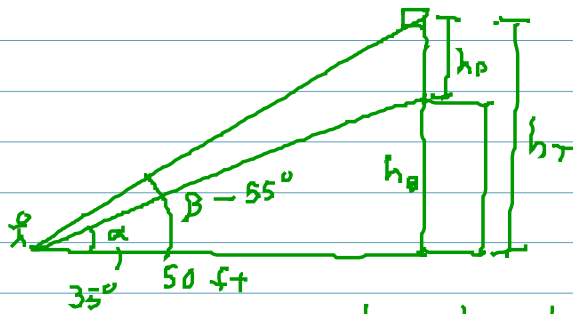
$20 \cdot \tan(40^\circ) = \frac{d}{20}$

$d = 16.78 \text{ ft}$



$\tan(50^\circ) = \frac{h}{100}$

$100 \cdot \tan(50^\circ) = h$
 $119.18 \text{ ft} =$



$$\tan(35^\circ) = \frac{h_B}{50}$$

$$\tan(55^\circ) = \frac{h_T}{50}$$

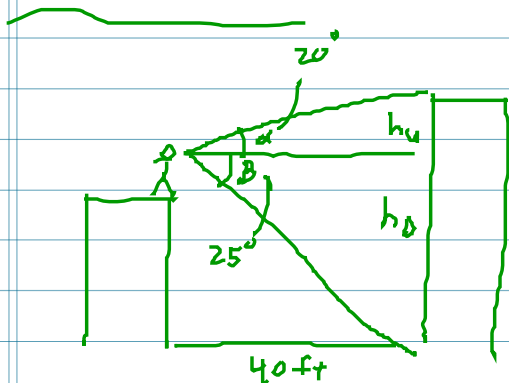
$$50 \tan(35^\circ) = h_B$$

$$50 \tan(55^\circ) = h_T$$

$$35.01037691 =$$

$$71.40740034 =$$

$$h_P = h_T - h_B = 36.39702343 \text{ ft} \approx 36.40 \text{ ft}$$



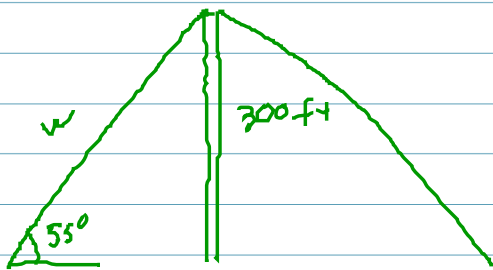
$$\tan(20^\circ) = \frac{h_U}{40}$$

$$\tan(25^\circ) = \frac{h_D}{40}$$

$$h_U = 14.55880937$$

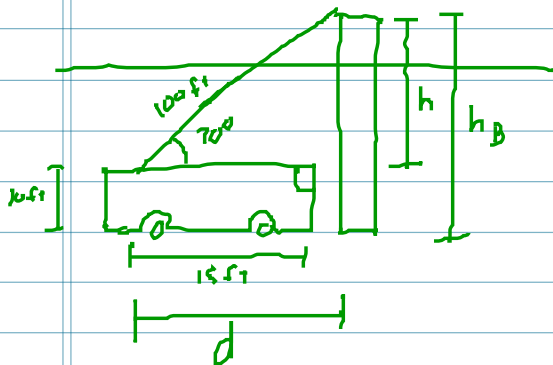
$$h_D = 18.65230633$$

$$h_T = h_U + h_D = \underline{33.2111157 \text{ ft}}$$



$$\sin(55^\circ) = \frac{300}{w}$$

$$w = \frac{300}{\sin(55^\circ)} = \underline{366.2323766 \text{ ft}}$$



$$\sin(70^\circ) = \frac{h}{100}$$

$$h = 100 \cdot \sin(70^\circ) = 93.96926208$$

$$h_B = \underline{103.97 \text{ ft}}$$

$$\cos(70^\circ) = \frac{d}{100}$$

$$100 \cos(70^\circ) = d$$

$$34.20201433 =$$

$$\text{Park } \underline{19.20 \text{ ft}}$$