[2][a] $\cos(-\mu) \underset{3}{=} \boxed{\cos\mu} = \boxed{\dfrac{1}{\sec\mu}}_{1\frac{1}{2}} = \boxed{-\dfrac{5}{7}}_{1\frac{1}{2}}$

[b] $\mu_{REF} \underset{3}{=} \boxed{\cos^{-1}\dfrac{5}{7}} \approx \boxed{0.7752}_{1\frac{1}{2}}$

[c] $\boxed{\cos\mu = x < 0 \longrightarrow \mu \text{ IN } Q_2 \text{ OR } Q_3}_{1\frac{1}{2}}$

$\mu = \boxed{\pi - 0.7752}_{1\frac{1}{2}} \text{ OR } \boxed{\pi + 0.7752}_{1\frac{1}{2}}$

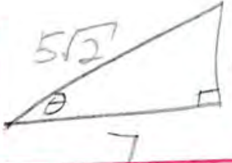
[d] $\boxed{\tan^2\mu = \sec^2\mu - 1}_{3}$

$= \dfrac{49}{25} - 1$

$= \boxed{\dfrac{24}{25}}_{1} \longrightarrow \tan\mu = \overset{1}{\boxed{\pm}}\ \overset{1}{\boxed{\dfrac{2\sqrt{6}}{5}}}$

$\cot\mu = \underset{1\frac{1}{2}}{\boxed{\dfrac{1}{\tan\mu}}} = \pm\dfrac{5}{2\sqrt{6}} = \underset{1\frac{1}{2}}{\boxed{\pm\dfrac{5\sqrt{6}}{12}}}$

[3] [a]



$1\frac{1}{2}$

$$x^2 + 1^2 = (5\sqrt{2})^2$$
$$x^2 = 50 - 1 = 49$$
$$x = 7$$

[b] $\cos\theta = \boxed{\dfrac{7}{5\sqrt{2}}} = \boxed{\dfrac{7\sqrt{2}}{10}}$ $1\frac{1}{2}$ 1

[c] $\cos\lambda = \boxed{-\dfrac{7\sqrt{2}}{10}}$ $1\frac{1}{2}$ SINCE $\cos\lambda = \boxed{x < 0}$ IN Q_2 $1\frac{1}{2}$

[4] $\tan x \sec x - (\tan x + \sec x)(2\tan x - \sec x)$

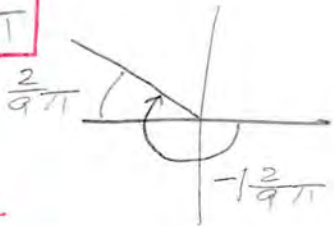
$= \cancel{\tan x \sec x} - \left(\boxed{2\tan^2 x + \cancel{\tan x \sec x} - \sec^2 x}\right)$ 3

$= \boxed{\sec^2 x - 2\tan^2 x}$ $1\frac{1}{2}$

$= \boxed{\tan^2 x + 1 - 2\tan^2 x}$ 3

$= \boxed{1 - \tan^2 x}$ $1\frac{1}{2}$

[5][a] $\alpha = \boxed{-9\frac{2}{9}\pi}$ $1\frac{1}{2}$ COTERMINAL WITH $\boxed{-1\frac{2}{9}\pi}$ $1\frac{1}{2}$



$\alpha_{REF} = \boxed{\frac{2}{9}\pi}$ $1\frac{1}{2}$

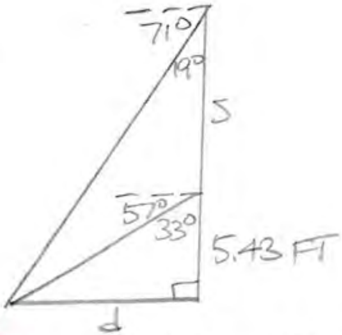
[b] $\alpha = \frac{2}{9}\pi,\ \boxed{\pi - \frac{2}{9}\pi}^{\,1\frac{1}{2}},\ \boxed{\pi + \frac{2}{9}\pi}^{\,1\frac{1}{2}},\ \boxed{2\pi - \frac{2}{9}\pi}^{\,1\frac{1}{2}}$

$= \boxed{\frac{2}{9}\pi,\ \frac{7}{9}\pi,\ \frac{11}{9}\pi,\ \frac{16}{9}\pi}$ 3

[c] $\alpha = \boxed{\frac{11}{9}\pi,\ \frac{16}{9}\pi}$ $1\frac{1}{2}$ SINCE $\csc\theta = \frac{1}{y} < 0$ IF $\boxed{\begin{matrix} y < 0 \\ Q_3, Q_4 \end{matrix}}$ $1\frac{1}{2}$

I.E.

[6][a]



$$\boxed{\tan 33^\circ = \frac{d}{5.43\text{ FT}}}\ 3$$

$$d = \boxed{5.43 \tan 33^\circ \text{ FT}}\ 1\tfrac{1}{2}$$

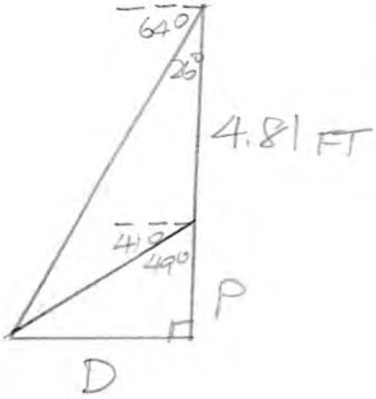
$$\boxed{\tan 19^\circ = \frac{5.43 \tan 33^\circ \text{ FT}}{5.43\text{ FT} + s}}\ 3$$

$$\boxed{5.43 \tan 19^\circ \text{ FT} + s \tan 19^\circ = 5.43 \tan 33^\circ \text{ FT}}\ 1\tfrac{1}{2}$$

$$s = \boxed{\frac{5.43(\tan 33^\circ - \tan 19^\circ)}{\tan 19^\circ} \text{ FT}}\ 13$$

[b] $s \approx \boxed{4.81 \text{ FT}}\ 3$

[c]



$$\boxed{\tan 26^\circ = \frac{D}{4.81\,\text{FT} + p}} \quad 3$$

$$\boxed{\tan 49^\circ = \frac{D}{p}} \quad 1\tfrac{1}{2}$$

$$D = \boxed{(4.81\,\text{FT} + p)\tan 26^\circ = p \tan 49^\circ} \quad 3$$

$$\boxed{4.81 \tan 26^\circ\,\text{FT} + p \tan 26^\circ = p \tan 49^\circ} \quad 1\tfrac{1}{2}$$

$$\boxed{4.81 \tan 26^\circ\,\text{FT} = p(\tan 49^\circ - \tan 26^\circ)} \quad 1\tfrac{1}{2}$$

$$p = \boxed{\frac{4.81 \tan 26^\circ}{\tan 49^\circ - \tan 26^\circ}\,\text{FT}} \quad 1\tfrac{1}{2}$$

[7] [a] $\beta = \boxed{\frac{209\pi}{3}}$ 3 $\longrightarrow \beta_{REF} = \boxed{\frac{\pi}{3}}$ $1\frac{1}{2}$

[b] $\beta = \boxed{69\frac{2}{3}\pi}$ 3 COTERMINAL WITH $\boxed{1\frac{2}{3}\pi \text{ OR } \frac{5\pi}{3}}$ $1\frac{1}{2}$

[c] $\sec\beta = \frac{1}{\cos\beta} = \boxed{\frac{1}{\cos\frac{5\pi}{3}}}$ $1\frac{1}{2}$ $= \frac{1}{\frac{1}{2}} = \boxed{2}$ $1\frac{1}{2}$

[d] $\tan(\frac{\pi}{2} - \beta) = \cot\beta =$ 3 $\boxed{\cot\frac{5\pi}{3}} = \boxed{\frac{\frac{1}{2}}{-\frac{\sqrt{3}}{2}}}$ $1\frac{1}{2}$ $= -\frac{1}{\sqrt{3}} =$ $1\frac{1}{2}$ $\boxed{-\frac{\sqrt{3}}{3}}$