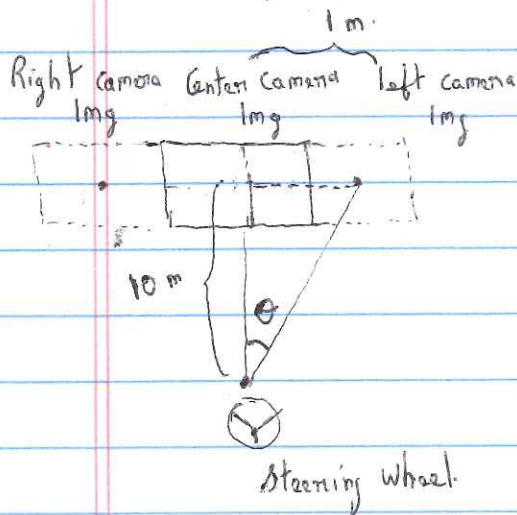


Steering angles $\frac{-1}{-25^\circ} \frac{0 \frac{1}{25} \frac{2}{25}}{+1} \frac{+1}{+25^\circ}$

Angle shift

1 steering angle unit = $\frac{1}{25}$ (or) 0.007 radians

Calculation



Assumptions

Distance between center and left/right

camera focal points = 1m.

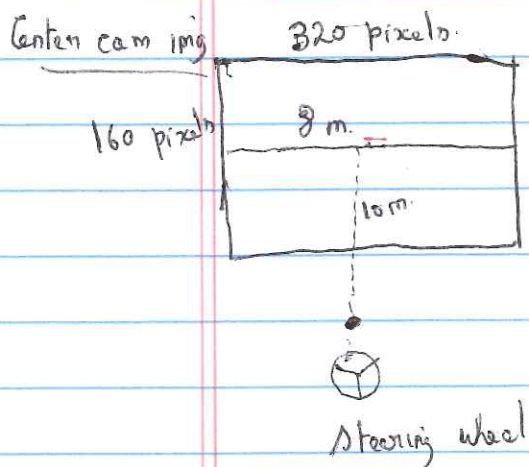
Distance between steering wheel and

center camera focal point = 10m.

$$\text{Angle shift} = \theta = \tan^{-1}\left(\frac{1}{10}\right)$$

$$= 0.1 \text{ radians} = 5.7^\circ = 5.7 \times \frac{1}{25} = 0.23 \text{ steering angle units}$$

Translation (left-right) calculation



Assumption: The width of terrain in center cam image is approximately 8m

$$\Rightarrow 1 \text{ pixel width} = \frac{8}{320} = 0.025 \text{ m}$$

A shift of 1 pixel results in shift of 0.005

$$\theta = \tan^{-1}\left(\frac{0.025}{10}\right) = 0.0025 \text{ radians}$$

$$= 0.14^\circ = \frac{0.14}{25}$$

$$= 0.005 \text{ steering angle units}$$