HH
AK122

Lab 1

Pre-Lab Worksheet

1. The speed of sound in a standard atmosphere is 343 m/s

$\frac{343\ m}{sec} = \frac{20\ m}{x\ sec} \Rightarrow 343x = 20 \Rightarrow .0583$ seconds to recieve an echo from an object 10 m away from the sensor

2. wheel diameter = d

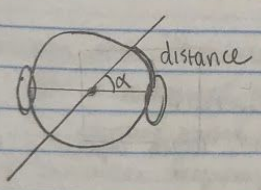
wheel rotation = πd

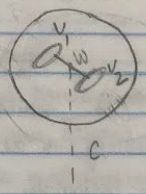
distance = # of rotations · wheel rotation

$$\left[\text{distance} = \frac{\text{degree of rotation}}{360^\circ} \cdot \pi d\right]$$

distance traveled by tire = wheel track · degree of rotation

Angle Robot





distance = $\frac{\text{wheel track}}{2} \cdot \alpha$ } side length = radius · angle α

$$\left[\frac{2 \cdot \text{distance}}{\text{wheel track}} = \alpha\right]$$