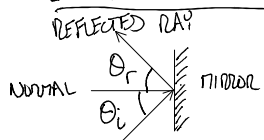


LAB 8: REFLECTION & REFRACTION



REFLECTED RAY

INCIDENT RAY
 θ_i & θ_r ARE MEASURED FROM THE NORMAL

LAW OF REFLECTION

$\theta_i = \theta_r$

WHERE θ_i = ANGLE OF INCIDENT
 θ_r = ANGLE OF REFLECTION

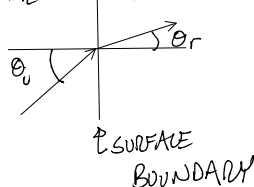
REFRACTION $n = \frac{c}{v}$

WHERE n = INDEX OF REFRACTION

c = SPEED OF LIGHT IN A VACUUM

v = SPEED OF LIGHT IN A GIVEN MEDIUM

MEDIUM A MEDIUM B
 AIR WATER



MATERIAL	n
AIR	≈ 1
WATER	≈ 1.33
ALCOHOL	≈ 1.49

LAW OF REFRACTION
 $n_i \sin \theta_i = n_r \sin \theta_r$

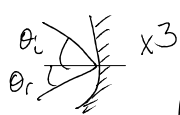
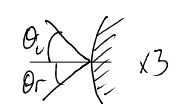
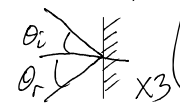
IF $n_r > n_i$
 REFRACTED RAY BENDS TOWARD NORMAL

IF $n_r < n_i$
 REFRACTED RAY BENDS AWAY NORMAL

WHEN $\theta_i \rightarrow \theta_r = 90^\circ$
 $\theta_{critical} = \sin^{-1}(\frac{n_r}{n_i})$

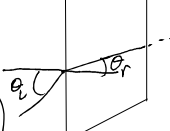
EXPERIMENT

PART 1 FOR $30^\circ, 45^\circ, 60^\circ$



PART 2

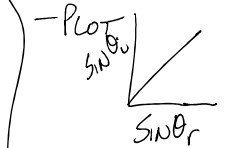
$\theta_i = 30^\circ, 45^\circ, 60^\circ$



FOR CRITICAL ANGLES

REPORT

- COVERAGE
- MIRROR TRACKS
- DIFFRACTION TRACKS
- TABLES



PLOT GOES THROUGH ORIGIN