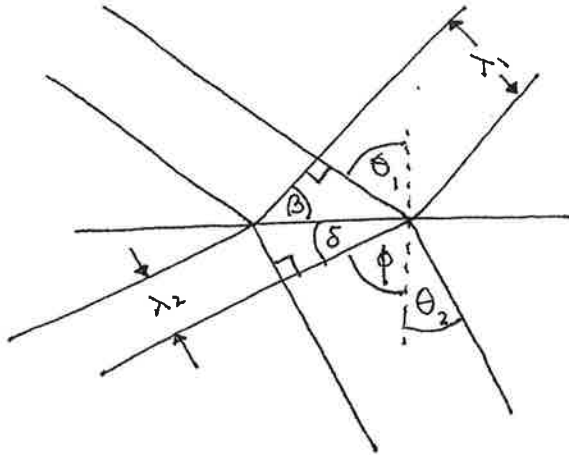


4

ASG vol 3 Ex 16.1 (Snell's law from wave refraction)

a) If $\frac{\lambda_1}{\lambda_2} = \frac{3}{2}$ then $\frac{v_1}{v_2} = \frac{\lambda_1 f}{\lambda_2 f} \Rightarrow \boxed{\frac{v_1}{v_2} = \frac{3}{2}}$



b) Since $n = \frac{c}{v}$, $\frac{n_1}{n_2} = \frac{v_2}{v_1} \Rightarrow \boxed{\frac{n_1}{n_2} = \frac{2}{3}}$

c) $\frac{\sin(\beta)}{\sin(\delta)} = \frac{\text{opp/hyp}}{\text{opp/hyp}} = \frac{\lambda_1}{\lambda_2} \Rightarrow \boxed{\frac{\sin \beta}{\sin \delta} = \frac{3}{2}}$

$\boxed{\beta = \theta_1}$

$\boxed{\delta = \theta_2}$

d)

$\boxed{\frac{\sin \theta_1}{\sin \theta_2} = \frac{3}{2}}$