



$$v = \frac{c}{n} = \frac{3 \times 10^8 \text{ m/s}}{1.45} = 2.07 \times 10^8 \text{ m/s}$$

$$\theta = \tan^{-1}\left(\frac{4}{3}\right) = 53.1^\circ$$

$$n_1 \sin \theta_1 = n_2 \sin \theta_2$$

$$(1) \sin 53.1 = 1.45 \sin \alpha$$

$$\sin^{-1}\left(\frac{\sin 53.1}{1.45}\right) = \alpha \quad \alpha = 33.47^\circ$$

$$\theta_c = \sin^{-1}\left(\frac{1}{1.45}\right) = 43.6^\circ$$

the incident angle

$\beta = 56.53^\circ$ is

greater than the

critical angle $\theta_c = 43.6^\circ$

thus no light is refracted

it is all reflected