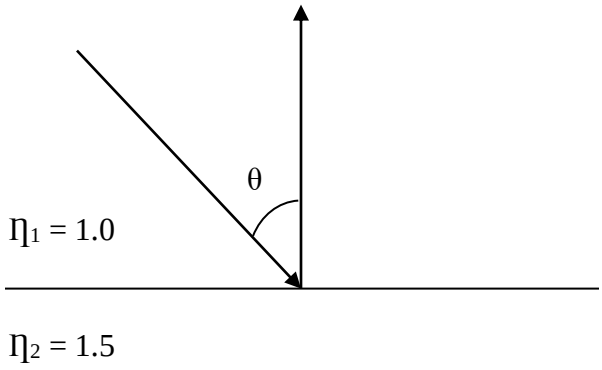
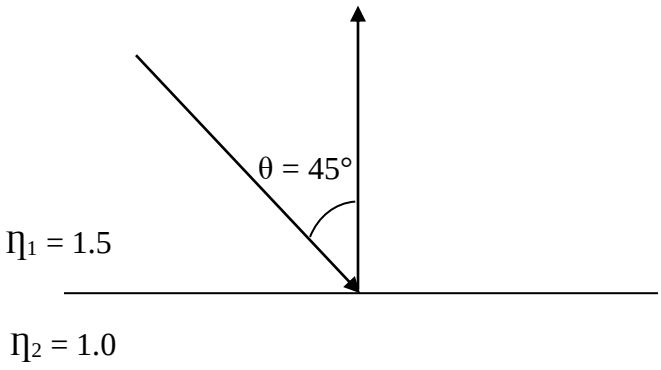
COMP 70001 Tutorial 2

- Draw the light-surface interactions for the following case of a dielectric interface. Also compute the various angles for $\theta = 45°$.



- Draw the light-surface interactions for the following case of a dielectric interface



- Given the following environment map **L** in latlong format:

Assume every pixel has unit radiance. Analytically compute the following integral of the environment map: $\mathbf{I} = \int_{\Omega} \mathbf{L_i}(\omega_i)\, \mathbf{d}\omega_i$.

- Assuming a diffuse surface with albedo $\rho_d = 1.0$, compute the irradiance **E** on the surface due to illumination from the given environment map **L**.

- Given a conductor, estimate the index of refraction η of the material given measured reflectance at normal incidence Fr = 0.2. Assume the coefficient of absorption k = 0.