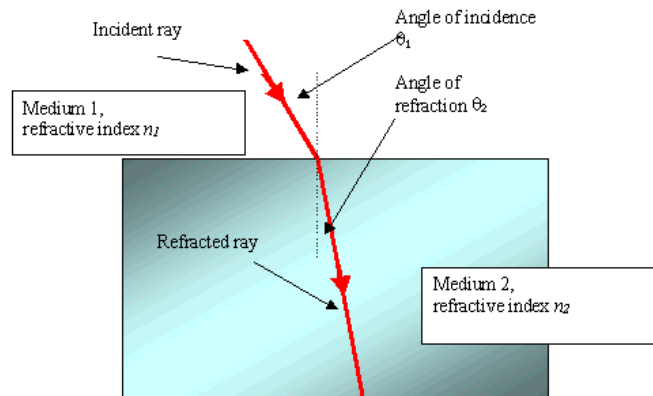


### Answer on Question#41522 – Physics – Optics

An estimate of the refractive index of glass is 1.5. If the angle of incidence is  $30^\circ$ . The angle of refraction is

**Solution:**



$n_1 = 1$  – refractive index of air  
 $n_2 = 1.5$  – refractive index of glass  
 $\theta_1 = 30^\circ$  – angle of incidence  
 $\theta_2$  – angle of refraction

Snell's law of refraction:

$$n_1 \cdot \sin \theta_1 = n_2 \cdot \sin \theta_2$$
$$\sin \theta_2 = \frac{n_1 \cdot \sin \theta_1}{n_2} \Rightarrow \theta_2 = \arcsin \left( \frac{n_1 \cdot \sin \theta_1}{n_2} \right) = \arcsin \left( \frac{1 \cdot \sin 30^\circ}{1.5} \right) = 19.5^\circ$$

**Answer:** angle of refraction is equal to  $19.5^\circ$ .