P #36

Ch 22 - pg 709

$\theta_1 = 30°$
$\theta_2 = 22°$

$n_1 = 1.0$ (air)

Find n_2:

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

$$(1.0) \cdot \sin 30° = n_2 \cdot \sin 22°$$

$$n_2 = 1.33$$

Find θ_c:

$$\sin\theta_c = \frac{n_2}{n_1}$$

$$\sin\theta_c = \frac{1.0}{1.33}$$

$$\boxed{\theta_c = 48.5°}$$