$$\frac{n}{\sin\phi} = \frac{n_t}{\sin\theta}$$

$$\sin^2(\theta) + \cos^2\theta = 1$$
$$\cos^2\theta = 1 - \sin^2\theta$$
$$\sin^2(\theta) = 1 - \cos^2\theta$$

$$\sin = \frac{o}{s}$$
$$\cos = \frac{a}{s}$$

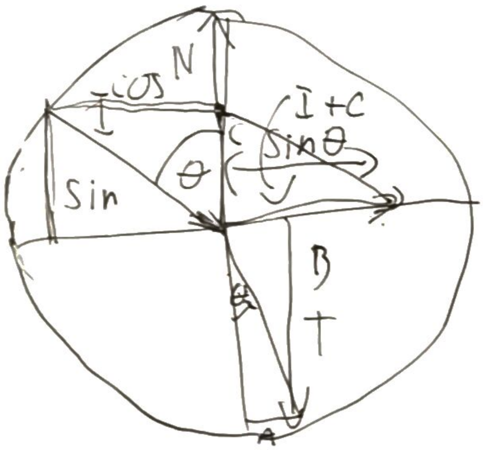
$$n^2 \sin^2\theta = n_t^2 \sin^2\phi$$

$$\frac{\sin\theta_1}{\sin\theta_2} = \frac{\eta_2}{\eta_1} \Leftrightarrow \frac{\sin\theta_2}{\sin\theta_1} = \frac{\eta_1}{\eta_2}$$

$$n^2(1-\cos^2\theta) = n_t^2(1-\cos^2\phi)$$
$$n^2 - n^2\cos^2\theta = n_t^2(1-\cos^2\phi$$

$$n^2\cos^2\theta - n^2 = -n_t^2(1-\cos^2\phi)$$
$$\cos^2\theta = \frac{n^2 - n_t^2(1-\cos^2\phi)}{n^2}$$

$$\cos^2\theta - \frac{n^2}{n^2} = -\underline{n_t}(1-\cos^2\phi)$$
$$\cos^2\theta = 1 - \frac{n_t^2(1-\cos^2\phi)}{n^2}$$



$$\vec{T} = \vec{A} + \vec{B}$$
$$\vec{A} = \cos\theta_2 \cdot -\vec{N}$$
$$\vec{B} = (\vec{I}+\vec{C})/\sin\theta) \cdot \sin\theta_2$$

$$\vec{T} = \cos\theta_2 \cdot -\vec{N} + (\vec{I}+\vec{C})/\sin\theta \cdot \sin\theta_2)$$
$$\vec{M} = (\vec{I}+\vec{C})/\sin\theta$$

$$\vec{T} = -\vec{N}\cos\theta_2 + \vec{M}\sin\theta_2$$

$$\vec{T} = \frac{\sin\theta_2}{\sin\theta_1}(\vec{I}+\vec{C}) - \vec{N}\cos\theta_2$$

$$\vec{T} = \frac{(\vec{I}+\vec{C}) \cdot \sin\theta_2}{\sin\theta_1} - \vec{N}\cos\theta_2$$

$$\vec{T} = \frac{\eta_1}{\eta_2}(\vec{I}+\vec{C}) - \vec{N}\cos\theta_2$$

$$\vec{T} = \frac{\eta_1}{\eta_2}(\vec{I}+\vec{C}) - \vec{N}\cos\theta_2$$

$$\cos^2\theta + \sin^2\theta = 1$$
$$\cos\theta = \sqrt{1-\sin^2\theta}$$

$$\vec{T} = \frac{\eta_1}{\eta_2}(\vec{I}+\vec{C}) - \vec{N}\sqrt{1-\sin^2\theta_2}$$
$$= \frac{\eta_1}{\eta_2}(\vec{I}+\vec{C}) - \vec{N}\sqrt{1-\left(\frac{\eta_1}{\eta_2}\right)^2 \cdot \sin^2\theta_1}$$

$$\sin\theta_2 = \frac{\sin\theta_1 \cdot \eta_1}{\eta_2} = \frac{\eta_1}{\eta_2}\cdot\sin\theta_1$$

$$\vec{C} = \cos\theta_1 \cdot \vec{N}$$

$$\vec{T} = \frac{\eta_1}{\eta_2}(\vec{I}+\cos\theta_1\vec{N}) - \vec{N}\sqrt{1-\left(\frac{\eta_1}{\eta_2}\right)^2\cdot\sin^2\theta_1}$$

$$\eta = \frac{\eta_1}{\eta_2}$$

$$c_1 = \cos\theta_1 = -I\cdot N$$
$$c_2 = \sqrt{1-\left(\frac{\eta_1}{\eta_2}\right)^2\cdot\sin^2\theta_1} \rightarrow \sqrt{1-\eta^2\cdot(1-\cos^2\theta_1)}$$

$$\vec{T} = \eta\cdot(\vec{I}+c_1\cdot\vec{N}) - \vec{N}c_2$$
$$\vec{T} = \eta\vec{I} + \eta c_1\vec{N} - \vec{N}c_2$$
$$\vec{T} = \eta\vec{I} + \vec{N}(\eta c_1 - c_2)$$

$$\vec{T} = \eta\vec{I} + \vec{N}(\eta c_1 - c_2)$$