\[ \sin (\theta - \theta_n) = \frac{d}{b} \]
\[ \cos \theta_n = \frac{t}{b} \]
\[ \sin (\theta - \theta_n) = \frac{d}{t} \cos \theta_n \]
\[ d = \frac{t \sin (\theta - \theta_n)}{\cos \theta_n} \]

Small angles
\[ \sin (\theta - \theta_n) \approx \theta - \theta_n \]
\[ \cos \theta_n \approx 1 \]
\[ d \approx \frac{t}{\theta - \theta_n} \]

Snell's Law
\[ \sin \theta = n \sin \theta_r \]
\[ \theta = n \theta_r \]
\[ \theta_r = \frac{\theta}{n} \]
\[ d = \frac{t}{\theta - \theta_n} = \frac{t \theta (1 - \frac{1}{n})}{\theta - \theta_n} \]
\[ d \text{ is much less than } t \]
Large triangle
\[ f / (\theta_1 - \theta_2) = h \]

Small Triangle
\[ h = R \theta_1 \]

Small angle approx:
\[ \theta_1 = n \theta_2 \]

Snell's law
\[ f = R \frac{\theta_1}{\theta_1 - \theta_2} = R \frac{n}{n-1} \]

indep of \( h \)