



$$\frac{r_1}{r_2} = \text{Ratio} = R$$

$$\frac{r_1}{\sin(\theta_1)} = \frac{r_2}{\sin(\theta_2)}$$

$$\theta_1 + \theta_2 = \text{Angle between axes} = A$$

$$\text{let } r_2 = 1, \quad r_1 = R$$

$$\theta_1 = A - \theta_2$$

$$\frac{r_1}{\sin(A - \theta_2)} = \frac{1}{\sin(\theta_2)}$$

$$\frac{r_1}{\sin(A)\cos(\theta_2) - \cos(A)\sin(\theta_2)} = \frac{1}{\sin(\theta_2)}$$

$$R \sin(\theta_2) = \sin(A)\cos(\theta_2) - \cos(A)\sin(\theta_2)$$

$$(R + \cos(A))\sin(\theta_2) = \sin(A)\cos(\theta_2)$$

$$\tan(\theta_2) = \frac{\sin(A)}{(R + \cos(A))}$$