$$L = (4\pi R^2)\,\sigma T^4$$

$$L = f\,4\pi d^2$$

$$R = \left[\frac{fd^2}{\sigma T^4}\right]^{1/2}$$

$$R = \sqrt{\frac{fd^2}{\sigma T^4}}$$

$$P^2 = \frac{4\pi^2}{GM}\,a^3$$

$$M = \frac{4\pi^2}{GP^2}\;\; a^3$$

$$\frac{\Delta M}{M} = \left(\frac{\Delta a}{a}\right)^3 = \left(\frac{\Delta \mathrm{dist}}{\mathrm{dist}}\right)^3$$