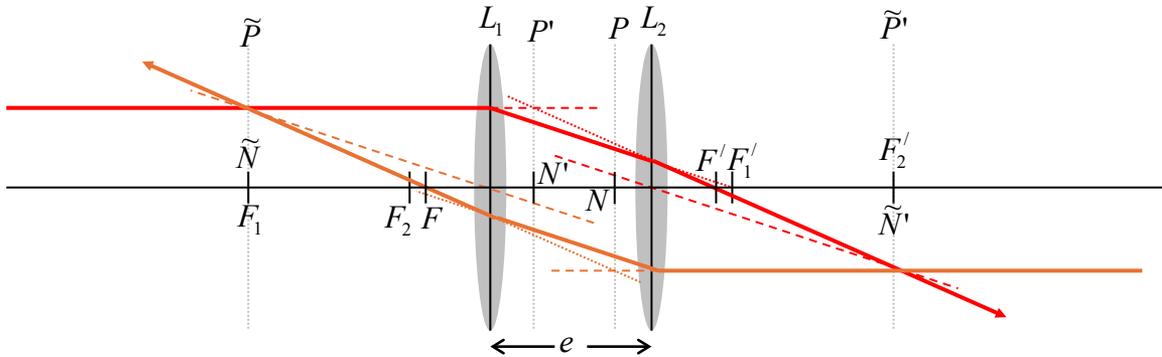


Ramsden 3-2-3



Parameter Definition

$$3-2-3 \rightarrow \frac{f_1'}{3} = \frac{e}{2} = \frac{f_2'}{3}$$

$$\frac{f_1'}{3} = \frac{e}{2} = \frac{f_2'}{3} = a \rightarrow \begin{aligned} f_1' &= 3a \\ e &= 2a \\ f_2' &= 3a \end{aligned}$$

Where 'a' is an arbitrary unit of length.

Focal Length and Cardinal Points

Focal Lengths: $f' = -f = \frac{9a}{4}$

Focal Points:

$$F' = \begin{cases} 11a/4 & \text{with respect to apex of Lens 1} \\ 3a/4 & \text{with respect to apex of Lens 2} \end{cases}$$

$$F = \begin{cases} -3a/4 & \text{with respect to apex of Lens 1} \\ -11a/4 & \text{with respect to apex of Lens 2} \end{cases}$$

Principle Points:

$$P = \begin{cases} 3a/2 & \text{with respect to apex of Lens 1} \\ -a/2 & \text{with respect to apex of Lens 2} \end{cases}$$

$$P' = \begin{cases} a/2 & \text{with respect to apex of Lens 1} \\ -3a/2 & \text{with respect to apex of Lens 2} \end{cases}$$