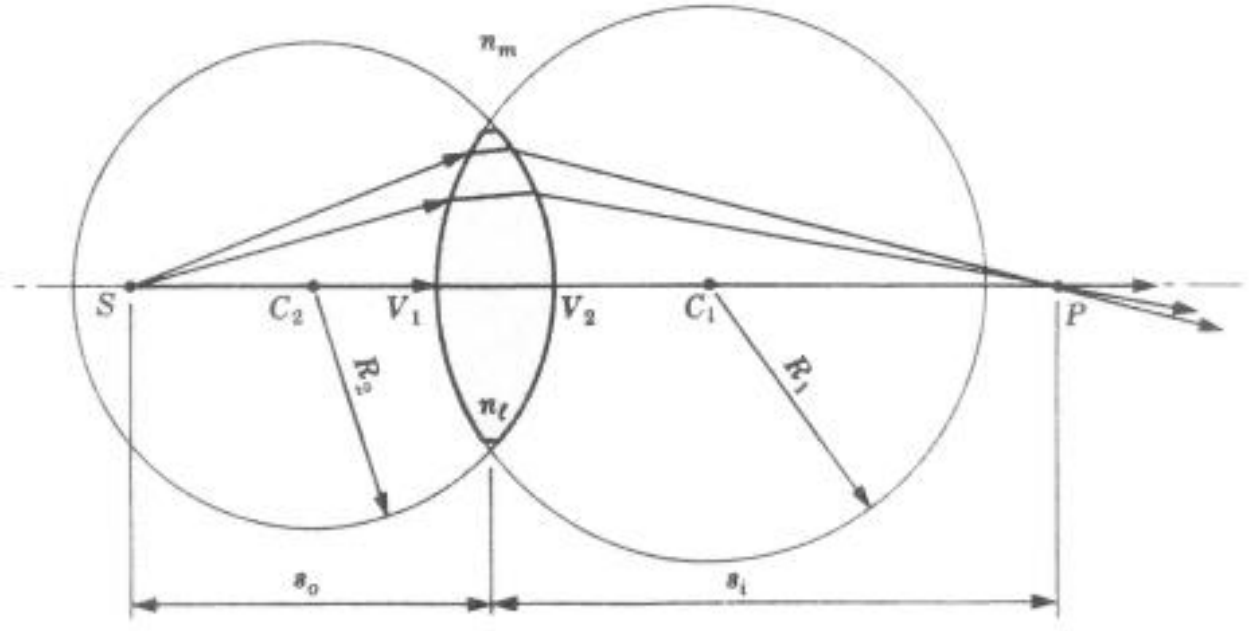
Lens having focal length *f*



the radius of the sphere is positive (negative) when its center is to the right (left) of the spherical surface that delimits one side of the lens: $R_1>0$, $R_2<0$

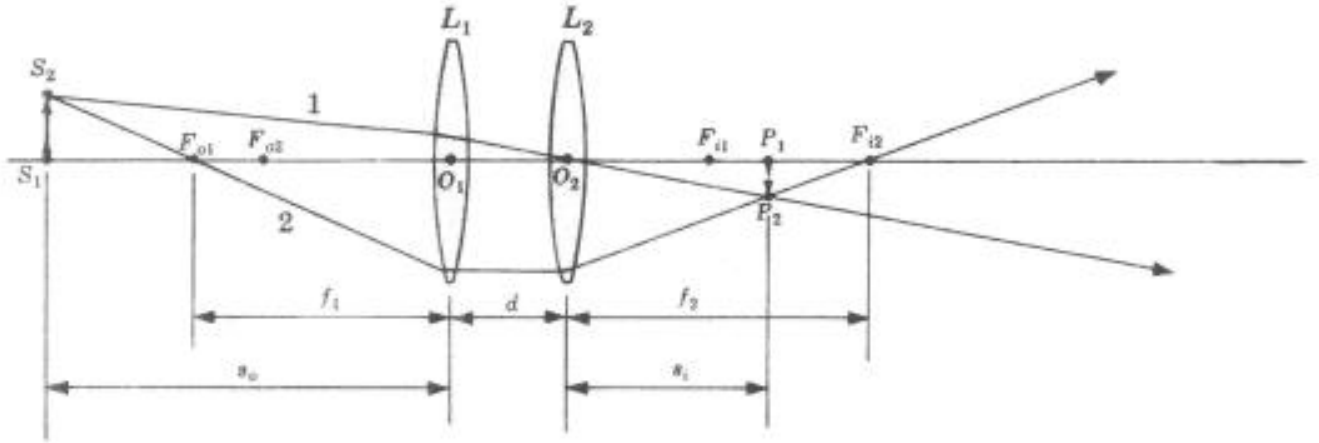
$$\frac{1}{s_o}+\frac{1}{s_i}=\frac{1}{f}$$ thin lens formula

where s_o is the distance between the object and the lens, s_i is the distance between the lens and the image, and *f* is the focal length

$$\frac{1}{f}=(n-1)\left(\frac{1}{R_1}-\frac{1}{R_2}\right)$$ lens maker's formula

n is the refractive index of the glass the lens is made of, and R_1 and R_2 are the radii of the two spherical surfaces delimiting the lens

Compound lens composed of two lenses L_1 and L_2 having focal lengths f_1 and f_2, respectively



the distance between the two lenses is d

the distance s_i between the second lens L_2 and the image is given by

$$s_i = \frac{f_2 d - \frac{f_1 f_2 s_o}{s_o - f_1}}{d - f_2 - \frac{f_1 s_o}{s_o - f_1}}$$