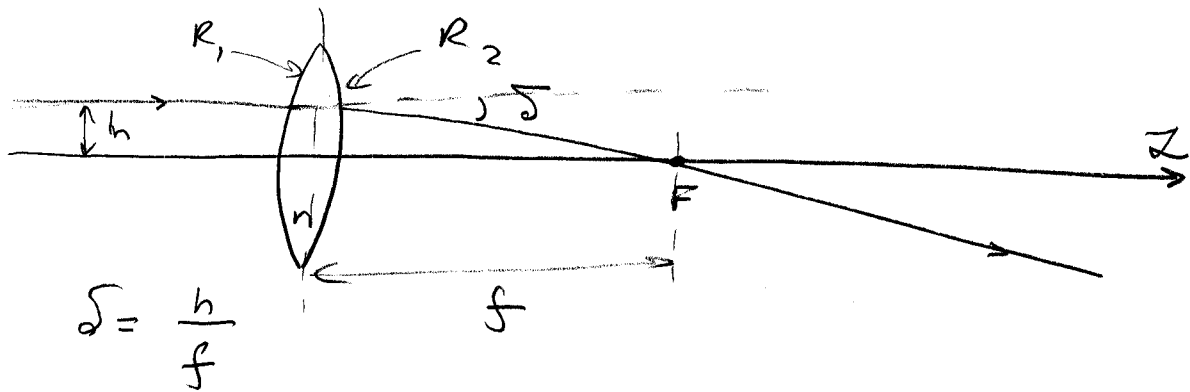


سؤال 1
سؤال 2

$$\delta = (n-1)\alpha$$

$$\Delta = nl - l = (n-1)l$$

$$\delta = \frac{\Delta}{w} = \frac{(n-1)l}{w} = (n-1)\alpha$$

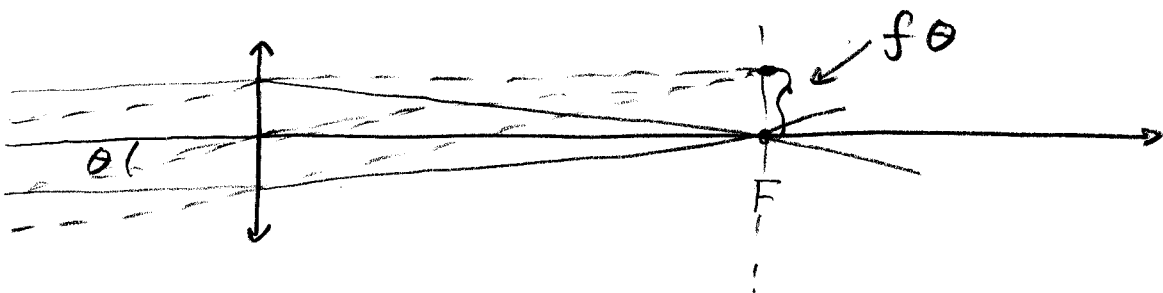


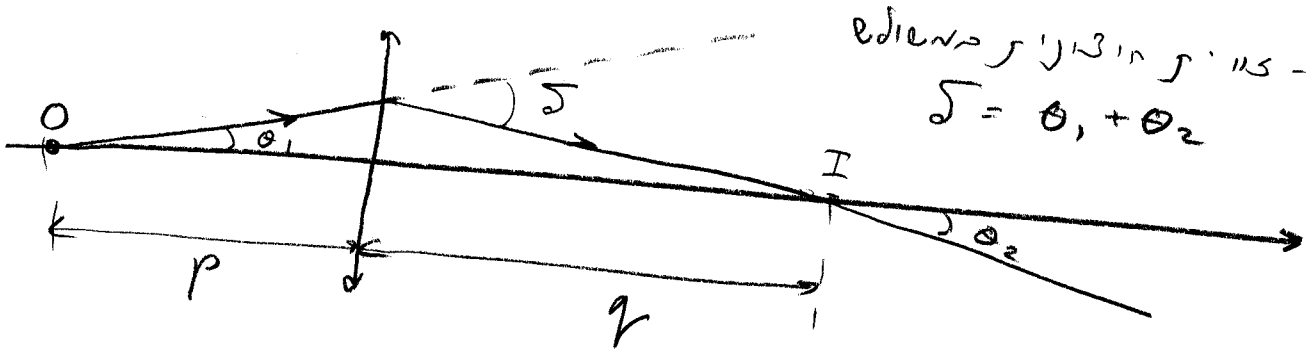
$$\delta = \frac{h}{f}$$

$$\alpha = h R_1^{-1} + h R_2^{-1} \Rightarrow \delta = (n-1)\alpha = (n-1)h \left(\frac{1}{R_1} + \frac{1}{R_2} \right)$$

$$\Rightarrow \frac{1}{f} = (n-1) \left(\frac{1}{R_1} + \frac{1}{R_2} \right)$$

سؤال 3



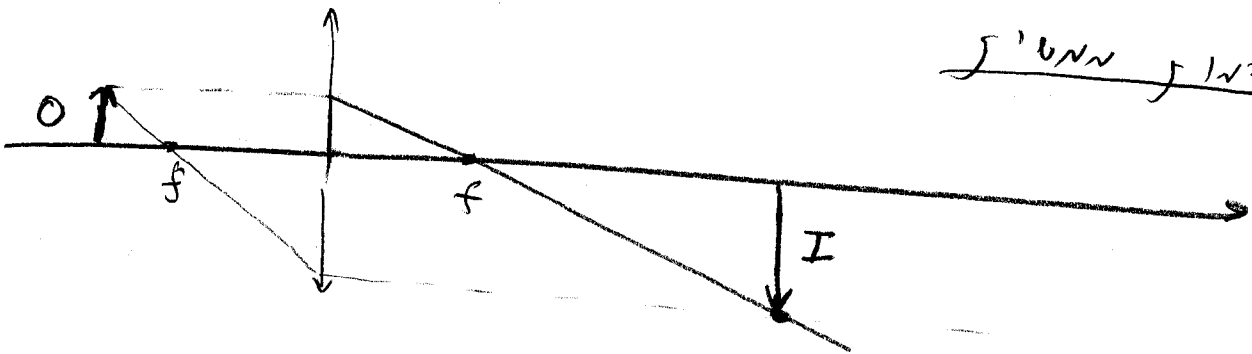


edienwa j'w3 j'w3 - θ
 $\theta = \theta_1 + \theta_2$

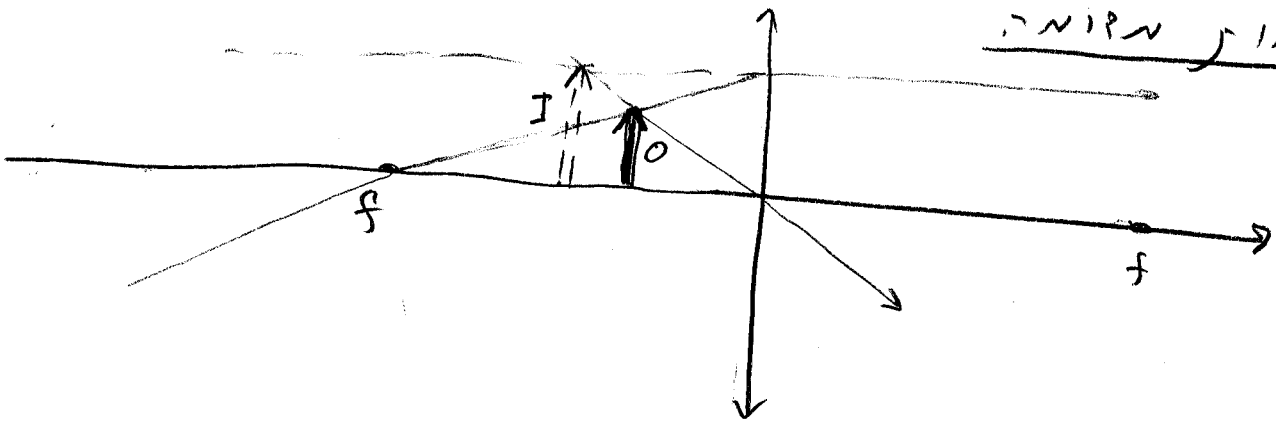
$$\theta_1 = \frac{h}{p} \quad \theta_2 = \frac{h}{q}$$

$$\theta = \frac{h}{f} \Rightarrow$$

$$\boxed{\frac{1}{p} + \frac{1}{q} = \frac{1}{f}}$$



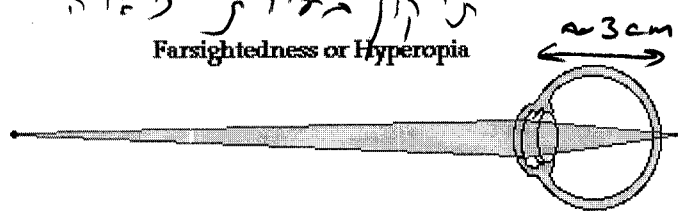
j'w3 j'w3



j'w3 j'w3

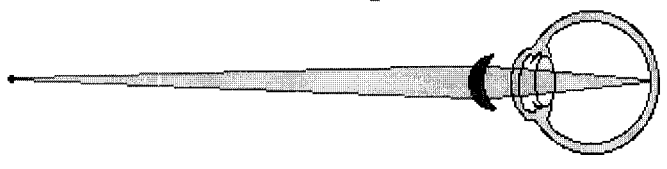
הערה חשובה

תקון מרחוק
Farsightedness or Hyperopia



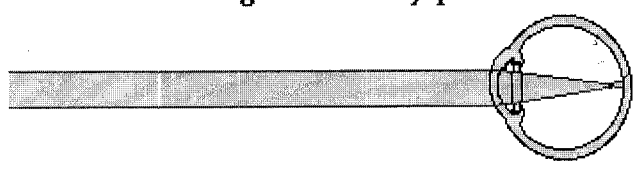
The inability of the lens to assume a high curvature and a short focal length leads to the formation of an image located behind the retina.

Correction for Farsightedness



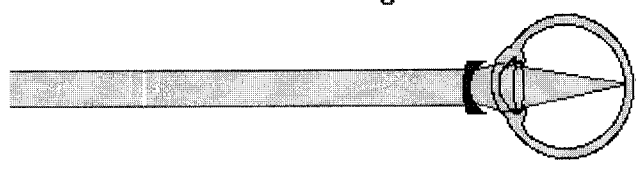
Farsightedness can be corrected by the use of a converging lens. Light refracts before reaching the cornea and is subsequently focused on the retina of the eye.

Nearsightedness or Myopia



A bulging cornea or an elongated eyeball often increases the refracting power of the eye, leading to the formation of images in front of the retina.

Correction for Nearsightedness



Nearsightedness can be corrected for by the use of a diverging lens. Light diverges before reaching the cornea and is then converged to a location on the retina.

$$D = \frac{1}{f}$$

הערה חשובה

$$\frac{1}{f} = \frac{1}{f_1} + \frac{1}{f_2}$$

$$D = D_1 + D_2$$

$$q^{-1} = (0.03 \text{ m})^{-1} = 33 \text{ m}^{-1}$$

$$p = \infty \quad \text{הערה חשובה}$$

$$D = \frac{1}{f} = \frac{1}{q} = 33 \text{ D}$$

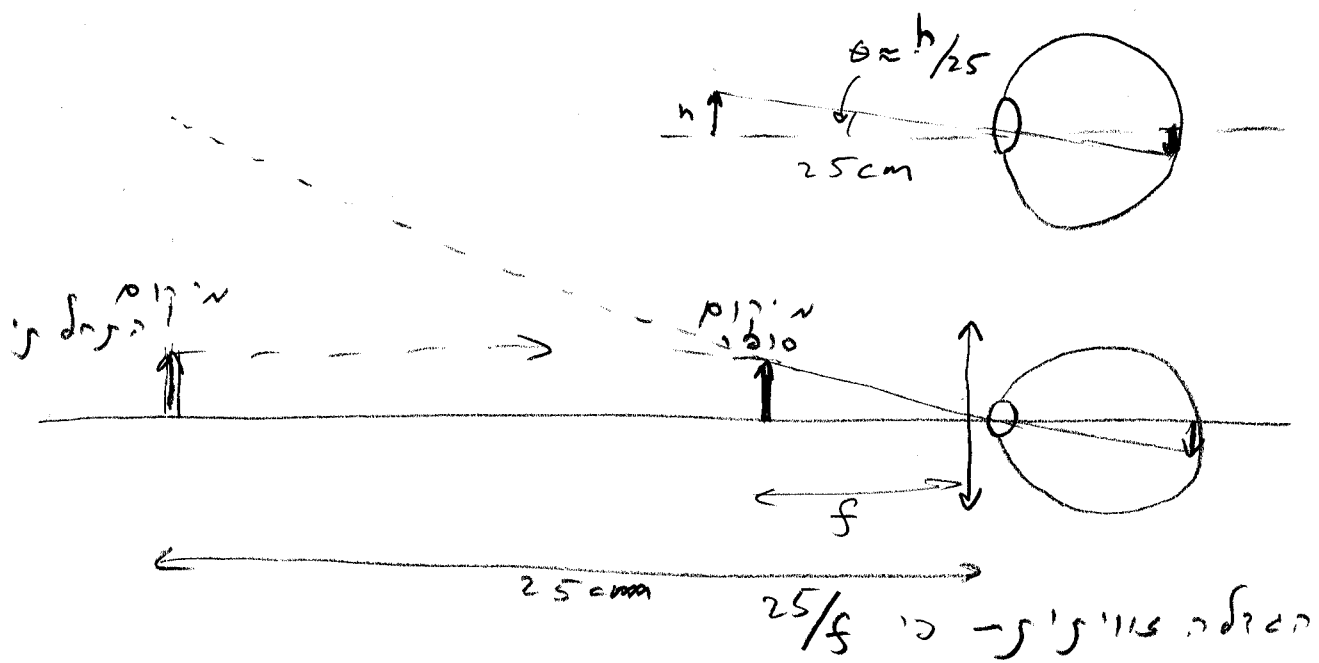
$$p = 25 \text{ cm}$$

$$p^{-1} = (0.25 \text{ m})^{-1} = 4 \text{ D}$$

$$p = 10 \text{ cm}$$

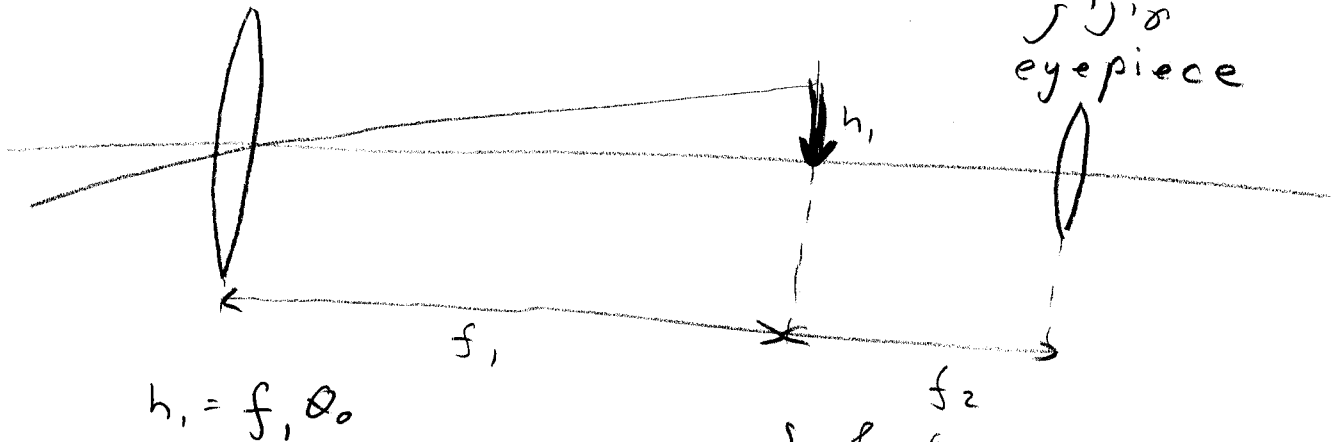
$$p^{-1} = (0.1 \text{ m})^{-1} = 10 \text{ D}$$

הערה חשובה



צ"מ האובייקט
objective

צ"מ העין

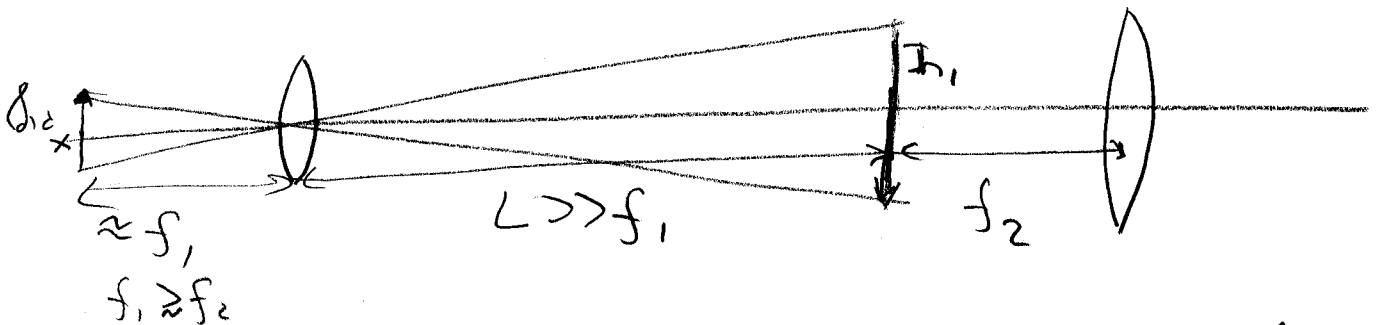


$$h_1 = f_1 \theta_0$$

הגובה של הציור ה-1 הוא $h_1 = f_1 \theta_0$

$$(h_1 / f_2) / \theta_0 = (f_1 \theta_0 / f_2) / \theta_0 = f_1 / f_2 \quad \text{הגבר}$$

מגבר



$$L \approx 20 \text{ cm}$$

$$h_1 = \left(\frac{L}{f_1}\right) x$$

אם הציור הוא בגודל 25cm
הגובה של הציור ה-1 הוא $x/25$

$$(h_1 / f_2) / (x/25) = (25L / f_1) \cdot f_2$$