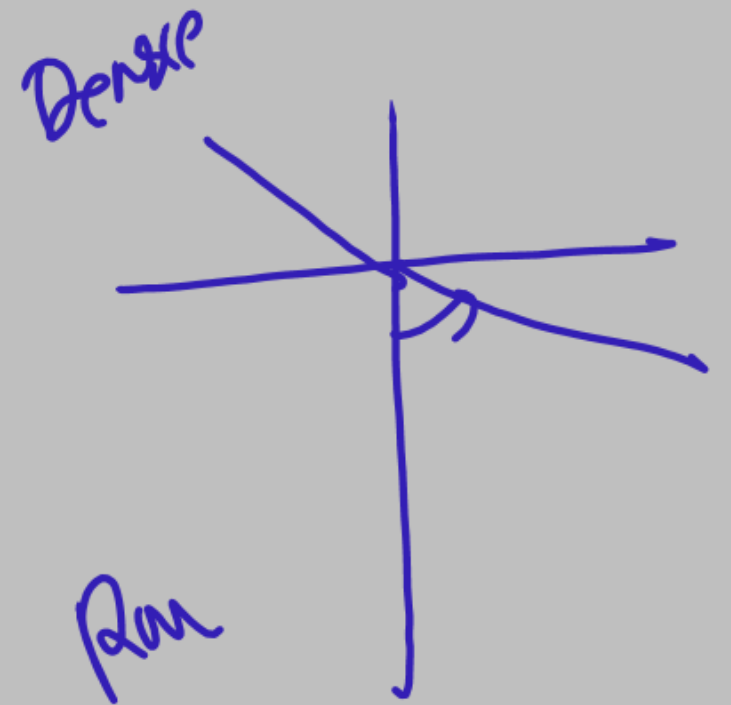
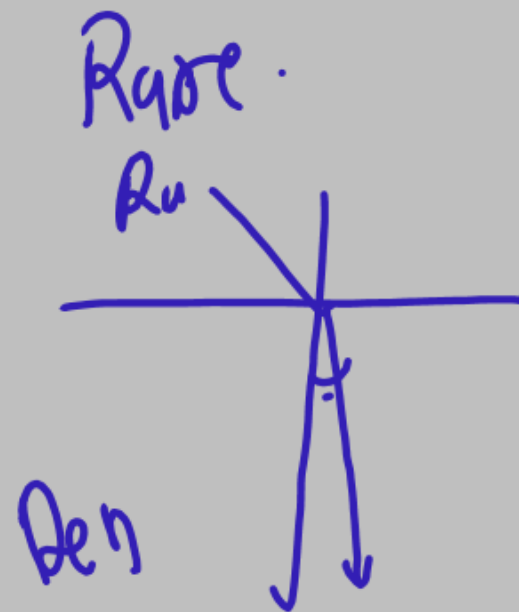
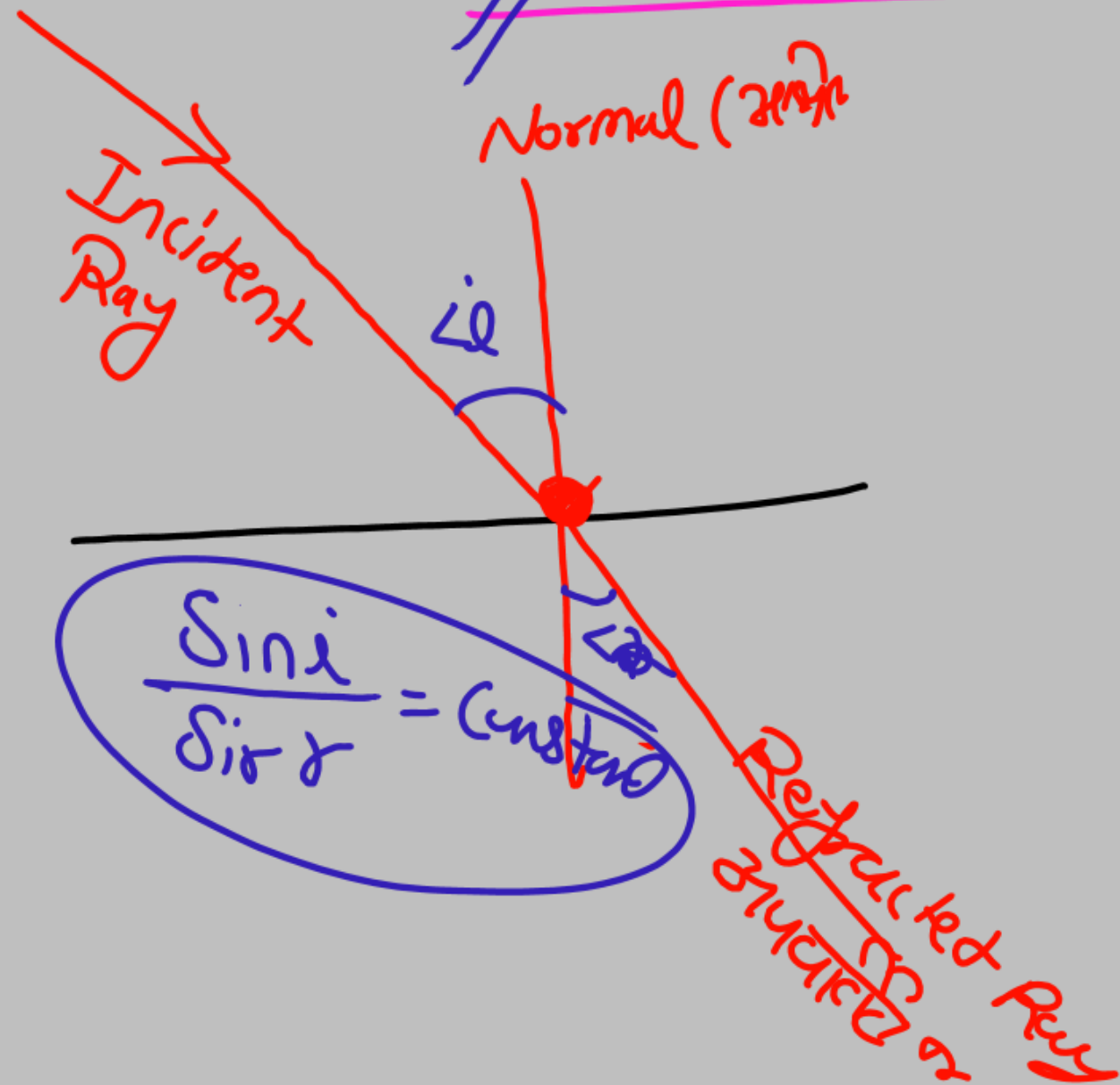
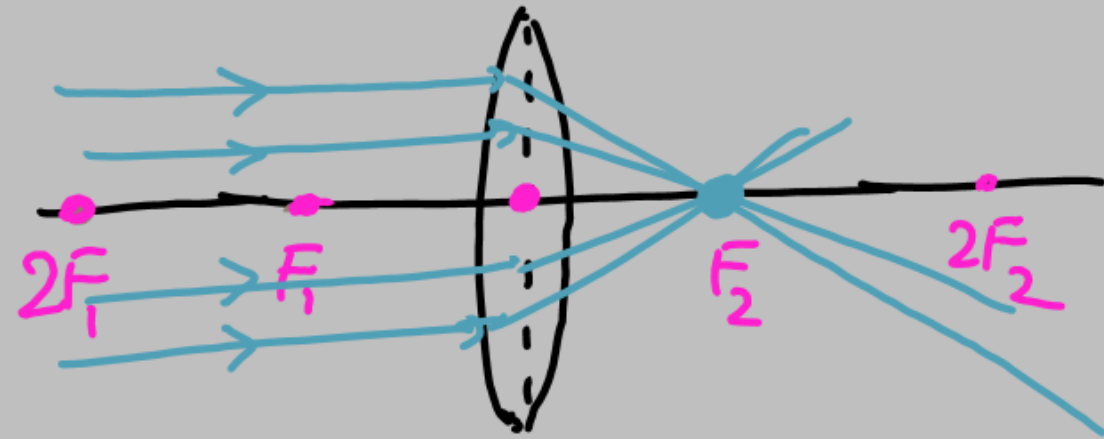


Refraction of Light

प्रकाश का अपवर्तन

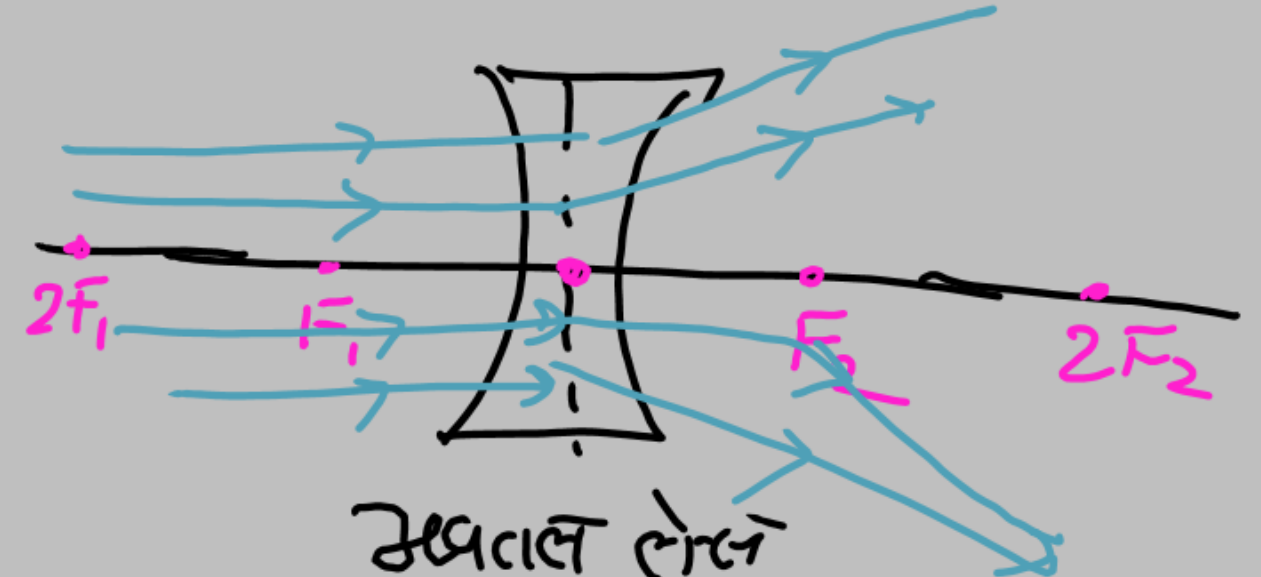


લેન્સ (Lens)



उत्तल लेंस
Convex lens

↳ Converging lens //

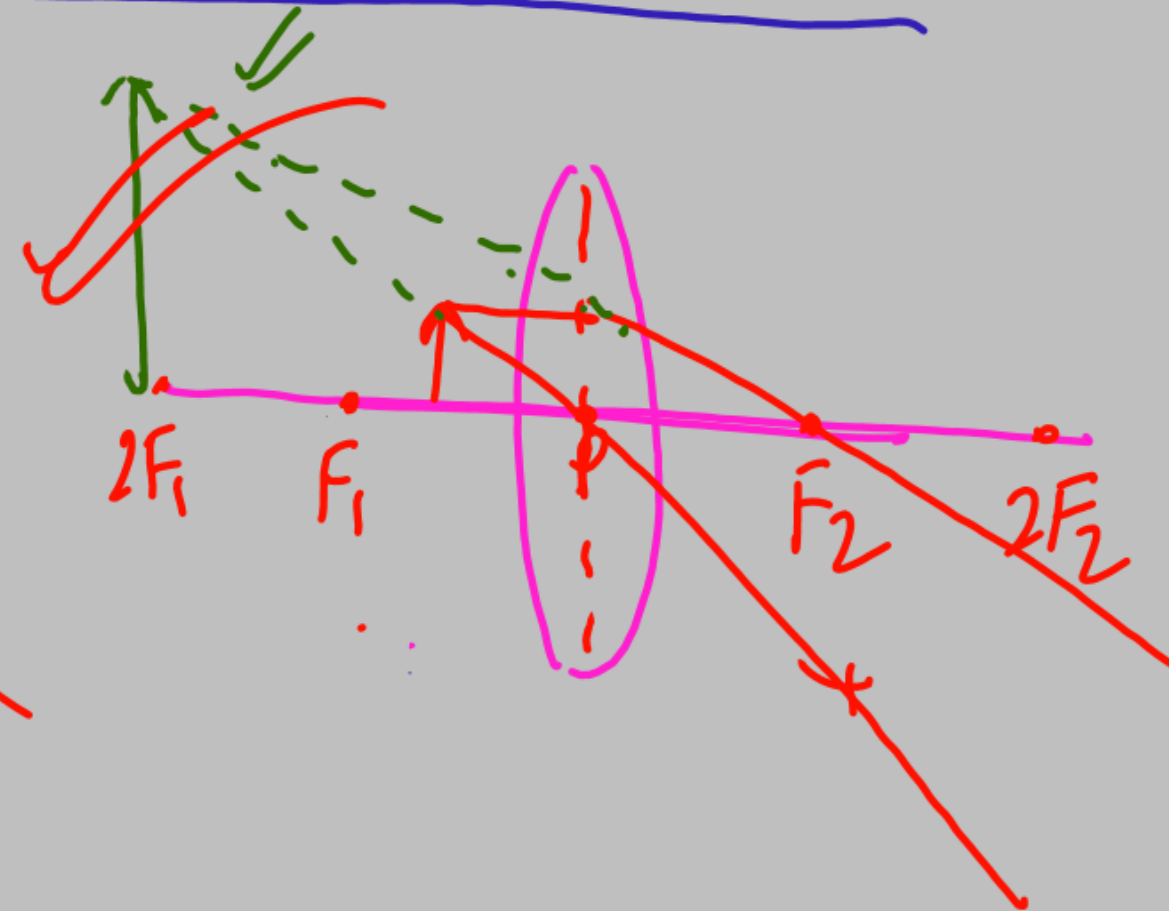
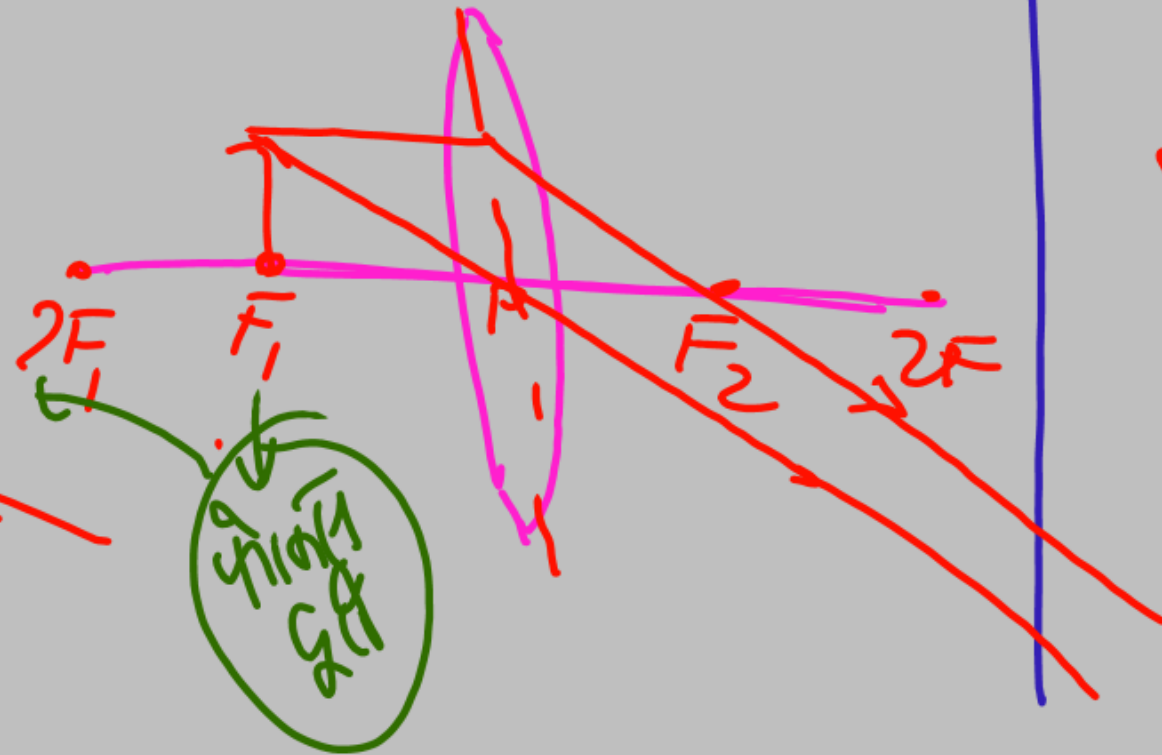
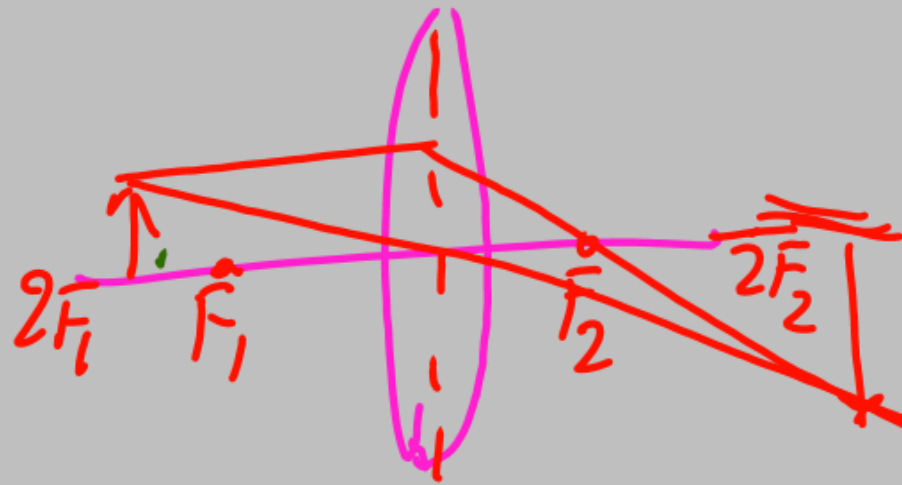
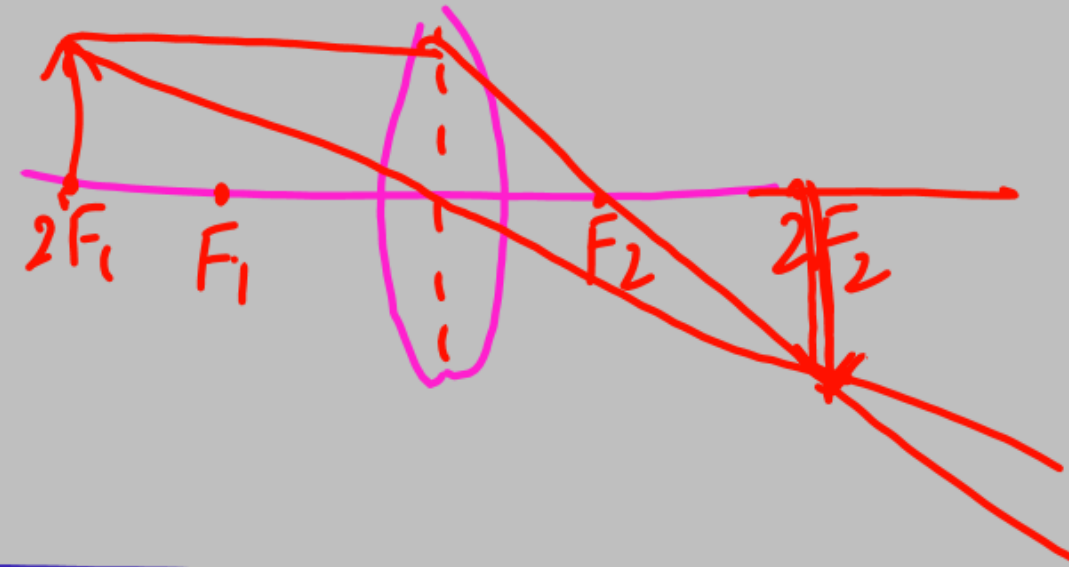
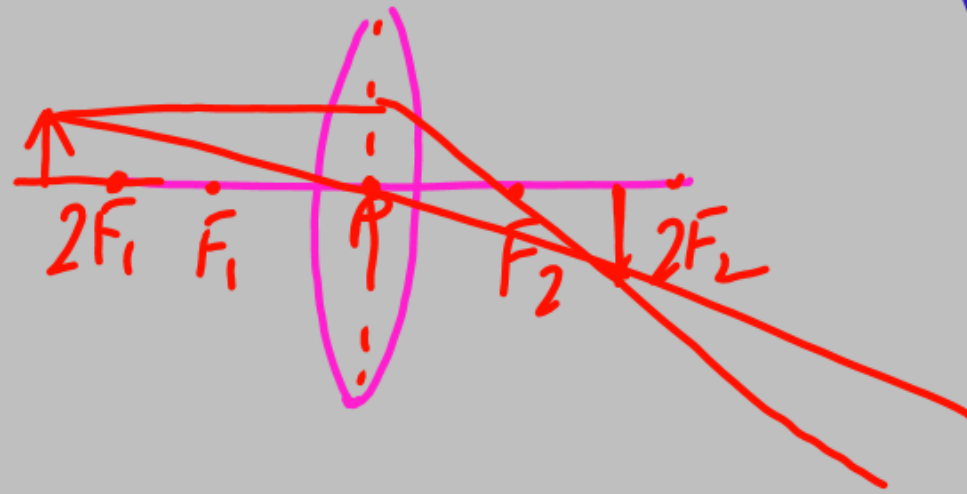
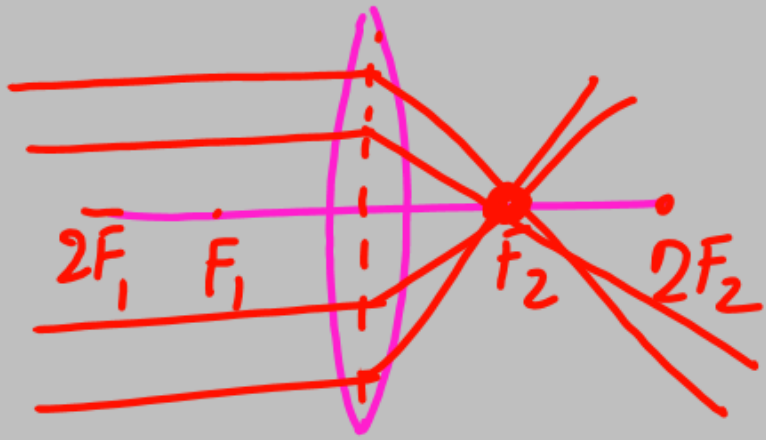


अवतल लेंस
Concave lens

↳ Diverging lens //

No of Image for Convex Lens

⇒ Infinite



Object	Real/Virtual	Small/Larger	Erect/Inverted
Intn to Before $2F_1$ $2F_1$ Between $\angle F_1$ & F_1 F_1	Real - F_2	→ Small	→ Inverted
	→ Real - $(F_2 - 2F_2)$	→ Small	→ //
	→ Real - $(2F_2)$	→ Equal	→ //
	→ Real - $(2F_2 \text{ to } \infty)$	→ Larger	→ //
	→ Real - (Infinit)	→ Very Large	→ //
Between F_1 & P	→ Virtual - Object side	→ Large	→ Erect

No. of Image for Concave Lens

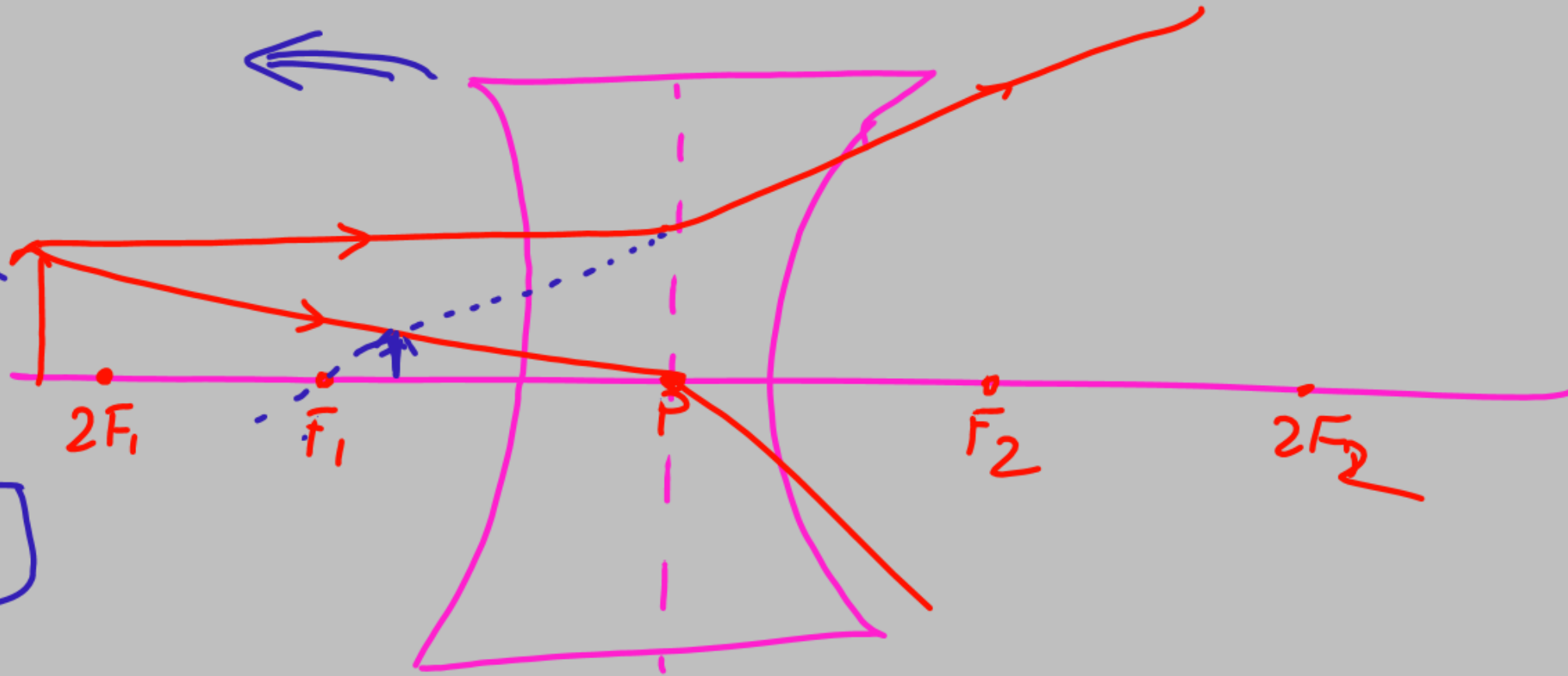
Image

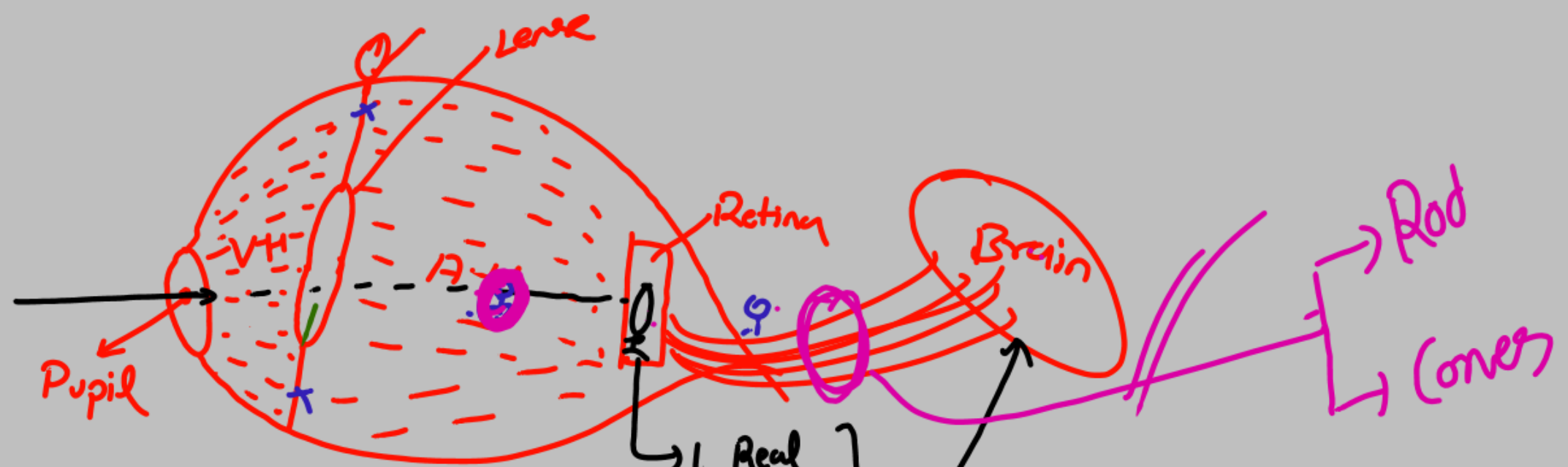
→ Small

→ Virtual

→ Erect

→ F_1 & P





Myopia
 निकट दृष्टि दोष

⇒ Near - ✓
 ⇒ Far - ✗✗

↓
 Concave

Hypermetropia
 दूर दृष्टि दोष

= Near - ✗✗
 ⇒ Far - ✓✓

Convex

Presbiopia
 (जरा दृष्टि दोष)

= Near = ✗
 ⇒ Far = ✗

Bifocal Lens

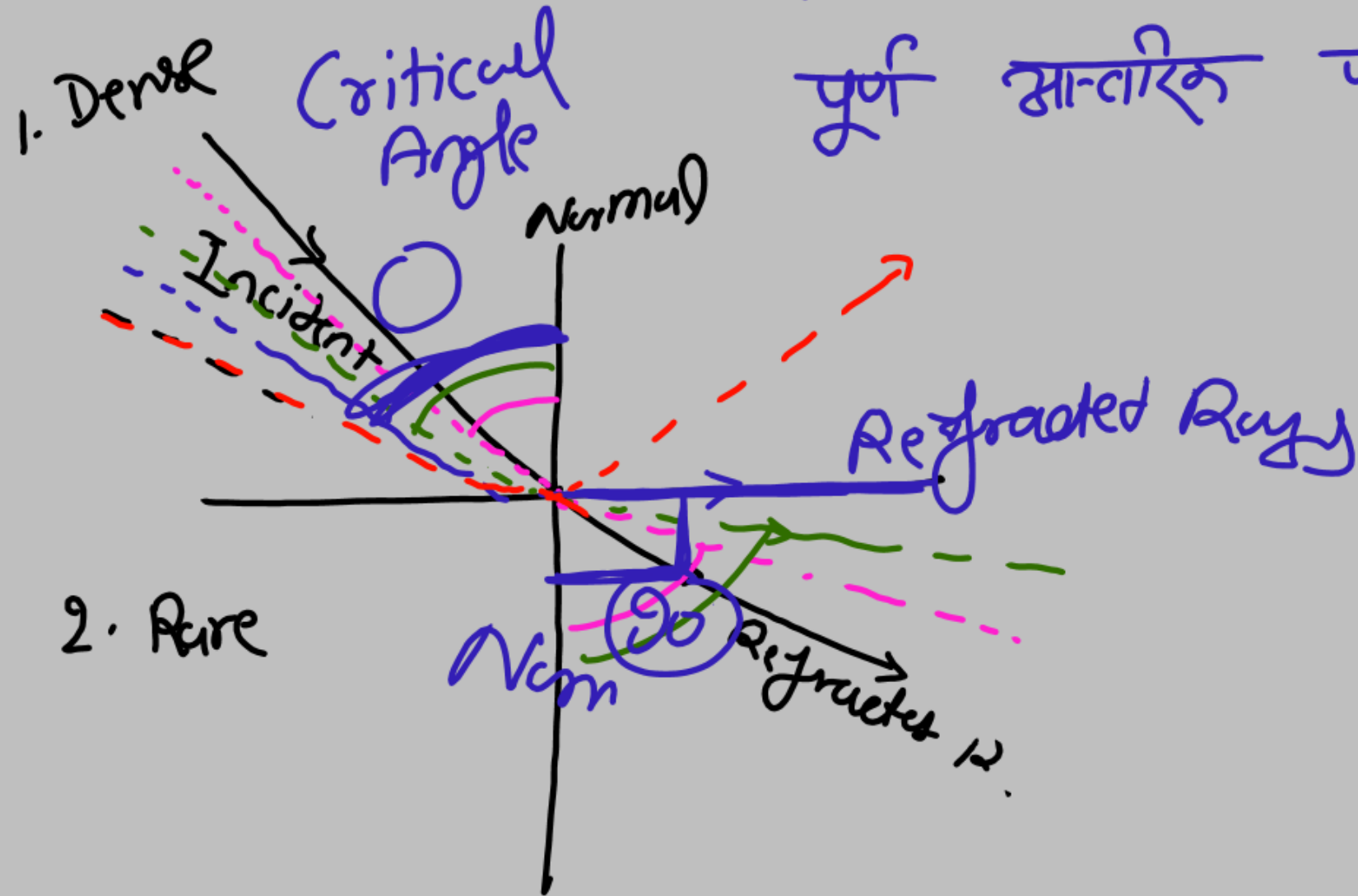
Astigmatism (अधिवृत्ति)

→ Horizontally = ✓
 → Vertical = ✗✗

Cylindrical Lens

Total Internal Reflection

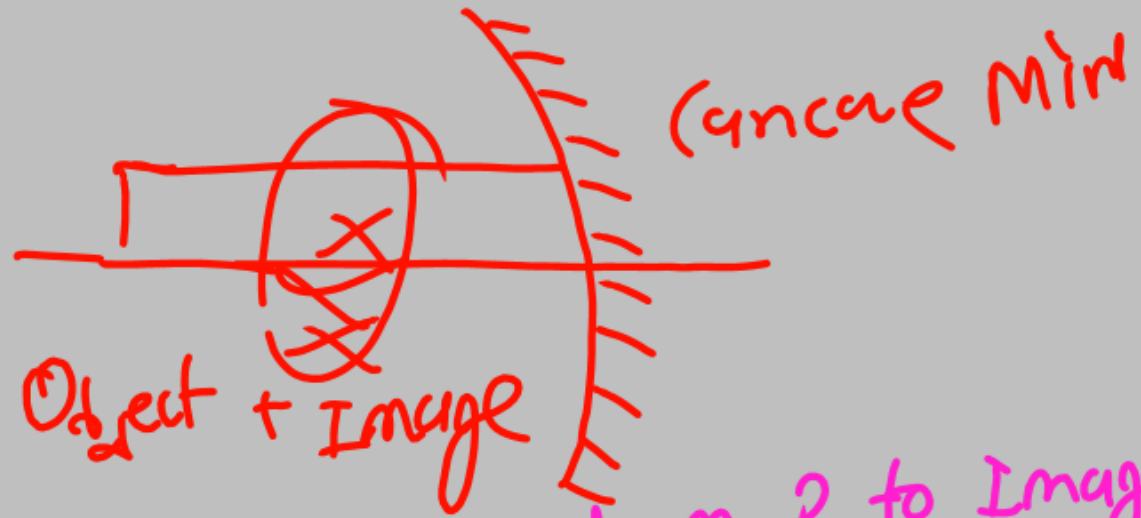
पूर्ण आन्तरिक परावर्तन



Example

⇒ 1.

Mirror



Object + Image

V = Distance from P to Image
 U = " " P to Object

F = Focal Dist

$$\frac{1}{F} = \frac{1}{V} + \frac{1}{U}$$

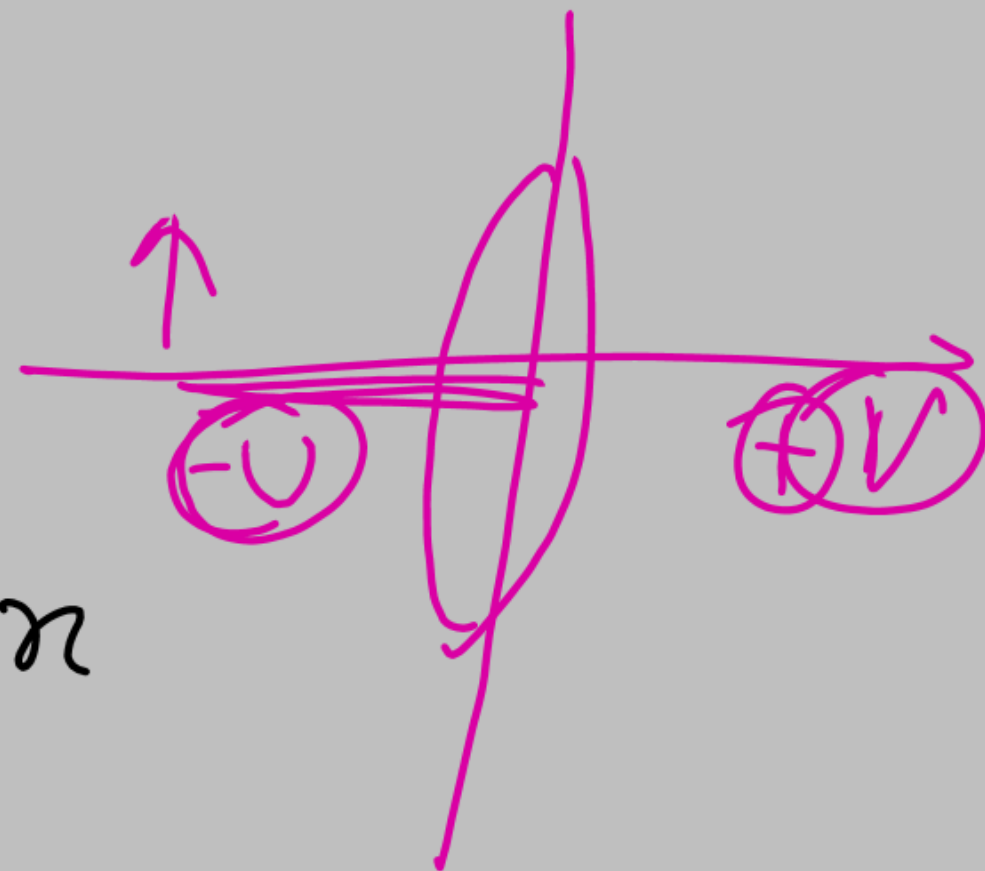
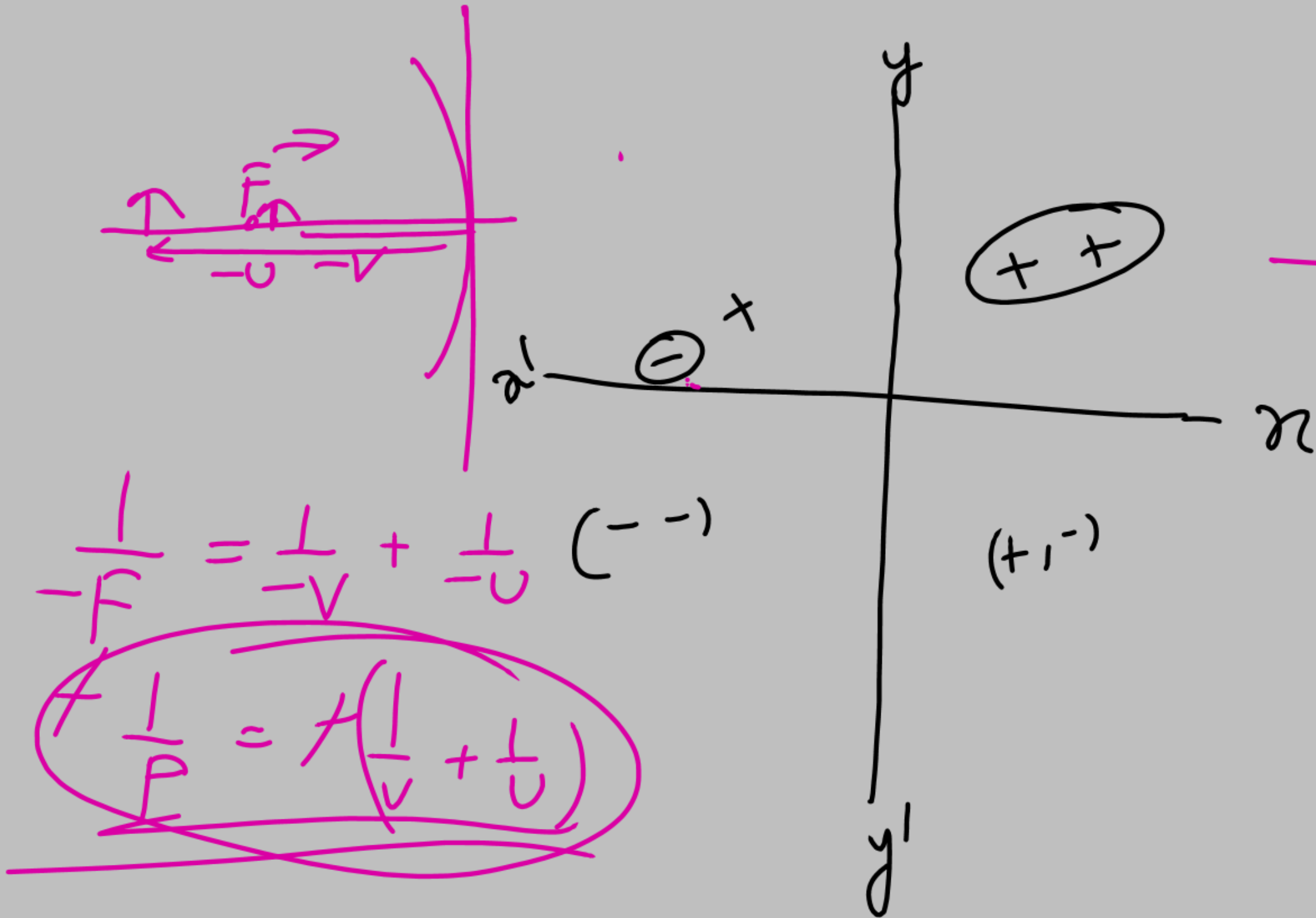
Lense

Convex Lense



V = Distance from P to Image
 U = " " P to Object
 F = Focal Dist

$$\frac{1}{F} = \frac{1}{V} - \frac{1}{U}$$



Dispersion of Light

