

Lens Formula:

The relation between distance of object, distance of image and focal length for a lens is called lens formula.

$$\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$$

Where, v is the distance of image, u is the distance of object, and f is the focal length of lens. Distance of object and image is measure from the optical centre of the lens.

Magnification:

The ratio of height of image and that of object or ratio of distance of image and distance of object gives magnification. It is generally denoted by 'm'.

$$m = \frac{\text{Height of image } h'}{\text{Height of object } h}$$
$$= \frac{\text{Distance of image } v}{\text{Distance of object } u}$$

The positive (+) sign of magnification shows that image is erect and virtual while a negative (-) sign of magnification shows that image is real and inverted.

Power of Lens:

$$\text{Power } P = \frac{1}{\text{Focal length } f}$$

$$\text{Or, } P = \frac{1}{f}$$