

Thin Lens Formula

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

$$m = \frac{\text{size of image}}{\text{size of object}} \quad m = \frac{\text{image distance}}{\text{object distance}}$$

Symbol	Sign	
	Convex lens	Concave lens
f	Positive	Negative
u	Positive	Positive
v	Real image: Positive Virtual image: Negative	Negative
P	Positive	Negative

1. An object is placed 15 cm in front of a convex lens of focal length 10 cm. Calculate the

- (a) image distance
(b) magnification of image

Answer :

(a) $v =$ cm

(b) $m =$

2. An object of height 6 cm is placed at a distance of 20 cm from a concave lens of focal length 10 cm. Find the

- (a) the position of the image
(b) the height of the image

Answer :

(a) $v =$ cm

(b) $h_i =$ cm