

## 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