

## Light

If two plane mirrors makes an angle  $\theta$  with one another, then number of images ( $n$ ) is

$$n = \frac{360^\circ}{\theta} - 1$$

Example: If the angle between two plane mirror is  $30^\circ$ , find the number of images formed in the mirror

Sol:

$$\theta = 30^\circ$$

$$n = \frac{360^\circ}{\theta} - 1$$

$$= \frac{360^\circ}{30} - 1$$

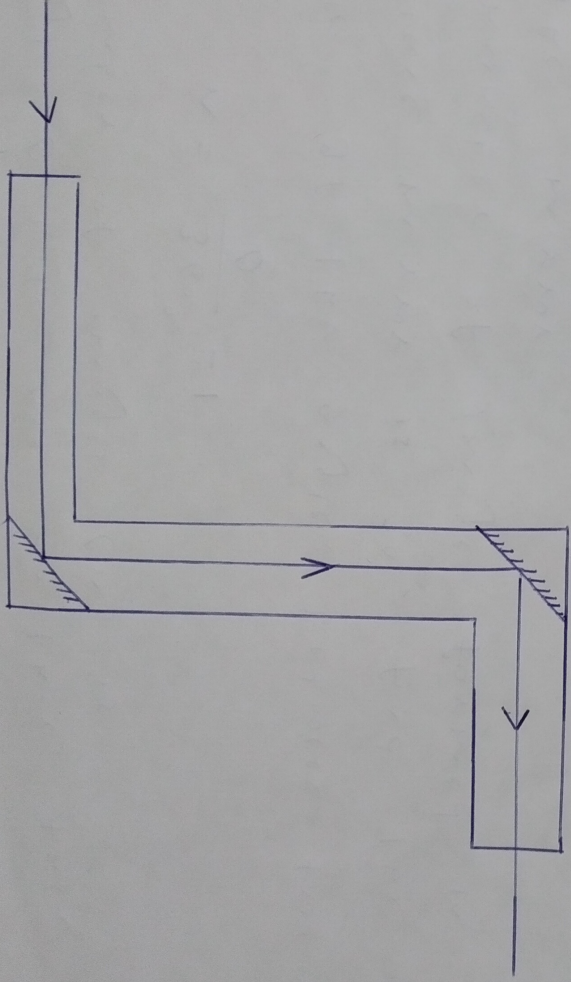
$$= 12 - 1$$

$$= 11$$

$\therefore$  No of images = 11

Periscope: periscope is an optical instrument that uses mirrors to reflect images through a tube.

Light rays from the object fall on the first mirror, gets reflected and fall on the second mirror. Then they enter viewer's eyes and viewer can see the image.



uses of periscope:

- (i) spectators outside the gallery uses periscope to watch games inside it
- (ii) periscopes are used in submarine to observe enemy ships.