

# 10TH GRADE – SCIENCE

## REFLECTION OF LIGHT BY CURVED SURFACES

### INTERACTIVE WORKSHEET 02

#### I. Find the no of images between two inclined mirrors.

1. If two plane mirrors are kept inclined to each other at angle  $\theta$  with their reflecting surfaces facing each other, multiple reflection takes place and more than one images are formed. Number of images ( $n$ ) for  $\theta \leq 180^\circ$  are given by:

$\frac{360^\circ}{\theta} - 1$  if  $\frac{360^\circ}{\theta}$  is even (object may be placed symmetrically or asymmetrically)

$\frac{360^\circ}{\theta} - 1$  if  $\frac{360^\circ}{\theta}$  is odd, the object is kept symmetrically (on bisector) w.r.t. the mirrors

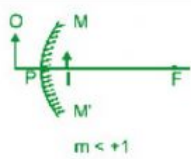
$\frac{360^\circ}{\theta}$  if  $\frac{360^\circ}{\theta}$  is odd, the object is kept asymmetrically (not on bisector) w.r.t. the mirrors

$\frac{360^\circ}{\theta}$  if  $\frac{360^\circ}{\theta}$  is not an integer.

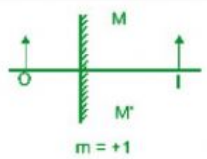
All this is given below in a tabular form:

S.No.	$\theta$ in degrees	$M = (360/\theta)$	No. of Images formed if object is placed	
			Asymmetrically	Symmetrically
1	$\theta$		$\infty$	$\infty$
2	30		11	11
3	45		7	7
4	60		5	5
5	72		5	4
6	75		4	4
7	90		3	3
8	112.5		3	3
9	120		3	2

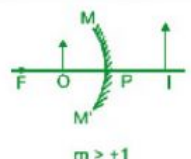
#### II. Identification of mirror



Smaller than object, the mirror is



Equal to object, the mirror is



Larger than object, the mirror is



# AIMS-INDIA



LIVEWORKSHEETS