

Class Assignment: 1

Geometrical Optics:

A ray is reflected in turn by three plain mirrors mutually at right angles to each other. The angle between the incident and the reflected rays is

[Roorkee 1995]

- (a) 90° (b) 60°
(c) 180° (d) None of these

A plane mirror makes an angle of 30° with horizontal. If a vertical ray strikes the mirror, find the angle between mirror and reflected ray

[RPET 1997]

- (a) 30° (b) 45°
(c) 60° (d) 90°

If an observer is walking away from the plane mirror with 6 m/sec . Then the velocity of the image with respect to observer will be

[RPMT 1999]

- (a) 6 m/sec (b) -6 m/sec
(c) 12 m/sec (d) 3 m/sec

A man runs towards mirror at a speed of 15 m/s . What is the speed of his image

[CBSE PMT 2000]

- (a) 7.5 m/s (b) 15 m/s
(c) 30 m/s (d) 45 m/s

A small object is placed 10 cm in front of a plane mirror. If you stand behind the object 30 cm from the mirror and look at its image, the distance focused for your eye will be

[KCET (Engg.) 2001]

- (a) 60 cm (b) 20 cm
(c) 40 cm (d) 80 cm

An object is at a distance of 0.5 m in front of a plane mirror. Distance between the object and image is

[CPMT 2002]

- (a) 0.5 m (b) 1 m
(c) 0.25 m (d) 1.5 m

A man runs towards a mirror at a speed 15 m/s . The speed of the image relative to the man is

[Kerala PET 2002]

- (a) 15 ms^{-1} (b) 30 ms^{-1}
(c) 35 ms^{-1} (d) 20 ms^{-1}

The light reflected by a plane mirror may form a real image

[KCET (Engg. & Med.) 2002]

- (a) If the rays incident on the mirror are diverging
- (b) If the rays incident on the mirror are converging
- (c) If the object is placed very close to the mirror
- (d) Under no circumstances

Two plane mirrors are inclined at an angle of 72° . The number of images of a point object placed between them will be

[KCET (Engg. & Med.) 1999; BCECE 2003]

- (a) 2
- (b) 3
- (c) 4
- (d) 5

To get three images of a single object, one should have two plane mirrors at an angle of

[AIIEE 2003]

- (a) 30°
- (b) 60°
- (c) 90°
- (d) 150°

Focal length of a plane mirror is

[RPMT 2000]

- (a) Zero
- (b) Infinite
- (c) Very less
- (d) Indefinite

A ray of light is incident at 50° on the middle of one of the two mirrors arranged at an angle of 60° between them. The ray then touches the second mirror, get reflected back to the first mirror, making an angle of incidence of

[MP PET 2005]

- (a) 50°
- (b) 60°
- (c) 70°
- (d) 80°