

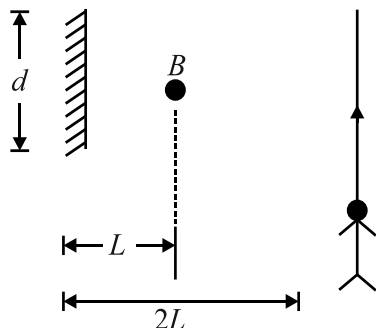
Ray Optics and Optical Instruments

DPP-02

1. A man is 180 cm tall, and his eyes are 10 cm below the top of his head. In order to see his entire height right from toe to head, he uses a plane mirror kept at a distance of 1m from him. The minimum length of the plane mirror required is

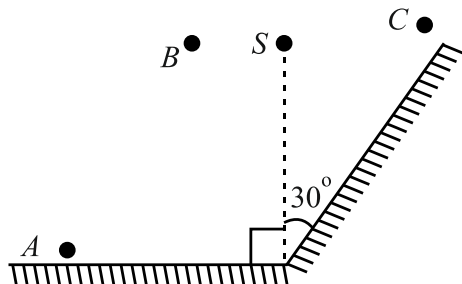
(1) 180 cm (2) 90 cm
(3) 85 cm (4) 170 cm

2. A point source of light B is placed at a distance L in front of the centre of a mirror of width d hung vertically on a wall. A man walks in front of the mirror along a line parallel to the mirror at a distance $2L$ from it as shown. The greatest distance over which he can see the image of the light source in the mirror is



(1) $d/2$ (2) d
(3) $2d$ (4) $3d$

3. A point source of light S is placed in front of two large mirrors as shown. Which of the following observers will see only one image of S ?



(1) only A (2) only C
(3) both A and C (4) both B and C

4. Two plane mirrors are inclined to each other at an angle 60° . If a ray of light incident on the first mirror is parallel to the second mirror, it is reflected from the second mirror

(1) Perpendicular to the first mirror
(2) Parallel to the first mirror
(3) Parallel to the second mirror
(4) Perpendicular to the second mirror

5. If a ray of light is incident on a plane mirror at an angle 60° from the mirror surface, then deviation produced by mirror is:

(1) 30° (2) 60°
(3) 90° (4) 120°

6. When light is reflected from a mirror a change occurs in its:

(1) phase (2) frequency
(3) wavelength (4) speed

7. A ray is incident at an angle 38° on a mirror. The angle between normal and reflected ray is

(1) 38° (2) 52°
(3) 90° (4) 76°

8. A plane mirror produces a magnification of

(1) -1 (2) $+1$
(3) Zero (4) Between 0 and $+\infty$

9. 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

(1) 30° (2) 45°
(3) 60° (4) 90°

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

(1) 0.5 m (2) 1 m
(3) 0.25 m (4) 1.5 m

Answer Key

1. (2)
2. (4)
3. (2)
4. (2)
5. (4)
6. (1)
7. (1)
8. (2)
9. (3)
10. (2)