

DPP – 2 (Geometrical Optics)

Video Solution on Website:-

<https://physicsaholics.com/home/courseDetails/67>

Video Solution on YouTube:-

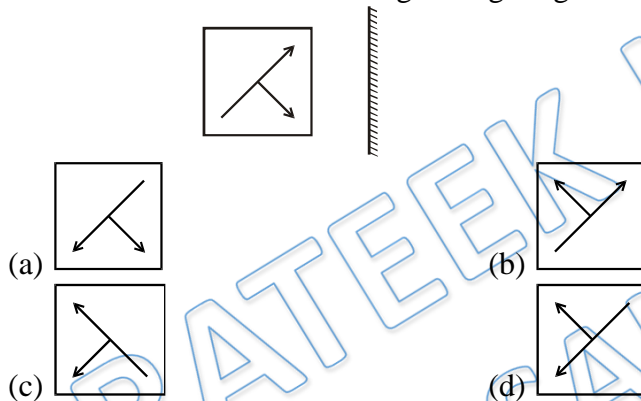
<https://youtu.be/C7liT8iU2Mc>

Written Solution on Website:-

<https://physicsaholics.com/note/notesDetails/68>

- Q 1. Two plane mirrors are inclined at 70° . A ray incident on one mirror at angle θ after reflection falls on the second mirror and is reflected from there parallel to the first mirror θ is:
 (a) 50° (b) 45° (c) 30° (d) 55°

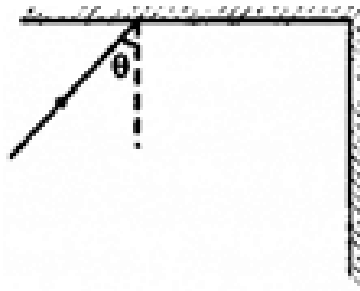
- Q 2. Choose the correct mirror-image of figure given below.



- Q 3. Two plane mirrors are inclined to each other at 90° . A ray of light is incident on one mirror and the reflected light goes to the other mirror. The ray will undergo a total deviation of:
 (a) 180°
 (b) 90°
 (c) 45°
 (d) cannot be found because angle of incidence is not given.

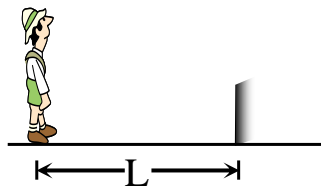
- Q 4. Two plane mirrors are inclined at an acute angle such that a ray incident on a mirror undergoes a total deviation of 210° after two reflections
 (a) The angle between mirrors is 60°
 (b) The number of images formed by this system will be 5
 (c) All images and object will lie on a circle
 (d) All images and object will lie on an ellipse

- Q 5. Two plane mirrors are arranged at right angles to each other as shown in figure. A ray of light is incident on the horizontal mirror at an angle θ . For what value of θ the ray emerges parallel to the incoming ray after reflection from the vertical mirror?



- (a) 60° (b) 30° (c) 45° (d) all of these

- Q 6. A boy of height H is standing in front of mirror, which has been fixed on the ground as shown in figure. What length of his body can the man see in the mirror? The length of the mirror is $H/2$ –



- (a) H (b) $H^2/(H^2 + L^2)^{1/2}$
 (c) Zero (d) $2H^2/L$

- Q 7. AB and AC are two plane mirrors inclined at an angle of 15° and P is a point on AB . At what angle must a ray of light from P be incident upon AC in order that after three successive reflection it may be parallel to AB ?

- (a) 45°
 (b) 30°
 (c) 60°
 (d) None of these

- Q 8. Two plane mirrors are parallel to each other and spaced 20 cm apart. An object is kept in between them at 15 cm from A . Out of the following at which point (s) image (s) is/are not formed in mirror A (distance measured from mirror A) –

- (a) 15 cm (b) 25 cm (c) 45 cm (d) 55 cm

- Q 9. A person's eye level is 1.5 m. He stands in front of 0.3 m long plane mirror which is 0.8m above the ground. The length of the image he sees of himself is –

- (a) 1.5 m (b) 1.0 m (c) 0.8 m (d) 0.6 m

- Q 10. Two mirrors inclined to each other produce five images of an object placed between them irrespective of position of object. If the angle between them is reduced by 30° , then number of images seen in the two mirrors will be –

- (a) 15 (b) 13 (c) 12 (d) 11

- Q 11. Two plane mirrors M_1 and M_2 have a length of 20 m each and are 10 cm apart. A ray of light is incident on one end of mirror M_2 at an angle of 53° . The number of reflections light undergoes before reaching the other end is:

- (a) 170 (b) 100 (c) 150 (d) 200



Answer Key

Q.1 a	Q.2 c	Q.3 a	Q.4 c	Q.5 d
Q.6 c	Q.7 a	Q.8 c	Q.9 d	Q.10 d
Q.11 c				

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