

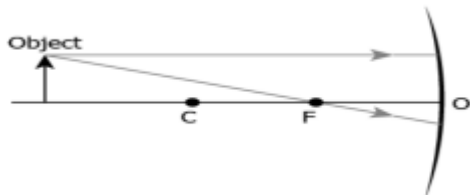
INTERNATIONAL INDIAN SCHOOL BURAIDAH

WORKSHEET FOR THE ACADEMIC YEAR 2026-27

Class-10 Subject: Physics

CHAPTER 04: Light – Reflection and Refraction

1. The image shows the path of incident rays to a concave mirror



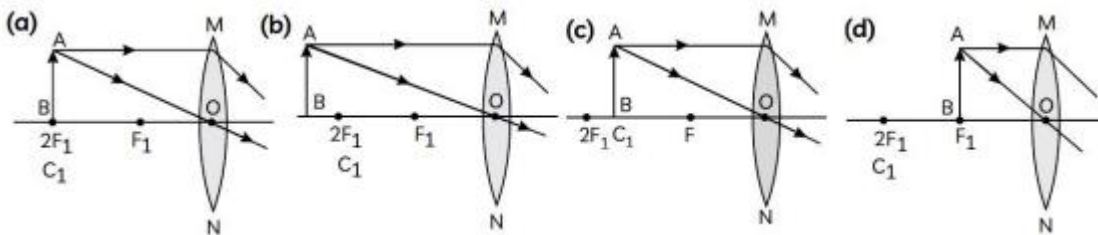
Where would the reflected rays meet for the image formation to take place?

- (a) Behind the mirror (b) Between F and O (c) Between C and F (d) Beyond C

2. Rahul conducts an experiment using an object of height of 10 cm and a concave lens with a focal length of 20 cm. The object is placed at a distance of 25 cm from the lens. Can the image be formed on a screen?

- (a) Yes, as the image formed will be real
(b) Yes, as the image formed will be erect
(c) No, as the image formed will be virtual
(d) No, as the image formed will be inverted

2. A student wants to obtain magnified image of an object AB on a screen. Which one of the following arrangements shows the correct position of AB for him/her to be successful?



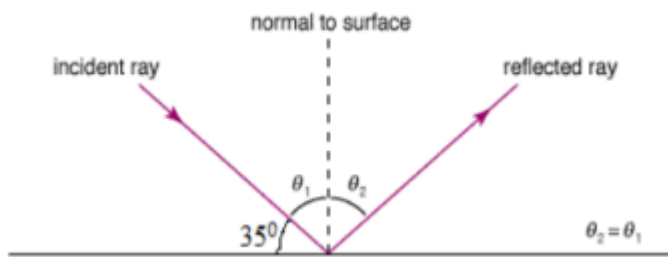
3. If a man's face is 25 cm in front of concave shaving mirror producing erect image 1.5 times the size of face, focal length of the mirror would be

- (a) 75 cm (b) 25 cm (c) 15 cm (d) 60 cm

4. The radius of curvature of concave mirror is 14 cm. Then, the focal length will be

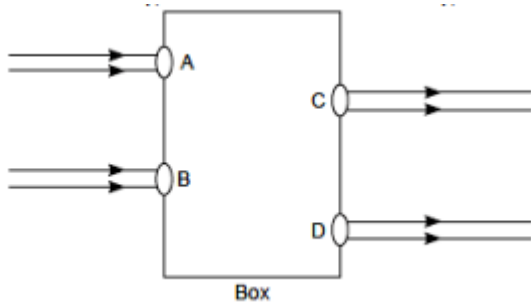
- (a) 14 cm (b) 7 cm (c) -28 cm (d) -7 cm

5. Find the angle of incidence and the angle of reflection from the diagram



- (a) $55^\circ, 45^\circ$ (b) $45^\circ, 55^\circ$ (c) $55^\circ, 55^\circ$ (d) $45^\circ, 45^\circ$

5. Beams of light are incident through the holes A and B and emerge out of box through the holes C and D respectively as shown in the figure. Which of the following could be inside the box?



- (a) A rectangular glass slab (b) A convex lens (c) A concave lens (d) A prism

6. A spherical mirror produces an image of magnification -1 on a screen placed at a distance of 50 cm from the mirror.

- (a) Write the type of mirror.
 (b) Find the distance of the image from the object.
 (c) What is the focal length of the mirror?

7. To get an enlarged, real and inverted image of an object by a concave mirror, where should the object be placed? Draw a labelled ray diagram to justify your answer.

8. If an object is placed at the centre of curvature of this mirror, what will be the magnification produce?

9. An object of size 7.0 cm is placed at 27 cm in front of a concave mirror of focal length 18 cm. At what distance from the mirror should a screen be placed, so that a sharp focused image can be obtained? Find the size and the nature of the image.

10. An object 2 cm in size is placed 30 cm in front of a concave mirror of focal length 15 cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? Draw the ray diagram for the image formation.

11. A 6 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 15 cm. The distance of the object from the lens is 10 cm. Find the position, size and nature of the image formed, using the lens formula.

12. If the speed of light in vacuum is 3×10^8 m/s, find the absolute refractive index of a medium in which light travels with a speed of 1.4×10^8 m/s.

13. Draw a ray diagram to show the path of the refracted ray in each of the following cases: A ray of light incident on a concave lens is

- (i) passing through its optical centre.
 (ii) parallel to its principal axis.
 (iii) directed towards its principal focus.