



# PHYSICS

## BOOKS - BAL BHARTI

### REFLECTION OF LIGHT

#### Examples

1. Rajashree wants to get an inverted image of height 5 cm of an object kept at a distance of 30 cm from a concave mirror. The focal length

of the mirror is 10 cm. At what distance from the mirror should she place the screen ? What will be the type of the image, and what is the height of the object?



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## Exercises

1. Answer the following questions:

Explain the difference between a plane mirror, a concave mirror and a convex mirror with

respect to the type and size of the images produced.



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2. Describe the positions of the source of light with respect to a concave mirror.



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3. Why is concave mirror used in solar devices?



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**4. Answer the following questions :**

What is the sign of the power of

a convex lens

a concave lens ?



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**5. Give scientific reasons:**

Why does obtaining the image of the sun on a

paper with the help of a concave mirror burn the paper?



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**6. Answer the following questions:**

If a spherical mirror breaks, what type of a mirror are the individual pieces? Why?



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7. What sign conventions are used for reflection from a spherical mirror?



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8. Draw ray diagrams for the cases of images obtained in concave mirrors:

A ray diagram for object at the centre of curvature for a concave mirror.



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**9.** Answer the following questions:

Which type of mirrors are used in the following ?

Periscope, flood lights, shaving mirror, kaleidoscope, street lights, head lamps of a car.



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**10.** An object of height 7 cm is kept at a distance of 25 cm in front of a concave mirror.

The focal length of the mirror is 15 cm. At what

distance from the mirror should a screen be kept so as to get a clear image? What will be the size and nature of the image?



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**11.** the mirror is 15 cm. At what distance from the mirror should a screen be kept so as to get a clear image? What will be the size and nature of the image?



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## 12. Solve the numerical problem

A convex mirror has a focal length of 18 cm. The image of an object kept in front of the mirror is half the height of the object. What is the distance of the object from the mirror?



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13. A 10 cm long stick is kept horizontally in front of the concave mirror having focal length of 10 cm in such a way that the end of

the stick closest to the pole is at a distance of 20 cm. What will be the length of the image?

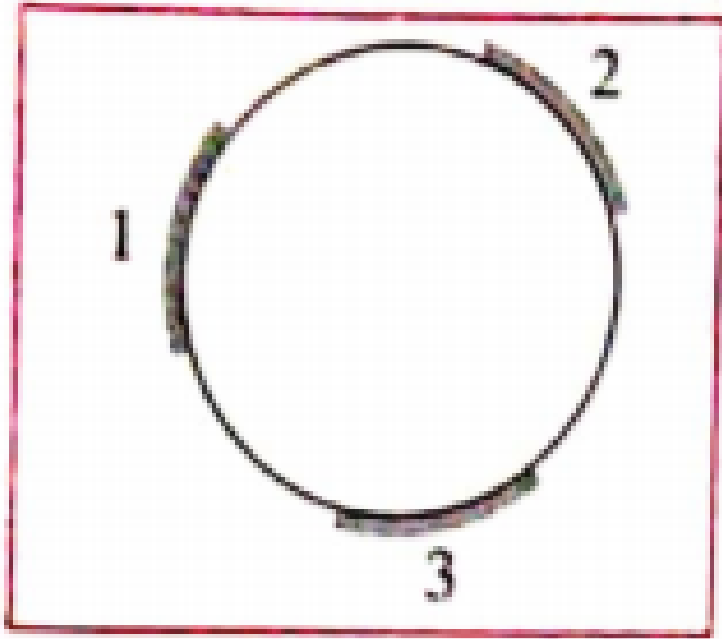


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**14.** Answer the following questions:

Three mirrors are created from a single sphere. Which of the following- pole, centre of curvature, radius of curvature, principle axis will be common to them and which will not be

common?



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Can You Recall

**1. What is light?**



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**2. What is meant by reflection of light?**



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**3. What are the laws of reflection.**



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## Can You Tell

1. What is mirror?



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2. If we hold a page of a book in front of a mirror , we can see laterally inverted letters in the mirror. Why does it happen?



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3. Which letters of the English alphabet form images that look the same as the original letters?



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**Use Your Brain Power**

1. Answer the following questions:

What is the difference between the principal focus of the concave and convex mirrors?



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