

WORKSHEET - 1

REFLECTION OF LIGHT

1. What makes things visible? How does light enable us to see things around us?
2. Name two common wonderful phenomena associated with light. Give the numerical value of speed of light in m/sec.
3. Suggest a name for the straight line path along which light travels. What is beam of light?
4. Explain convergent and divergent beam of light.
5. List the laws of reflection of light of plane mirror.
6. Can you identify difference between plane mirror and spherical mirror? Explain with an example.
7. Name the phenomenon that occurs when light falls on a highly polished surface like a mirror.
8. State the laws of reflection of light. Are the laws of reflection applicable to plane surfaces, also valid for curved surfaces?
9. What is a mirror? Name the different types of mirrors commonly used.
10. Distinguish real and virtual image (at least four).
11. What is spherical mirror? Name the types of spherical mirrors .
12. The angle between incident ray and reflected ray is 60° . What is the angle of incidence? And what is the value of angle of incidence and angle of reflection for a normally incidence.
13. What is the magnification produced by a plane mirrors and why?
14. Define the terms a) pole b) aperture c) radius of curvature d) center of curvature e) principal focus f) focal length i) focal plane.
15. Name the mirror that can give an i) erect and enlarged image ii) erect and diminished image iii) erect and same size image of an object.
16. Explain how image is formed by a concave mirror for various positions of an object.
17. Explain why a ray of light passing through the center of curvature of a concave mirror gets reflects back along the same path.
18. When a spherical mirror is held towards the sun and its sharp image is formed on a piece of carbon paper for some time, a hole is burnt in the carbon paper. a) What is the nature of the spherical mirror? b) Why is a hole burnt in the carbon paper? c) At which point of the spherical mirror the carbon paper is placed? d) What is the name given to the distance between spherical mirror and the carbon paper?

19. Mention the type of mirror used as Headlight of car and shaving mirror .Give the reason in support to your answer.
20. State two positions in which a concave mirror produces a magnified image of a given object and list two differences between the two images.
21. Name the type of mirror used in design of solar furnace. Explain how high the temperature is achieved by this device.
22. What is the minimum distance between an object and its real image in case of a concave mirror? identify what condition, the image formed by a concave mirror is virtual?
23. List two properties of images formed by convex mirror and mention the two cases of images formed by convex mirror
24. Why concave mirror is used as converging mirror and convex mirror as diverging mirror?
25. We prefer to use a convex mirror as a rear view mirror in vehicles .Why?
26. List four specific characteristics of the images of the objects formed by convex mirrors.
27. Write short notes on new Cartesian sign convention.
28. Write the mirror and magnification formula for a spherical mirror.
29. The magnification produced by a spherical mirror is -3.List four points of information you obtain from the statement about the mirror /image.
30. Find the focal length of a convex mirror whose radius of curvature is 32 cm.
31. The radius of curvature of spherical mirror is 20cm. What is its focallength?
32. An object is placed at a distance of 20cm from a convex mirror of focal length 15cm. Find the position and nature of the image.
33. The focal length of a concave mirror is 20cm.How far is its center of curvature i) from the pole ii) from the focus.
34. A spherical mirror produces an image of maginification-1 on a screen placed at a distance of 50cm from the mirror.
 - a) Write the type of mirror.
 - b) Find the distance of image from the object.
 - c) What is the focal length of the mirror?
 - d) Draw a ray diagram to show the image formation in this case.
35. How will you distinguish between plane, concave, convex mirrors without touching them?