

Home Work

① Name the type of mirror used in the following situations.

(a) Headlights of a car.

(b) Side / rear view of a vehicle.

(c) Solar furnace.

ans: → (a) We should use a Concave mirror, when the bulb of a headlight is placed at a focus of the mirror, then they Concave mirror produces a powerful beam of parallel light rays, this beam of light help us to see things at a distance.

(b) we should use a Convex mirror. a Convex mirror which is used as rear-view mirror because the image provided by a concave mirror is:-

* Erect → Hence, the images produced to the driver is not inverted, its right side is up.

* Diminished → Hence, the image produced is much smaller than

the actual size of the object. This helps in providing wider field of view.

① We use concave mirror. The Solar Furnace is kept at the focus of a large concave mirror. The concave mirror focuses the sun's heat rays on the furnace due to which the Solar furnace gets very hot.

② What are the two types of refractive index?

ans: → Refractive = It is a ratio of speed of light in one medium to the speed of light in another medium. Absolute refractive index - It is the ratio of light in medium of vacuum to the speed of light in vacuum to the another medium of light.

③ Convex lens

Concave lens

* On passing the light through the lens, it bends the light rays towards each other. So due to this, it is called a converging lens.

* On passing the light through the lens it bends the light rays away from each other. So due to this, it is called a diverging lens.

* A Convex lens is thicker at the center and thinner at the edges.

* A Concave lens is thicker at the edges and thinner at the center.

* Use for correction of long sightedness
ex → Human eye
etc.

* Use for correction of short sightedness
ex → Myopia etc.

⑤

Convex lens

Concave lens

* On passing the

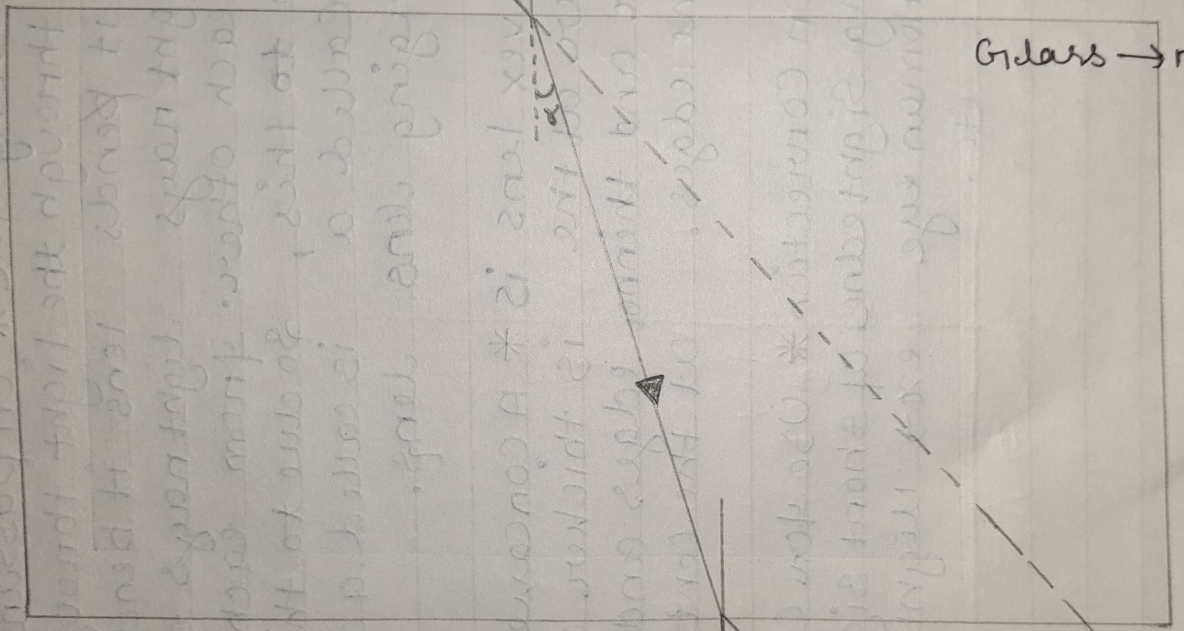
light through the lens it bends towards the principal axis. It is called a converging lens. It is also called a convex lens. It is thicker at the center and thinner at the edges. The thickness at the center is called the optical center. The distance between the optical center and the principal focus is called the focal length. It is denoted by f .

* A concave lens is thinner at the center and thicker at the edges. It is called a diverging lens. It is also called a concave lens. It is thicker at the edges and thinner at the center. The thickness at the center is called the optical center. The distance between the optical center and the principal focus is called the focal length. It is denoted by f .

* Use of convex lens: 1. To correct hypermetropia. 2. To form a real inverted image of a distant object. 3. To form a virtual erect magnified image of a near object. 4. As a magnifying glass. 5. In a microscope. 6. In a telescope. 7. In a camera. 8. In a projector. 9. In a slide projector. 10. In a video projector. 11. In a television. 12. In a computer monitor. 13. In a mobile phone. 14. In a digital camera. 15. In a video camera. 16. In a web camera. 17. In a scanner. 18. In a printer. 19. In a copier. 20. In a fax machine. 21. In a laser printer. 22. In a dot matrix printer. 23. In a thermal printer. 24. In a receipt printer. 25. In a label printer. 26. In a barcode printer. 27. In a receipt printer. 28. In a label printer. 29. In a barcode printer. 30. In a receipt printer.

Air \rightarrow medium 1

Glass \rightarrow medium 2



lateral displacement

⑤ What are the properties of image formed by a plane mirror?

ans: → A plane mirror forms the image of an object by reflecting the light rays coming from the object. The image formed by a plane mirror is virtual, erect and of the same size as that of an object, such that the object and its image appear to be equidistant from the mirror.

