



PHYSICS

BOOKS - PSEB

LIGHT - REFLECTION AND REFRACTION

Exercise

1. Which one of the following material cannot be used to make a lens?

A. Water

B. Glass

C. Plastic

D. Clay

Answer:



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2. The image formed by a concave mirror is observed to be virtual, erect and larger than

object, where should be the position of the object?

- A. Between the principal focus and the centre of curvature
- B. At the centre of curvature
- C. beyond the centre of curvature
- D. Between the pole of the mirror and its principal focus.

Answer:



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3. Where should an object be placed in front of a convex lens to get a real image of the size of the object?

A. At the principal focus of the lens

B. At twice the focal length

C. At infinity

D. Between the optical centre of the lens and its principal focus.

Answer:



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4. A spherical mirror and a thin spherical lens have each a focal length of -15 cm. The mirror and lens are likely to be:

A. both concave

B. both convex

C. the mirror is concave and the lens is convex.

D. the mirror is convex, but the lens is concave.

Answer:



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5. No matter how far you stand from a mirror, your image appears erect. The mirror is likely to be:

A. only plane

B. only concave

C. only convex

D. either plane or convex

Answer:



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6. Which of the following lenses would you prefer to use while reading small letters in a dictionary?

- A. A convex lens of focal length 50 cm.
- B. A concave lens of focal length 50 cm.
- C. A convex lens of focal length 5 cm.
- D. A concave lens of focal length 5 cm.

Answer:



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7. We wish to obtain an erect image of an object, using a concave mirror of focal length 15cm what should be the range of distance of

the object from the mirror? What is the nature of the image ? Is the image larger or smaller than object? Draw a ray diagram to show the image formation in this case.



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8. Name the type of mirror used in the following situation: head light of a car.



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9. Name the type of mirror used in the following situation: Side/rear-view mirror of a vehicle



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10. Name the type of mirror used in the following situation: Solar furnace



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11. One half of a convex lens is covered with a black paper .Will this lens produce a complete image of the object? Explain your observation



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12. An object 5 cm in length is held 25cm away from a converging lens of focal length 10 cm. Draw the ray diagram and find the position, size and the nature of image formed



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13. A concave lens of focal length 15cm forms an image 10 cm from the lens. How far is the object placed from the lens? Draw ray diagram.



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14. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image



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15. The magnification produced by plane mirror is +1. What does this mean?



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16. An object 5.0 cm of length is placed at a distance of 20 cm in front of a convex mirror of radius of curvature 30 cm. Find the position of the image, its nature and size.



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17. 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 the screen be placed, so that a sharp focussed image can be obtained? Find the size and the nature of the image



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18. Find the focal length of a lens of power- 2.0
D.What type of lens this?



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19. A doctor has prescribed a corrective lens of power + 1.5 D. Find the focal length of lens. Is prescribed lens diverging or converging?



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