

1. Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is 1 m. What is the power of the lens required to correct this defect? Assume that the near point of the normal eye is 25 cm.
2. A 14-year-old student cannot see the questions written on the black board placed at a 5 m from him.
  - (a) Name the defect of vision he is suffering from?
  - (b) Draw the diagram to show this defect?
  - (c) Name the type of lens used to correct this defect?
  - (d) Name two possible causes of this defect.
  - (e) Draw the diagram to show how this defect can be corrected.
3. A certain person has a minimum distance of distinct vision of 150 cm. He wishes to read at a distance of 25cm. What focal length glass should he use? What is the nature of eye defect?
4. Explain why the planets do not twinkle.
5. A person needs a lens of power -5.5 dioptre for correcting his distinct vision. For correcting his near vision, he needs a lens +1.5 dioptre. What is the focal length of the lens required for correcting (i) distinct vision and (ii) near vision?
6. What is presbyopia? State the causes of this defect? How is the presbyopia of a person corrected?
7. A person is known to use a lens of power
  - (i) -5.5 D for his distant vision
  - (ii) +1.5 D for his near visionCalculate the focal length of the lens used for correcting his
  - (a) Distant vision and (b) Near vision problems.
8. (a) What is scattering of light?  
(b) Astronauts observe the sky as dark instead of blue why?
9. Name the defect of vision in person
  - (a) Whose near point is more than 25 cm away?
  - (b) Whose far point is less than infinity.
10. Why does the Sun appear reddish early in the morning?

11. Name the phenomenon responsible for the observed twinkling of stars. Will an observer on the moon observe this twinkling?
12. The far point of a myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to correct the problem?
13. What is meant by the power of accommodation of the eye?
14. A person wears eyeglass of focal length 70 cm. What is the far point of the person?
15. What is the role of the ciliary muscles?