10/10/2021

1. Why is a normal eye not able to see clearly the objects closer than 25cm?

Ans. A normal eye cannot see clearly the objects that are placed closer than 25cm because the power of accommodation of the eye is 25cm which is exhausted when the maximum accomodation of the eye is reached, the ciliary musels of the eye lens cannot become thicker

2. Make a diagram to show how ~~hypermetropic~~ hypermetropic eye is connected. The near point of the lens required to connect this defect? Assume that the near point of the normal eye is 25cm.

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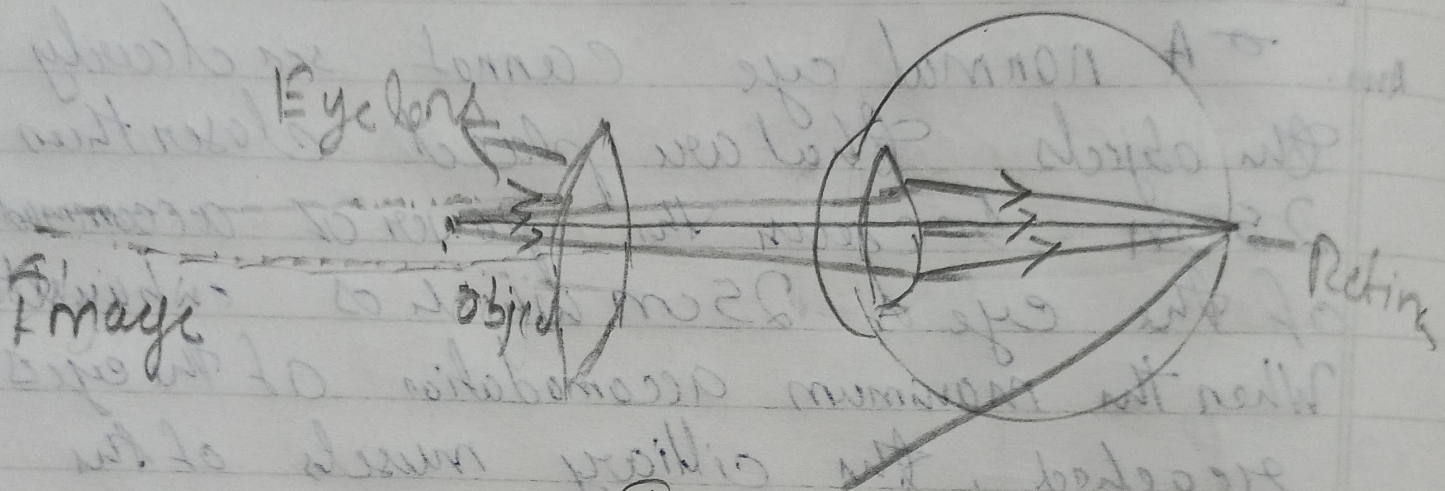

Image formed on retina

hypermetropic eye

2. $u = -25\ cm$

$v = -1\ m = -100\ cm$

~~Lens~~ formula

$$\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$$

$$\frac{1}{f} = -\frac{1}{100} - \frac{1}{(-25)}$$

$$= -\frac{1}{100} + \frac{1}{25}$$

$$= \frac{-25 + 100}{2500}$$

$$= \frac{75}{2500}$$

$$\frac{1}{f} = \frac{3}{100}$$

$$f = \frac{100}{3}\ cm \quad \frac{1}{3}\ m$$

Power of lens: $\frac{1}{f} = \frac{3}{1} = 3$

Q What is the far point and near point of human eye with normal vision?

Ans Far point - ∞
Near Point - 25 cm

Q A student has a difficulty reading the blackboard while sitting in the last row. what could be the ~~effect~~ defect the child is suffering from? How can it be corrected.

An The image is formed before the retina. It can be ~~fixed~~ corrected by using a concave lens for suitable focal length.