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10/07/2011/saturday.

Q1 why is a normal eye not able to see cleanly the objects placed closer than 25 cm?

Ans⟹ As your eye cannot focus the objects placed closer than 25cm on the retina. We are unable to see the objects cleanly.

Q2. Make a diagram to show how hypermetropia is connected. The near point of a hyper metropic eye is 1m. What is power of lens required to connect this defect? Assume that near point of the normal eye is 25cm.

Hypermetropia is connected by convex Lens.

The ray diagram is as follows:

Now, according to the Question,
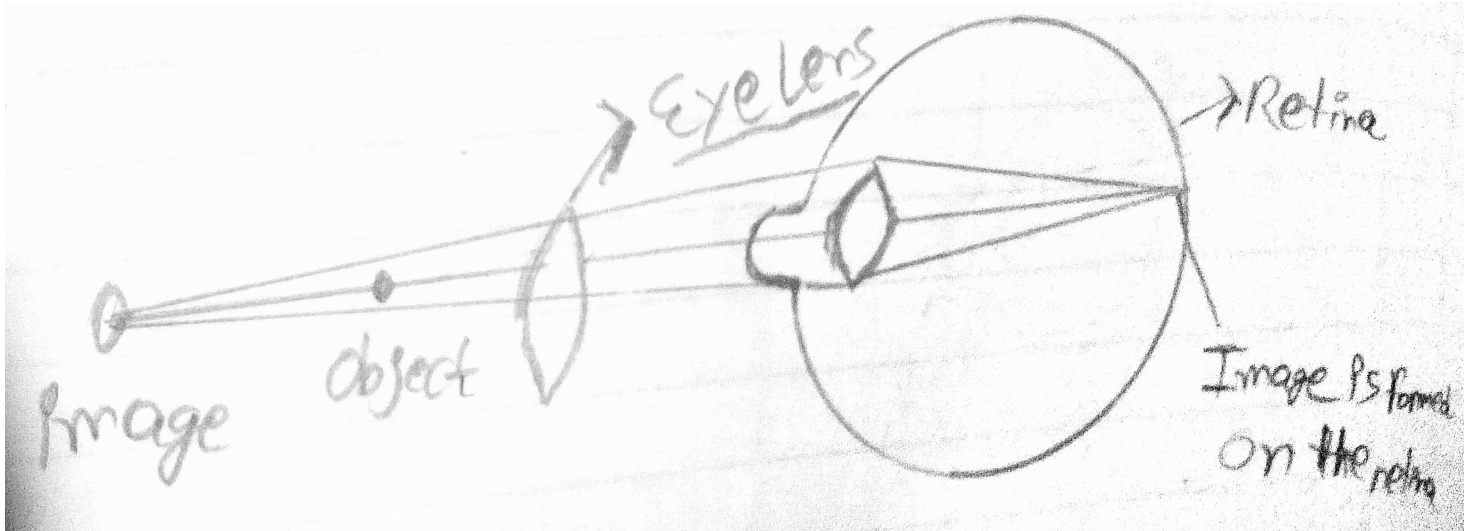Given values are,
Image distance, $V = -1m = -100cm$
object distance, $u = -25cm$

From Lens formula,

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

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

$$\Rightarrow f = \frac{uv}{u-v} = \frac{-25 \times (-100)}{-25 + 100}$$

$$= \frac{100 \times 25}{75}$$

So, $f = 100/3$ cm

$$= 1/3 \, m$$

Power of the lens, $P = 1/f$ (in metre) $= 3D$

Q3. (A) what is the far point and near point of the human eye with normal vision?

The far point of human eye is infinite (∞)
Near point of human eye is 25cm

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

Child suffering from myopia. It can be corrected bye using concave ~~lens~~ lens.