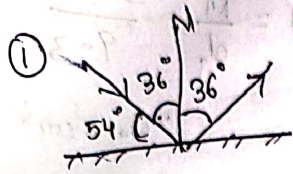
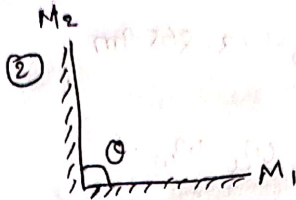


Task



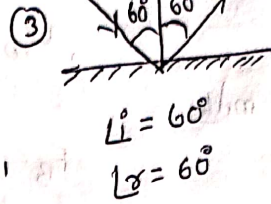
$$\begin{aligned}\theta &= L_i + L_r \\ &= 36 + 36 \\ &= 72^\circ\end{aligned}$$



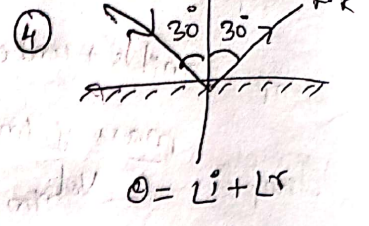
No. of images

$$n = \frac{360}{\theta}$$

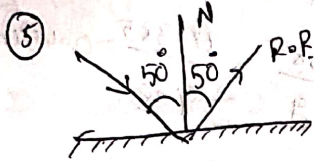
$$n = \frac{360}{0} = \infty$$



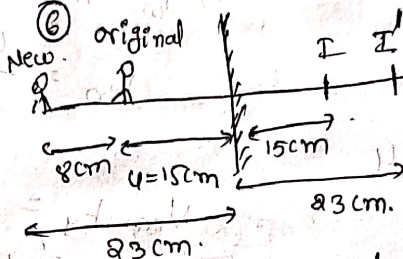
$$\begin{aligned}\theta &= L_i + L_r \\ &= 60 + 60 \\ &= 120^\circ\end{aligned}$$



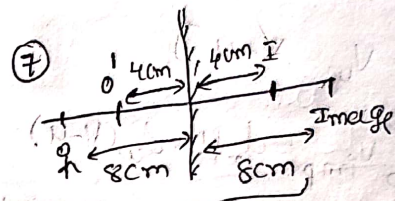
$$\begin{aligned}\theta &= L_i + L_r \\ &= 30 + 30 \\ &= 60^\circ\end{aligned}$$



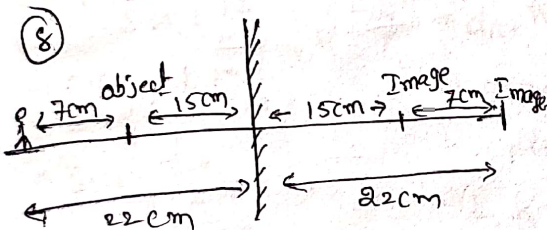
$$\begin{aligned}L_r &= L_i \\ L_r &= 50^\circ\end{aligned}$$



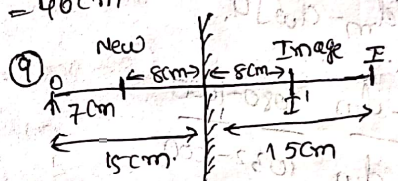
$$\begin{aligned}\text{Distance between object and image} &= 23 \text{ cm} + 23 \text{ cm} \\ &= 46 \text{ cm}\end{aligned}$$



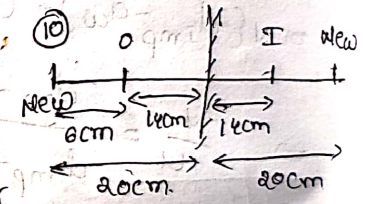
$$\begin{aligned}\text{Distance between object and image} &= 4 \text{ cm} + 4 \text{ cm} \\ &= 8 \text{ cm}\end{aligned}$$



$$\begin{aligned}\text{New distance between image and mirror} &= 15 \text{ cm} \\ \text{mirror} &= 15 \text{ cm}\end{aligned}$$



$$\begin{aligned}\text{Distance between mirror and image} &= 8 \text{ cm}\end{aligned}$$



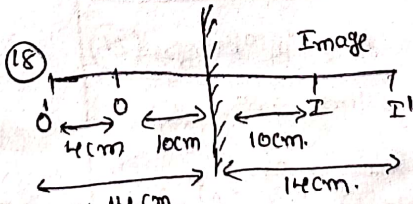
$$\begin{aligned}\text{Distance between mirror and image} &= 20 \text{ cm}\end{aligned}$$

16) Given $\theta = 30^\circ$

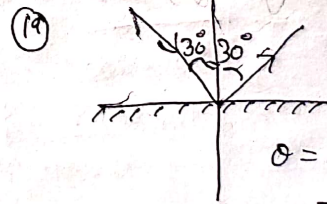
$$\text{No. of images} = \frac{360}{\theta} - 1$$

$$= \frac{360}{30} - 1$$

$$= 12 - 1 = 11$$



$$\begin{aligned}\text{what is the new distance between object and its image} &= 14 \text{ cm} + 14 \text{ cm} = 28 \text{ cm}\end{aligned}$$



$$\begin{aligned}\theta &= L_i + L_r \\ &= 30 + 30 \\ &= 60^\circ\end{aligned}$$

17) No. of images $n = 5$

$$n = \frac{360}{\theta} - 1$$

$$= 5 + 1 = \frac{360}{\theta}$$

$$= 6$$

$$\theta = \frac{360}{6} = 60^\circ$$

LTASK

$$1) t = 500 \text{ sec. } v = 3 \times 10^8 \text{ km/sec.}$$

$$\text{distance} = v \times t$$

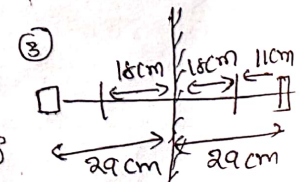
$$= 3 \times 10^8 \times 500$$

$$= 1500 \times 10^5 \text{ km}$$

$$= 150 \times 10^6 \text{ km}$$

$$2) L_i = 80^\circ$$

$$L_i = L_r = 80^\circ$$



$$\begin{aligned}\text{new distance between image and mirror} &= 18 \text{ cm}\end{aligned}$$

(4) $\theta = 30^\circ$

$$n = \frac{360}{\theta}$$

$$n = \frac{360}{30} = 12$$

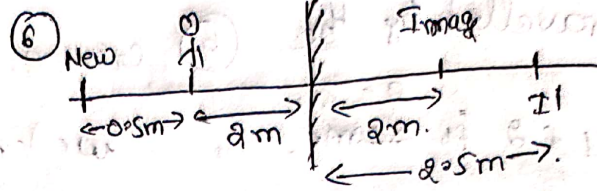
$$\Rightarrow \text{No. of images} = n - 1 = 12 - 1 = 11$$

(5) $n = 10$

$$\theta = \frac{360}{n}$$

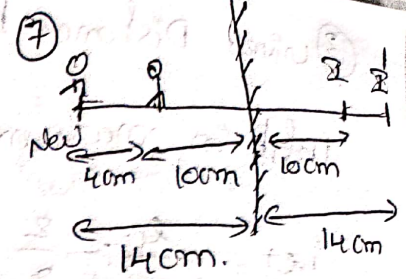
$$\theta = \frac{360}{10}$$

$$\theta = 36^\circ$$



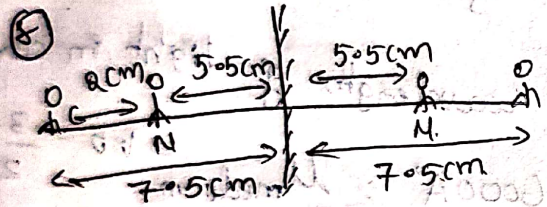
Distance between the object and its image.

$$= 2.5 + 2.5 = 5 \text{ m}$$



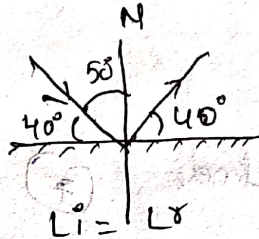
Distance between object and image

$$= 140 \text{ cm} + 140 \text{ cm} = 280 \text{ cm}$$



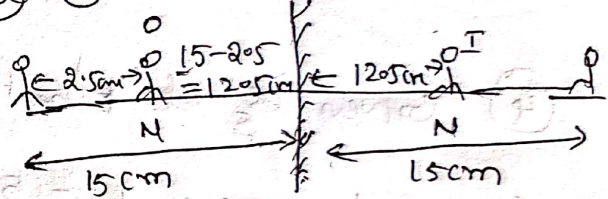
Distance between object and image $= 5.5 + 5.5 = 11 \text{ cm}$

(9)

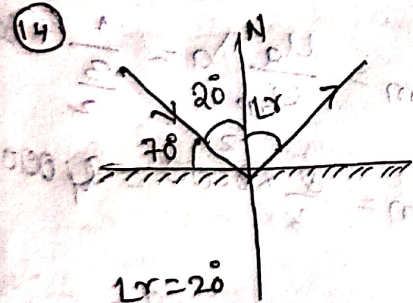


$$\begin{aligned} L_i &= 50^\circ; L_r = 50^\circ \\ \theta &= L_i + L_r = 50^\circ + 50^\circ = 100^\circ \end{aligned}$$

(10) (13)



Distance between object and image $= 12.5 + 12.5 = 25 \text{ cm}$



$$L_r = 20^\circ$$

(15) $n = \frac{360}{\theta} = \frac{360}{60} = 6$

$$\text{No. of images} = n - 1 = 6 - 1 = 5$$

(16) $n = \frac{360}{30} = 12$

$$\text{No. of images} = n - 1 = 12 - 1 = 11$$

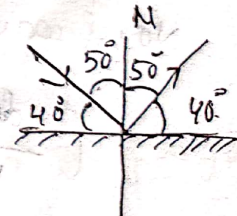
(17)

$$\text{No. of images} = \frac{360}{\theta} - 1$$

$$= \frac{360}{90} - 1 = 4 - 1 = 3$$

(18) $n = \frac{360}{20} = 18$

$$\text{No. of images} = n - 1 = 18 - 1 = 17$$



$$L_i = 50^\circ$$

$$L_i + L_r = 100^\circ$$

