

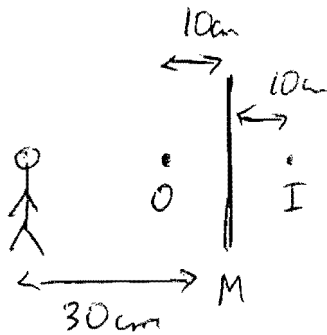
$$\theta_1 = 90^\circ - \tan^{-1} \frac{1.5m}{6.0m}$$

$$= 90^\circ - 14^\circ = 76^\circ$$

$$\sin 76^\circ = 1.33 \sin \theta_2 \Rightarrow \theta_2 = 46.8^\circ$$

$$\tan \theta_2 = \frac{5.5m}{d} \Rightarrow d = \frac{5.5m}{\tan 46.8^\circ} = 5.16m$$

2



The image is formed 10cm behind the mirror.

$$\Rightarrow \text{Distance to image} = 30\text{cm} + 10\text{cm} = 40\text{cm}$$

3

