

Hw
30/10/21

Worksheet

Q1. What are the 2 conditions for total internal reflection?

Ans: The 2 conditions required for total internal reflection are:

- i) Angle of Incidence should be greater than the critical angle.
- ∴ Ray should travel from denser medium to rarer medium.

Q2.

Ans:

Actual depth = Refractive index
Apparent depth
Let the actual depth be x ,

$$\frac{x}{6} = \frac{3}{4}$$

$$\Rightarrow 4x = 18$$

$$\Rightarrow x = 4.5 \text{ cm}$$

∴ Actual depth is 4.5 cm.

Q3.

Ans

Apparent depth = $\frac{\text{Actual}}{R.I}$

$$= \frac{8}{1.6} = 5 \text{ cm.}$$

Normal shift = Actual depth - Apparent depth

$$= 3 - 5$$

3 cm