28/8/21 Homework -

(1) what are the two condition required for total internal reflection ?

ans → The angle of incident should be greater than the critical angle

→ The ray of light should travel from denser to rarer medium.

(2) $\frac{\text{Apparent depth}}{\text{Real depth}} = \text{refractive index}$

$\Rightarrow \frac{6\text{ cm}}{x} = \frac{4}{3}$

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

$\Rightarrow \frac{18}{4} = x$

$\Rightarrow 4.5 = x$

hence actual depth is 4.5 cm

(3) ans- Real depth = 8 cm

$\mu = 1.6$

apparent depth $= \frac{8\text{ cm}}{1.6} = 5\text{ cm}$

hence the figure will appear to raised by - normal shift = Real depth − Apparent depth

$= 8\text{cm} - 5\text{cm}$

$= 3\text{cm}$.