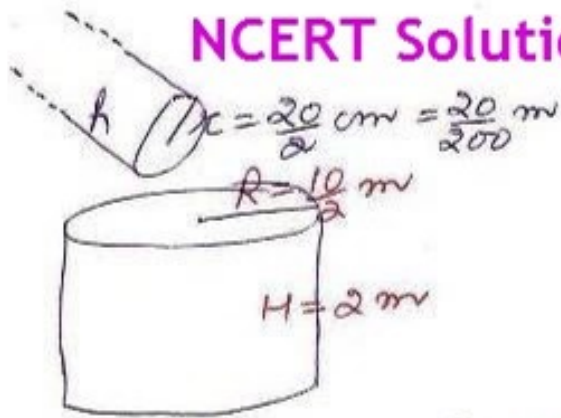


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ex. 13.3

vol of water flowing out
= vol of water collected

$$\pi r^2 h = \pi R^2 H$$

$$\frac{20}{200} \times \frac{20}{200} \times h = \frac{10}{2} \times \frac{10}{2} \times 2$$

$$\Rightarrow h = 5 \times 10 \times 10 \times 10$$

$$= 5000\text{ m}$$

\therefore distance travelled
by water in pipe
= 5000 m
= 5 km (this is
not
length of pipe)

$$s = 3\text{ km/h}$$

$$\therefore \text{time} = \frac{d}{s}$$

$$= \frac{5}{3}\text{ h}$$

$$= 1\text{ h } 40\text{ min}$$