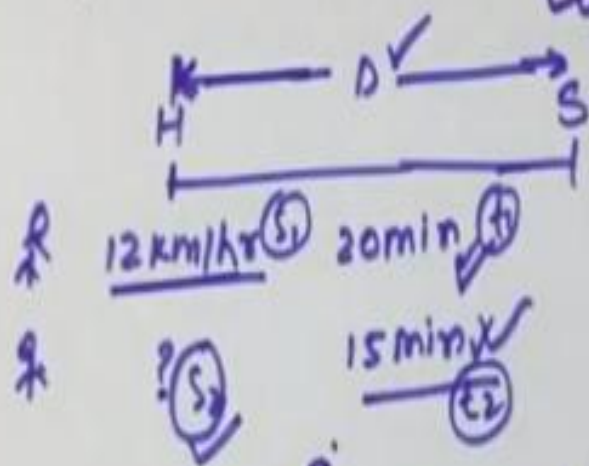


Time and Distance - Basics

Q1. If a boy walks at a speed of 12 km/hr , he takes 20 min to reach school. If he has to reach school in 15 min , then with what speed he should walk.

- a) 14 km/hr b) 15 km/hr c) 16 km/hr d) 18 km/hr



$$d_1 = S_1 \times t_1 \quad , \quad d_2 = S_2 \times t_2$$

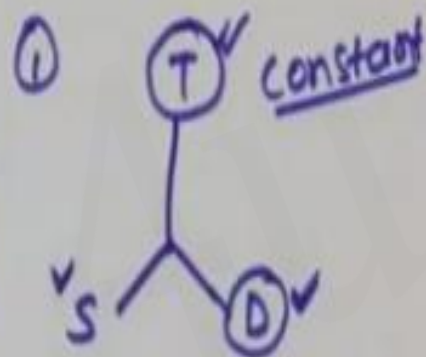
(i) (ii)

$$\frac{\text{km}}{\text{hr}} 12 \times \frac{20 \text{ min}}{60} = S_2 \times \frac{15 \text{ min}}{60}$$

$$12 \times 20 = S_2 \times 15$$

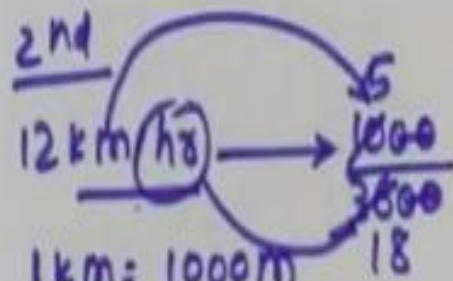
$$S_2 = 16 \frac{\text{km}}{\text{hr}}$$

$$\frac{\text{m}}{\text{s}} \times \frac{18}{5} \rightarrow \frac{\text{km}}{\text{hr}}$$



Distance = Speed $\times$ time

$$d = S \times t$$



$$1 \text{ km} = 1000 \text{ m}$$

$$1 \text{ hr} = 3600 \text{ s}$$

$$\frac{\text{km}}{\text{hr}} \times \frac{5}{18} \rightarrow \frac{\text{m}}{\text{s}}$$

Q2. A man walking at a rate of 5 km/hr , crosses a bridge in 15 minutes. the
 length of the bridge (in meter) is.
 a) 600 b) 700 c) 1000 d) 1250

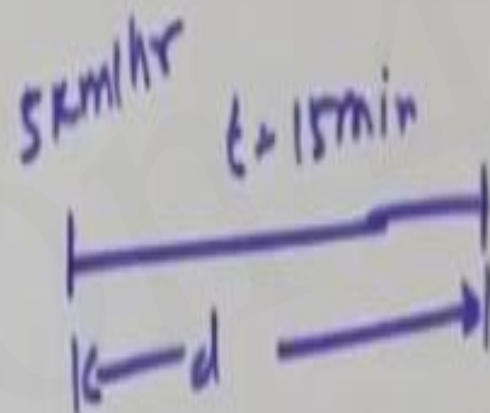
$$S = 5 \text{ km/hr}$$

$$t = \underline{15 \text{ min}}$$

$$d = S \times t$$

$$= \underline{5 \text{ km/hr}} \times \underline{15 \text{ min}}$$

$$= 5 \times \frac{5}{18} \times \frac{15 \times 60}{10}$$



$$\frac{\text{km}}{\text{hr}} \Rightarrow \left(\times \frac{5}{18} \right) \checkmark$$

$$\underline{1 \text{ min} = 60 \text{ sec}}$$