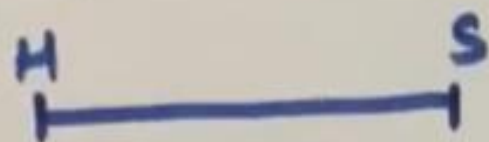


Time & Distance - I

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 12 km/hr 20 min

D_2 ? 15 min

$S_1 = 12 \text{ km/hr}$ $t_1 = 20 \text{ min}$

$S_2 = ?$ $t_2 = 15 \text{ min}$

$$D_1 = D_2$$

$$S_1 \times t_1 = S_2 \times t_2$$

$$12 \frac{\text{km}}{\text{hr}} \times 20 \text{ min}$$

$$4 = x \times 15 \text{ min}$$

$$4 \times 12 \times 20 = x$$

$$x = 16 \text{ km/hr}$$

$$D = ST \quad \checkmark$$

d = distance

s = velocity/speed

t = time

Conversion

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

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

$$\frac{20}{60} = \frac{15}{60}$$

the length of the bridge (in meter) is .

a) 600 b) 700 c) 1000 d) 1250 .

Bridge

5 km/hr 15 min

$$D = St$$

time
↓
second

units are diff.

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

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

$$= 5 \times \frac{5}{18} \text{ m} \times 15 \times 60 \text{ sec}$$

$\Rightarrow$

$$\begin{array}{r} 10 \quad 5 \quad 10 \\ 5 \times 5 \times 5 \times \cancel{6} \\ \hline 18 \cancel{6} \end{array}$$