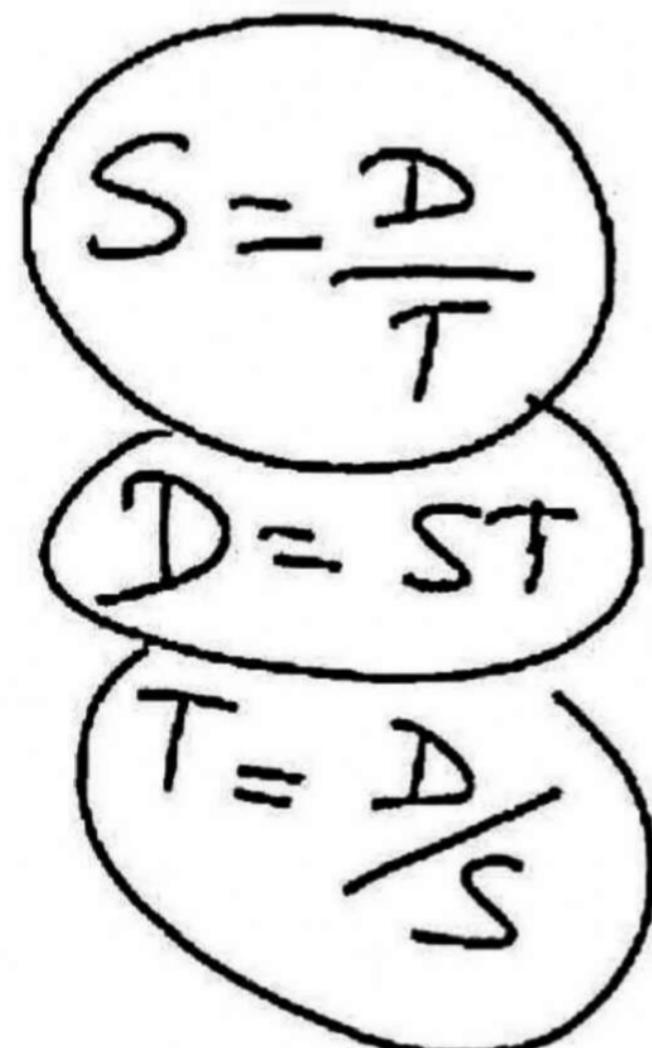


TDS

$$S = 120 \text{ kmph}$$
$$S = \frac{D}{T} \text{ (Distance / Time)}$$

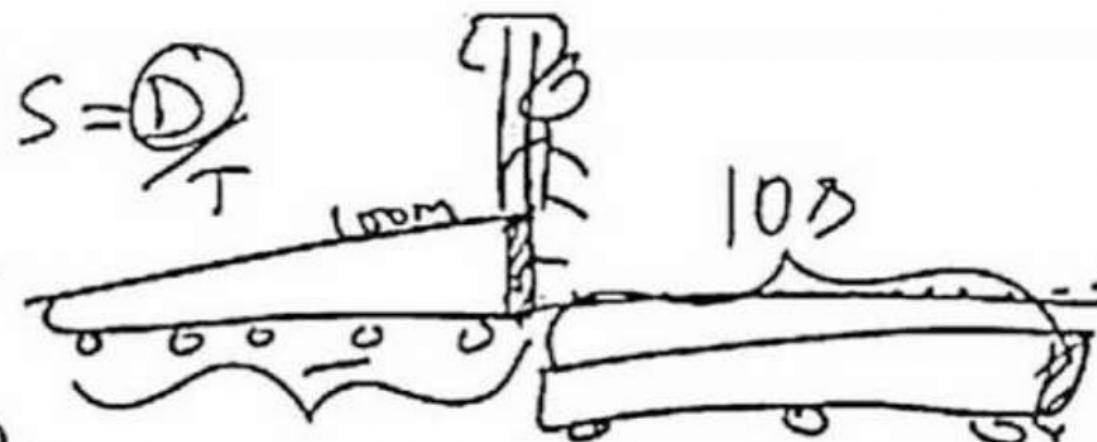
SET-2

TRAIN



$$S = \frac{TL}{T}$$

$$S = 10 \text{ m/s} = \frac{10 \text{ m}}{10 \text{ s}}$$



TRAIN passing

Stationary objects/persons

at rest  
edn, req

TYPE

$$S = \frac{D}{T}$$

$$= \frac{150 \text{ m}}{15 \text{ s}}$$
$$= 10 \times \frac{18}{5}$$

1

A train, 150m long passes a pole in 15 seconds. What is the speed of the train in km.hr?

- a) 20 km/hr
- b) 24 km/hr
- c) 10 km/hr
- d) 36 km/hr
- e) 38 km/hr

$$S = \frac{D}{T}$$

$$4 \frac{\text{m}}{\text{s}} = TL + 80 \text{ m}$$

30 s

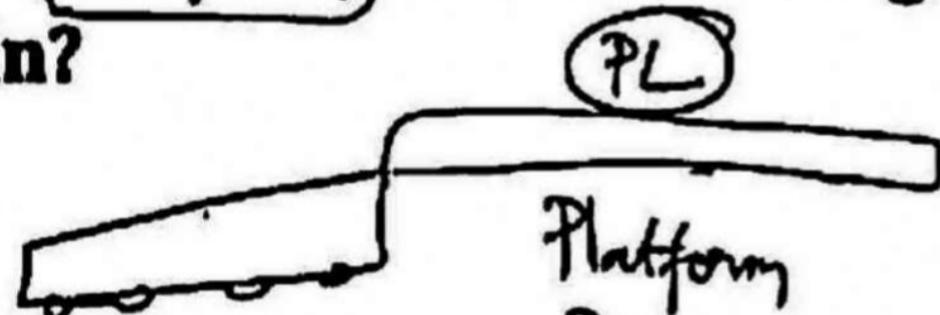
$$120 = TL + 80$$

$$40 = TL$$

②

A train crosses an 80m long platform in 30 seconds. If the speed of the train is 4 m/sec, what is the length of the train?

- a) 40m
- b) 55m
- c) 80m
- d) 60m
- e) 50m



$$D = TL + PL$$

Train  
Tunnel  
Other train

3. A 240m long train crosses a platform twice its length in 40 seconds. What is the speed of the train?

$$S = \frac{240 \times 3}{40}$$

- a) 6 m/sec
- b) 28 m/sec
- c) 18 m/sec
- d) 16 m/sec
- e) 20 m/sec

Chain Rule

4. A train 200m long takes 10 seconds to pass a standing man. Find the time taken by the train in crossing a railway platform of 260m in length.

a) 23 seconds

b) 13 seconds

c) 26 seconds

d) 36 seconds

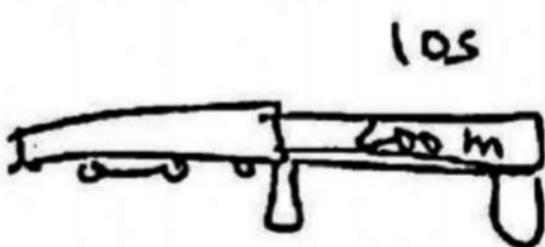
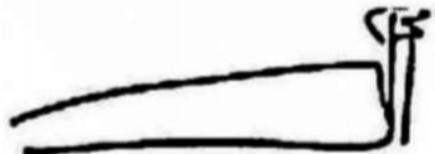
e) 20 seconds

$$200 \text{ m} \rightarrow 10 \text{ s}$$

$$460 \text{ m} \rightarrow ?$$

$$\begin{array}{ccc} 400 \text{ m} & \rightarrow & 20 \text{ s} \\ 60 \text{ m} & \rightarrow & 3 \text{ s} \end{array}$$

$$\begin{array}{l} 200 \rightarrow 10 \\ 460 \rightarrow ? \end{array}$$



5. A train crosses a pole and bridge 300m long in 10 seconds and 25 seconds, respectively. How long will the train take to cross a 200m long platform?

- a) 10 seconds
- b) 18 seconds
- c) 20 seconds
- d) 25 seconds
- e) 30 seconds

$$\begin{aligned} TL &\rightarrow 10 \text{ s} \\ TL + 300 \text{ m} &\rightarrow 25 \text{ s} \end{aligned}$$

$$300 \text{ m} \rightarrow 15 \text{ s}$$

$$\begin{aligned} TL + 200 \text{ m} &\rightarrow 10 \text{ s} \\ 10 \text{ s} &\rightarrow 20 \text{ s} \end{aligned}$$

6. What is the ratio between the times taken by a train of length 500m to cross an electric pole and a bridge of length 400m?

a) 2:3

b) 3:4

c) 5:9

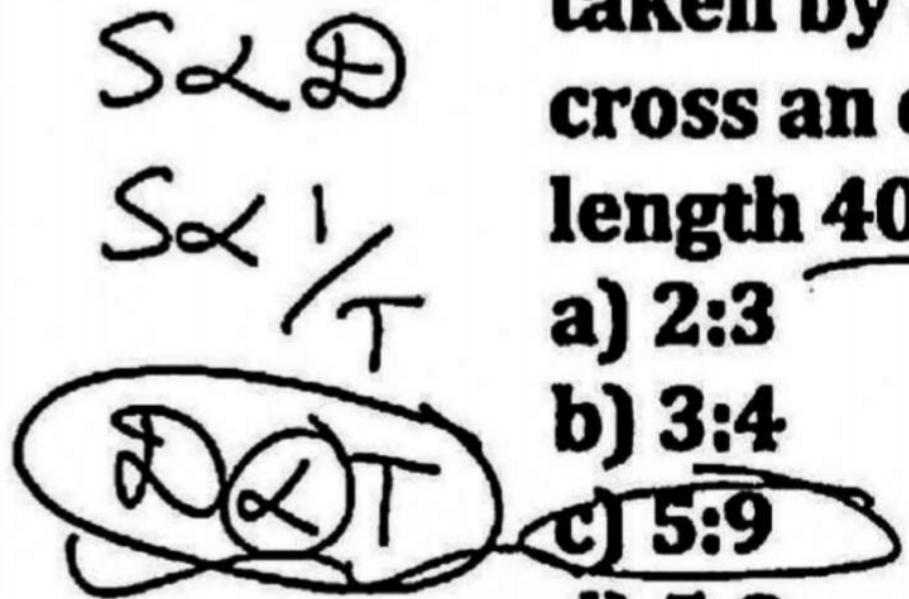
d) 5:8

e) 4:3

$$T_{\text{pole}} : T_{\text{bridge}}$$

$$500 : 900$$

$$5 : 9$$



7. A train passes a signal pole and a bridge of length 648m in 12 seconds and 24 seconds, respectively. What is the speed of the train?

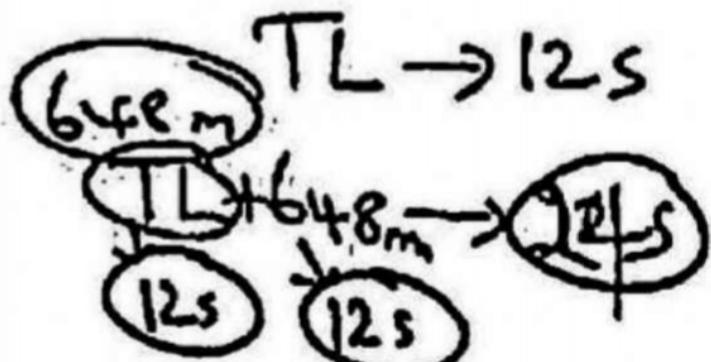
a) 186.4 km/hr

b) 180 km/hr

c) 179 km/hr

d) 194.4 km/hr

e) 134.8 km/hr



$$S = \frac{54}{648 \text{ m}} \text{ m/s}$$

$$\frac{54}{18} \text{ m/s}$$

$$194.4 = \frac{972 \times 2}{10} =$$

$$\begin{array}{r} 3 \times 18 \times 18 \\ \hline 15 \\ 3 \times 324 \\ \hline 5 \end{array}$$

$$S = \frac{D}{T}$$

$$S = \frac{18 \text{ m/s}}{15 \text{ s}}$$

$$S = 1.2 \text{ m/s}$$

$$T = \frac{D}{S}$$

$$T = \frac{320 \text{ m}}{1.2 \text{ m/s}}$$

$$T = 266.67 \text{ s}$$

- 8) A train length 320 m crosses 400 m platform in 40 seconds. If the train running at 33.33% less than its usual speed, then find the time taken by the train to cross a pole (approximately).
- a) 29 seconds  
 b) 23 seconds  
 c) 35 seconds  
 d) 27 seconds  
 e) 30 seconds

$$\frac{3}{4} - 1 = \frac{3}{4} - \frac{1}{4}$$

$$= \frac{2}{4} = \frac{1}{2}$$

$$= 0.5$$

$$\frac{S_A}{t} = S_B \quad 9)$$

$$\frac{200}{16} = \frac{400+x}{24}$$

$$x = 200 \text{ m}$$

Length of train A is 400 meters  
 and length of train B is ' $x$ ' meters more  
 than train A. If speed of both train A &  
 B is equal and they cross a pole in 16  
 sec and 24 secs respectively, then in  
 what time train 'B' will cross 400 m  
 long platform.

- (a) 32 sec
- (b) 40 sec
- (c) 45 sec
- (d) 54 sec
- (e) 24 sec

$$T = \frac{D}{S}$$

