

Time & Distance Questions for Bank PO, SO, Clerk Pdf

1. A is travelling at 72 km per hour on a highway while B is travelling at a speed of 25 metres per second. What is the difference in their speeds in metres per second?
- 1m/sec
 - 2 m/sec
 - 3 m/sec
 - 5 m/sec →D

Ans:

$$A's \text{ speed} = 72 \text{ km/hr} = \left(72 \times \frac{5}{18}\right) \text{ m/sec} = 20 \text{ m/sec.}$$

$$B's \text{ speed} = 25 \text{ m/sec.}$$

$$\text{Difference} = (25 - 20) \text{ m/sec} = 5 \text{ m/sec.}$$

2. Which of the following trains is the fastest?
- 25 m/sec
 - 1500 m/min
 - 90 km/hr
 - None of these →D

Ans:

$$25 \text{ m/sec} = \left(25 \times \frac{18}{5}\right) \text{ km/hr} = 90 \text{ km/hr.}$$

$$\text{And, } 25 \text{ m/sec} = (25 \times 60) \text{ m/min} = 1500 \text{ m/min.}$$

So, all the three speeds are equal.

3. A star is 8.1×10^{13} km away from the earth. Suppose light travels at the speed of 3.0×10^5 km per second. How long will it take the light from the star to reach the earth?
- 7.5×10^3 hours
 - 7.5×10^4 hours
 - 2.7×10^{10} seconds
 - 2.7×10^{11} seconds →

Ans:

$$\begin{aligned} \text{Required time} &= \left(\frac{8.1 \times 10^{13}}{3.0 \times 10^5} \right) \text{seconds} = 2.7 \times 10^8 \text{ sec} \\ &= \left(\frac{2.7 \times 10^8}{60 \times 60} \right) \text{hrs} = 7.5 \times 10^4 \text{ hrs.} \end{aligned}$$

4. Suriya rides her bike at an average speed of 30 km/hr and reaches her destination in 6 hours. Suganya covers the same distance in 4 hours. If Suriya increases her average speed by 10 km/hr and Suganya increases her average speed by 5 km/hr, what would be the difference in their time taken to reach the destination?

- a. 40 minutes
- b. 45 minutes
- c. 54 minutes
- d. 1 hour -->

Ans:

Deepa's original speed = 30 km/hr.

Deepa's new speed = (30 + 10) km/hr = 40 km/hr.

Distance = (30 × 6) km = 180 km.

Hema's original speed = $\left(\frac{180}{4} \right)$ km/hr = 45 km/hr.

Hema's new speed
= (45 + 5) km/hr = 50 km/hr.

Difference in time

$$= \left(\frac{180}{40} - \frac{180}{50} \right) \text{hrs} = \frac{9}{10} \text{ hrs} = \left(\frac{9}{10} \times 60 \right) \text{min} = 54 \text{ min.}$$

5. An aeroplane flies twice as fast as a train which covers 60 miles in 80 minutes. What distance will the aeroplane cover in 20 minutes?

- a. 30 miles
- b. 35 miles
- c. 40 miles
- d. 50 miles ->

Ans:

Time taken to cover 60 miles = 80 min = $\frac{4}{3}$ hrs.

\therefore Speed of the train = $\left(60 \times \frac{3}{4}\right)$ mph = 45 mph.

Speed of the aeroplane = (2×45) mph = 90 mph.

Distance covered by the aeroplane in 60 min = 90 miles.

Distance covered by the aeroplane in 20 min

$$= \left(\frac{90}{60} \times 20\right) \text{ miles} = 30 \text{ miles.}$$

A long distance runner runs 9 laps of a 400 metres track everyday. His timings for four consecutive days are 88, 96, 89 and 87 respectively. On an average, how many metres/minute does the runner cover?

- a. 17.78
- b. 40
- c. 90
- d. None of these \rightarrow

Ans:

$$\begin{aligned} \text{Average speed} &= \frac{\text{Total distance covered}}{\text{Total time taken}} \\ &= \left(\frac{4 \times 9 \times 400}{88 + 96 + 89 + 87}\right) \text{ m/min} = \left(\frac{14400}{360}\right) \text{ m/min} \\ &= 40 \text{ m/min.} \end{aligned}$$

7. A train covers a distance of 10 km in 12 minutes. If its speed is decreased by 5 km/hr, the time taken by it to cover the same distance will be

- a. 10 min
- b. 11 min 20 sec
- c. 13 min
- d. 13 min 20 sec \rightarrow

Ans:

$$\text{Speed} = \left(10 \times \frac{60}{12}\right) \text{ km/hr} = 50 \text{ km/hr.}$$

$$\text{New speed} = (50 - 5) \text{ km/hr} = 45 \text{ km/hr.}$$

$$\begin{aligned} \therefore \text{Time taken} &= \left(\frac{10}{45}\right) \text{ hr} = \left(\frac{2}{9} \times 60\right) \text{ min} = 13 \frac{1}{3} \text{ min} \\ &= 13 \text{ min } 20 \text{ sec.} \end{aligned}$$

8. A train scheduled to cover the distance between two stations 46 km apart in one hour. if it travels 25 km at a speed of 40 km/hr, find the speed for the remaining journey to complete it in the scheduled time.

- a. 36 km/hr
- b. 46 km/hr
- c. 56 km/hr
- d. 66 km/hr ->

Ans:

$$\text{Time taken to travel 25 km} = \left(\frac{25}{40}\right) \text{ hr} = \frac{5}{8} \text{ hr.}$$

$$\text{Remaining time} = \left(1 - \frac{5}{8}\right) \text{ hr} = \frac{3}{8} \text{ hr.}$$

$$\therefore \text{Required speed} = \left(21 \times \frac{8}{3}\right) \text{ km/hr} = 56 \text{ km/hr.}$$

9. A man on tour travels 160 km by car at 64 km/hr and another 160 km by bus at 80 km/hr. The average speed for the whole journey is

- a. 35.55 km/hr
- b. 36 km/hr
- c. 71.11 km/hr
- d. 71 km/hr ->

Ans:

$$\text{Total time taken} = \left(\frac{160}{64} + \frac{160}{80}\right) \text{ hrs} = \frac{9}{2} \text{ hrs.}$$

$$\therefore \text{Average speed} = \left(320 \times \frac{2}{9}\right) \text{ km/hr} = 71.11 \text{ km/hr.}$$

10. A boy rides his bicycle 10 km at an average speed of 12 km/hr and again travels 12 km at an average speed of 10 km/hr. His average speed for the entire trip is approximately.

- a. 10.4 km/hr

- b. 10.8 km/hr
- c. 11 km/hr
- d. 12.2 km/hr ->

Ans:

Total distance travelled = (10 + 12) km/hr = 22 km/hr.

Total time taken = $\left(\frac{10}{12} + \frac{12}{10}\right)$ hrs = $\frac{61}{30}$ hrs.

\therefore Average speed = $\left(22 \times \frac{30}{61}\right)$ km/hr = 10.8 km/hr.