

Speed Time and Distance Formula List

Time and Distance Formula

All the important Time and Distance formulas are given here. Using the Time and Distance formulas you can easily solve the Questions based on Speed Time and Distance.

Speed Time and Distance Formula List

1. Speed = Distance/Time
2. Time =Distance/Speed
3. Distance = (Speed × Time)
4. Average Speed= Total Distance / Total Time
5. 1 km/hr = 5/18 m/sec
6. 1 m/sec = 18/5 km/hr
7. If the ratio of the speeds of A and B is a: b, then the ratio of the times taken by them to cover the same distance is 1/a: 1/b =b:a
8. Suppose a man covers a certain distance at x km/hr and an equal distance at y km/hr. Then, the average speed during the whole journey is $(2xy /x+y)$ km/hr.
9. If two people A and B set out from two points P and Q at the same time and cross paths after spending T1 and T2 hours getting to P and Q, respectively, then (A's speed) / (B's speed) equals $\sqrt{(T2 / T1)}$..

Time and Distance Formula: Trains

The time and Distance formula can be implemented on the problems on Trains. Although the basic concept of Time and distance is the same, some changes are there due to train length. Let's give a look at the Time and Distance formula for Trains.

1. If the Speed of the two trains is S1 and S2 respectively and lengths are L1 and L2, then,

While moving in the opposite direction

$$\text{Relative speed} = S_1 + S_2$$

$$\text{Time is taken} = \frac{L_1 + L_2}{S_1 + S_2}$$

While moving in the same direction

$$\text{Relative speed} = S_1 - S_2$$

$$\text{Time taken} = \frac{L_1 + L_2}{S_1 - S_2}$$

2. When two trains of lengths L_1 and L_2 cross each other at speeds of S_1 and S_2 , respectively, in time t , the equation is given as $S_1 + S_2 = (L_1 + L_2)/t$.

3. When a train of length L_1 passing another train of length L_2 passes another train of length L_2 at a speed formula is expressed as $S_1 = (L_1 + L_2)/t$

4. when a train of length L_1 traveling at a speed of S_1 traverses a platform, bridge, or tunnel of length L_2 in time t . the equation is stated as $S_1 - S_2 = (L_1 + L_2)/t$.

5. If the train passes an electric pole then, the Length of the Train = Train's speed \times Time

Time and Distance Questions

1. Rafiq cycled 2 km in 12 minutes. reaches a distant station. Find out the speed of the bicycle.

2. A motor vehicle at the same speed travels 217 km in 6 hours and 12 minutes. How much time will it need to go 273 km?

3. A motorcycle rider covers a distance of 100 km in 2 hours and 5 minutes and a bi-cyclist takes 6 hours and 40 minutes to cover that distance. Find the ratio of the speed of the motorcycle and bicycle.

4. A freight train travels 49.5 km in 2 hours 45 minutes at a constant speed. reaches a distant station. How much time will the train take to reach the 58.5 km? far station?
5. Sandeepan goes by bicycle to a friend's house in 45 minutes. But on the way back 32 km per hour because there is no air in the bicycle wheel. It takes him 3 hours and 45 minutes to walk at speed. find the Speed of the bicycle.
6. Your father goes from home to one place on a motorcycle and returns home after finishing work in an hour. It took him a total of 3 hours and 30 minutes. If the speed of the motorcycle is 40 km per hour. How far was the place from the house?
7. A bus leaves Kolkata at 7:30 AM and reaches Digha at 12 PM without stopping anywhere. If the speed of the bus is 45 km per hour, then what is the distance from Calcutta to Digha?
8. Two friends travel 39 km from the same place at the same time, one by bicycle and the other by rickshaw. The first person arrives after 2 hours and 10 minutes. The second person arrives after another 1 hour and 2 minutes. Determine the speed of the cycle and rickshaw.

Time and Distance Problems: Train

1. A train 1.75 m long travels at 60 km per hour. How much time will the train take to cross a tree?
2. The speed of a train is 48 km per hour, and the train can cross a platform 120 m long in 15 seconds. Find the length of the train.
3. At what time does a train 85 m long cross a bridge 65 m long at a speed of 85 m?
4. A train 150 m long takes 30 seconds to cross a bridge 250 m long; How much time will the train take to cross a platform 130 m long?
5. A train can cross a telegraph post in 4 seconds and a bridge 264 meters long in 20 seconds. Find the length and speed of the train.
6. A train crosses two bridges 210 m and 122 m long in 25 seconds and 17 seconds respectively. Find the length and speed of the train.