Time Speed Distance: Exercise 1

Getting used to using the relation between Time, Speed & Distance.

1. While travelling from Pune to Mumbai, I travel from Pune to Lonavala at a speed of 60 kmph and from Lonavala to Mumbai at a speed of 80 kmph. If Pune-Lonavala distance is 40 km and Lonavala-Mumbai distance is 120 km, find how much total time did I take for the entire journey?

   a. 2 hours   b. 2 hours, 5 mins   c. 2 hours, 10 mins   d. 2 hours, 15 mins

2. My office is 12 km from my home. In the mornings I am in a hurry and I drive my car at a speed of 40 kmph from home to office. However in the evenings, I drive back from office to home at a leisurely pace of 30 kmph. How much more time do I take for the return journey as compared to time taken from home to office?

   a. 3 mins   b. 4 mins   c. 5 mins   d. 6 mins

3. I cover 200 km at a certain speed. At the same speed, I can cover 150 km in 6 hours. Find the time taken to cover the 200 km.

   a. 10 hrs   b. 9 hrs   c. 8 hrs   d. 7.5 hrs

4. I leave my home to go to office at 9 am and travel at a speed of 40 kmph. At 9:15, I realize that I have forgotten my keys at home. Hence I immediately turn back and race towards home at a speed of 50 kmph. At what time do I reach back home?

   a. 9:25 am   b. 9:27 am   c. 9:30 am   d. 9:32 am

5. I travel 12 km at a certain speed and the next 20 km at a speed that is 30 kmph higher than previous speed. If the total time taken is 1 hour, find the two speeds.

   a. 10 kmph, 40 kmph   b. 20 kmph, 50 kmph

   c. 15 kmph, 45 kmph   d. 30 kmph, 60 kmph

6. I drive my car at a steady speed for 2 hours. Then I increase my speed by 10 kmph and again drive at the steady speed for next 3 hours. If I cover a total distance of 230 km in the 5 hours, find the two speeds.

   a. 10 kmph, 20 kmph   b. 20 kmph, 30 kmph

   c. 30 kmph, 40 kmph   d. 40 kmph, 50 kmph

7. Amit completed his journey from Mumbai to Shirdi, partly at 30 kmph and rest at 60 kmph. He took a total of 6 hours to cover the total distance of 300 km.

   How much distance was travelled at 60 kmph? *Capture the above information in an equation written in terms of distance i.e. total distance = 300 km.*

   a. 60 km   b. 120 km   c. 180 km   d. 240 km

   For how much time was Amit travelling at 30 kmph? *Capture the above information in an equation written in terms of time i.e. total time = 6 hours.*

   a. 1.5 hrs   b. 2 hrs   c. 3 hrs   d. 4 hrs

8. It takes 3 hours to cover the distance A to B at a certain speed. However if the speed was higher by 20 kmph, the time taken would have been only 2 hours. Find the distance A to B.

    a. 100 km   b. 120 km   c. 150 km   d. 200 km

Topic: Relative Speed

9. Aroop and Anand live 40 km away from each other, on a straight road. Both leave their home at the same time towards the other person's home. If their speeds are 6 kmph and 9 kmph respectively, how far from Anand's home will they meet?

    a. 16 km   b. 18 km   c. 22 km   d. 24 km

10. Anirban starts from P towards Q at 9 am with a speed of 20 kmph. At the same time, Ayush starts from Q towards P at a certain speed. They meet each other at 11 am. If the distance PQ is 50 km, find the speed of Ayush.

    a. 5 kmph   b. 10 kmph   c. 25 kmph   d. 30 kmph

11. A police-man sights a thief at a distance of 500 meters from him and immediately starts running towards him at a speed of 12 m/s. At the same time, the thief also sees him and starts running away at a speed of 8 m/s. Find the time taken after which the police man catches the thief; the distance run by the police-man; the distance run by the thief.

    a. 125 sec, 1500 m, 1000 m   b. 125 sec, 2000 m, 1500 m

    c. 120 sec, 1500 m, 1000 m   d. 120 sec, 2000 m, 1500 m

12. A thief escapes from a police station at 9 am and runs at a speed of 6 kmph. The police start the chase at 9:10 am at a speed of 8 kmph. At what time is the thief caught? How far from the police station is the thief caught?

    a. 9:30 am, 3 km   b. 9:30 am, 4 km   c. 9:40 am, 3 km   d. 9:40 am, 4 km

13. The distance separating Amit and Archit is 250 meters. If they start travelling towards each other at the same time, they will meet in 25 seconds. If Amit starts chasing Archit and Archit starts running away at the same time, Amit will catch up with Archit in 125 seconds. Find the speeds of Amit and Archit.

    a. 8 m/s, 6 m/s   b. 6 m/s, 4 m/s   c. 4 m/s, 6 m/s   d. 8 m/s, 2 m/s

14. Both Pune-Mumbai Express and Mumbai-Pune Passenger leave Pune & Mumbai respectively at 7 am. The express train reaches Mumbai at 11 am whereas the passenger train reaches Pune at 1 pm. At what time do the two trains meet?

    a. 6/5 km/hr   b. 3 km/hr   c. 5 km/hr   d. 5/3 km/hr

15. Deccan Express leaves Pune at 7 am and reaches Mumbai at 11 am. Mumbai-Pune Passenger leaves Mumbai at 6 am and reaches Pune at 12 noon. At what time do the two trains meet?

    a. 220 m, 110 m   b. 250 m, 80 m   c. 200 m, 130 m   d. 300 m, 80 m