

Time, Speed & Distance – Worksheet (Progressive)

Q 1. A cat sees a sleeping rat 50 m away from her and moves in the opposite direction at a speed of 12 km/h. A minute later the rat wake up and sees her and gives chase at a speed of 15 km/h. How soon will the rat overtake her?

- (a) 5 min (b) 6 min (c) 2 min (d) 12 min

Q 2. A Tiger is running at 60 km/h crosses a deer travelling in opposite direction at 48 km/hr. The Tiger has to travel for further 5 min before it can find a gap in the median where he can take a U turn and start chasing the deer. After how much time after the Tiger crosses the deer does he catch him?

- (a) 25 min (b) 45 min (c) 50 min (d) 52 min

Q 3. Bob runs a marathon of a km in b hours. If he walks at a speed that is 33.33% of the speed at which he runs, then the time that he would take to walk 200 m is

- (a) $3b/5a$ (b) $3a/5b$ (c) $5b/3a$ (d) none of these

Q 4. In a 500m race, A beats B by 100m. In a race of 2 km, A beats C by 150 m. In a km race between B and C who will win and by how much distance?

- (a) C, 135.14 m (b) C, 125.2 m (c) B, 114.24 (d) B, 215.3

Q 5. A train leaves Delhi at 7 am and reaches Agra at 11 am. Another train leaves Agra at 9 am and reaches Delhi at 2 pm. At what time will the two trains meet?

- (a) 9:30 am (b) 9:56 am (c) 10:06 am (d) 10:09am

Q 6. A and B started swimming at the same time from two ends of a river which is not flowing. They met for the first time 70 m from first end. They continued swimming and reach other ends respectively. Each took a rest for 12 min and then started swimming back. They met this time 50 m from the other end. What is the length of the river?

- (a) 160 m (b) 210m (c) 120 m (d) 250 m

Q 7. A train of 100m long is 1 km away from an unmanned railway crossing with a speed of 90 km/h. At the same time, a bus, also approaching the crossing, is 700 m away from it. Assuming the bus of negligible length is travelling at a speed of b km/h, at what range of b in km/h will the bus collide with the train?

- (a) $59 < b < 61$ (b) $57 < b < 63$ (c) $55 < b < 65$ (d) $55 < b < 67$

Q 8. Rahul, Arvind and Akhilesh start from a same place and travel in the same direction at speeds of 30, 40 and 60 km/h respectively. Arvind starts 2 hours after Rahul, if Arvind and Akhilesh overtake Rahul at the same instant, how many hours after Rahul did Akhilesh start?

- (a) 3 (b) 3.5 (c) 4 (d) 5

Q 9. If a man cycles at 10 km/hr, then he arrives at a certain place at 1 p.m. If he cycles at 15 km/hr, he will arrive the same place at 11 a.m. At what speed must he cycle to get there at noon?

- (a) 11 km/hr (b) 12 km/hr (c) 13 km/hr (d) 14 km/hr

Directions for questions 10 and 11. Answer the questions on the basis of given information.

Pinkoo runs 40% faster than Chimpoo. The length of the circular track is 400 m.

Q 10. If Pinkoo starts race after Chimpoo has taken a lead of 80 m, what would be the minimum distance along the track of the point where Pinkoo would be able to catch up with Chimpoo, from the starting point?

- (a) 200 m (b) 280 m (c) 150 m (d) 120 m

Q 11. What is the maximum lead that Pinkoo can allow Chimpoo to take and still beat him by a full lap in a race of a dozen laps across the circular track?

- (a) 1372 m (b) 1150 m (c) 970 m (d) 880 m

Q 12. Lala walks towards North from a point A with a speed of 100 km/h at 3 pm. Anna walks towards East from A with a speed of 200 km/h at 4 pm. How far they are from each other at 6 pm?

- (a) 700 km (b) 500 km (c) 800 km (d) None of these

Q 13. A train running at 54 km/hour takes 20 seconds to cross a platform and 12 seconds to pass a man waking in the same direction at a speed of 6 km/hour. Find the length of the train and the platform in meters respectively?

- (a) 160 & 140 (b) 140 & 160 (c) 80 & 70 (d) 70 & 80

Q 14: A man standing on a railway platform notices that a train going in one direction takes 10 seconds to pass him and other train of the same length takes 15 seconds to pass him. Find the time taken by the two trains to cross each other when they are running in the opposite directions.

- (a) 8 sec (b) 10 sec (c) 12 sec (d) 16 sec

Q 15: A man can row upstream at 7 km/hour and downstream at 10 km/hour. Find his rate in still water and rate of the current in km/hour respectively.

- (a) 7.5 & 1.5 (b) 8.5 & 2.5 (c) 7.5 & 2.5 (d) None of these

Q 16: A runs $1\frac{2}{3}$ times as fast as B. If A gives B a start of 80 m, how far must the winning post be for the race to end in dead heat?

- (a) $\frac{1}{2}$ km (b) $\frac{1}{3}$ km (c) $\frac{1}{4}$ km (d) $\frac{1}{5}$ km

Q 17: A can run full round of a circular track in 6 min and B in 15 min. if both A and B start simultaneously from the same starting point then how many times would they met in the time B has completed 10 rounds when running in same direction, and in opposite direction?

- (a) 15, 20 (b) 25, 30 (c) 25, 35 (d) None of these

Q 18: A and B walk around a circular path of 900 m in circumference, starting together from the same point in the same direction. If their speeds are 150 m per minute and 200 m per minute respectively, after how many minutes will they be again at the starting point?

- (a) 18 (b) 20 (c) 24 (d) 36

Directions for questions 19 and 20:

Rock runs twice as fast as Austin runs. Rock and Austin start running together (from the same point and at the same time) on a circular track of length 3 km. it is also known that the slower one stops running once the faster one has run 11 km along the track.

Q 19: How many times do they meet each other if both of them run in opposite directions?

- (a) Twice (b) thrice (c) five times (d) Indeterminate

Q 20: How many times do they meet each other if both of them run in same directions?

- (a) Once (b) thrice (c) twice (d) Indeterminate