

## Time, Speed & Distance - Basics

### UNITS & FORMULA

- Q 1. A cyclist covers a certain distance at 48 km/hour. How much distance does he cover in 5 min?  
(a) 4 km (b) 6 km (c) 12 km (d) 240 km
- Q 2. Vino covers a distance of 12000 m in 10 minutes. Now he decreased his speed by 50% and travels for 20 seconds. Find the total distance travelled by him?  
(a) 12 km (b) 12.1 km (c) 12.2 km (d) None of these.
- Q 3. The distance between Delhi and Meerut is 60 km. A man starts from Delhi at 10 AM with a speed of 16 km/hr. At what time he will be able to reach Meerut?  
(a) 01:15 PM (b) 01:45 AM (c) 03:45 PM (d) 01:45 PM
- Q 4. A man takes total of 5 hours if he travels a certain distance by Honda and returns by Audi. He would have, however, gained 3 hours if he had completed his journey by Audi. How long would he have taken to travel by Honda both ways?  
(a) 6 hours (b) 7 hours (c) 8 hour (d) 4 hours
- Q 5. Running at  $\frac{3}{4}$  of his usual speed a man is 1.5 hours late. Find his usual travel time  
(a) 2 hours (b) 3 hours (c) 4 hours (d) 4.5 hours
- Q 6. Two runners cover the same distance in 24 km/hour and 25 km/hour, respectively. Find the distance travelled by each, if one takes 20 minutes longer than the other  
(a) 200 km (b) 250 km (c) 100 km (d) None of these
- Q 7. By decreasing his usual speed by 10 km/h, a bus driver increases his time on a 50 km trip by 15 min. What is his actual speed?  
(a) 50 km/h (b) 55 km/h (c) 58 km/h (d) none of these

### AVERAGE SPEED

- Q 8. A man covers a distance with a speed of 50 km/hour and returns back with a speed of 70 km/hour. Find the average speed of the man?  
(a) 60 km/hr (b) 58.3 km/hr (c) 62 km/hr (d) 57.2 km/hr
- Q 9. Roy covers one third of the distance with a speed of 30 km/hour, one fourth of the distance with a speed of 40 km/hour and remaining with a speed of 50 km/hour. Find the average speed of the entire journey?  
(a) 42 km/hr (b) 40 km/hr (c) 39 km/hr (d) 37 km/hr
- Q 10. John goes to his friend Sam's home with an average speed of 100 km/hour without stopping anywhere. Next day he again goes to his friend home with an average speed of 80 km/hour as he stops at petrol pump. Find the average time per hour he stops at petrol pump?  
(a) 12 min (b) 15 min (c) 20 min (d) 25 min

### RELATIVE SPEED

- Q 11. The distance between two cars is 280 km. The speed of two cars is 40 km/hour and 30 km/hour respectively. Find the distance travelled by the first car when both cars meet?  
(a) 120 km (b) 160 km (c) 200 km (d) 220 km

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Q 12. Chennai Mail left Delhi at 8.00 AM with a speed of 60 km/hour for Chennai. After 5 hours Chennai Rajdhani left from Delhi with a speed of 90 km/hour. At what time will the two trains meet? (Assuming length of the two trains as 0)

- (a) 11:00 PM (b) 11:10 PM (c) 12:00 AM (d) None of these

Q 13. A running thief is spotted by a policeman at a distance of 500 m. the police man start chasing the thief with a speed of 16 km/hr. If the speed of the thief be 12 km/hour. At what distance will the policeman catch the thief?

- (a) 1 km (b) 2 km (c) 3 km (d) None of these

### **TRAINS + RELATIVE SPEED**

Q 14. A train crosses a tree with a speed of 80 km/hour in 3 minutes. Find the length of the train?

- (a) 2 km (b) 400 m (c) 40 m (d) 4 km

Q 15. A train running at 36 km/hour passes another train completely in 12 sec, which is half of its length, running in the opposite direction at 54 km/hour. If it also passes a railway platform in 1.5 minutes, what is the length of the platform?

- (a) 700 m (b) 860 m (c) 900 m (d) 1000 m

Q 16. During an emergency the guard (sitting in the last coach) is walking in a 330 m long train with a speed of 4 m/s towards the engine. The train is also moving with a speed of 54 km/hour. How long will guard take to reach the engine?

- (a) 1/4 min (b) 1/2 min (c) 1/8 min (d) None of these

Q 17. Angelina is sitting in a train of length 220 m which is moving with a speed of 48 km/hour. She observed that a bullet train of length 770 m crosses her in the opposite direction in just 7 seconds. Find the speed of the bullet train?

- (a) 348 m/s (b) 348 m/min (c) 348 km/hr (d) None of these

Q 18. Two trains of speed 36 km/hour and 54 km/hour respectively enters a 400 m long tunnel same time. The length of the trains are 300 m and 200 m respectively. After crossing each other find out the extra time after which the tunnel be train free?

- (a) 70 sec (b) 34 sec (c) 36 sec (d) 24 sec

### **BOATS**

Q 19. A man is swimming from end A of a river to the other end of the river B in 4 hours. He returns back from B to A in 6 hours. The river is also flowing with a constant rate. Find out in which direction the river is flowing?

- (a) A to B (b) B to A (c) depends on distance (d) indeterminate

Q 20. Two times the downstream speed is equal to 3 times the upstream speed. Find the ratio of speed of boat in still water to speed of current?

- (a) 1:3 (b) 1:5 (c) 5:1 (d) 2:3

Q 21. A boat covers 40 km upstream and 90 km downstream in 5 hour, it can also cover 60 km upstream and 60 km downstream in 5 hr. Then the time taken by the unmanned boat to cover 100km is

- (a) 4 hours (b) 20 hours (c) 5 hours (d) 18 hours

Q 22. Two boats, travelling at 5 km/h and 10 km/h are headed towards each other from two points A and B respectively, in a river in which water is flowing at a constant rate. Exactly one minute before the boats collide, how far will the two boats be?

- (a) 0.5 km (b) 0.25km (c) 0.75km (d) cannot be determined

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## RACES

Q 23. In a race of 200 m, Sachin beats Afridi by 20 m. To do a favor to Afridi, Sachin starts 20 m behind the starting line in a second race of 200 m. they both runs with their earlier speeds. Which statement is true?

- (a) Race ends with a dead heat. (c) Sachin beats Afridi by 2 m.  
 (b) Sachin beats Afridi by 10 m (d) Afridi beats sachin by 2 m.

**Directions for questions 24 and 25. Answer the questions on the basis of given information.**

Kaalia and Gabbar run a race between Ramgarh and Rampur, 5 km apart. Kaalia starts at 2 p.m. from Ramgarh at a speed of 5 km/hour, reaches Rampur and returns to Ramgarh. Gabbar starts at 2:45 p.m. from Ramgarh at a speed of 10 km/hour, reaches Rampur and comes back to Ramgarh with the same speed.

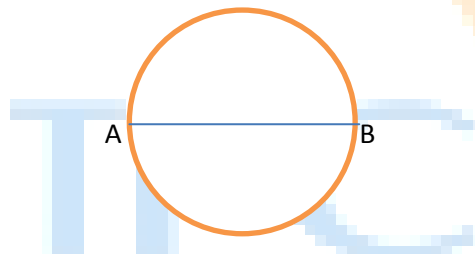
Q 24. At what time do Kaalia and Gabbar first meet each other?

- (a) 3 p.m. (b) 3:10 p.m. (c) 3:20 p.m. (d) 3:30 p.m.

Q 25. At what time does Gabbar overtakes Kaalia while going in the same direction.

- (a) 3:20 p.m. (b) 3:30 p.m. (c) 3:40 p.m. (d) 3:50 p.m.

**Directions for questions 26 and 27. Answer the questions on the basis of given information.**



Shilpa and Ravina are standing at point A of a circular track whereas Akshay is standing at point B which is diametrically opposite to A. Shilpa and Akshay running towards each other along the circular track and Ravina runs along straight line AB and after reaching B she runs along the circular track in the direction of Akshay. All 3 starts simultaneously and eventually they meet at the same point. (No one completes the round and diameter of the circular track is 140m)

Q 26. If the ratio of speeds of Shilpa and Ravina is 1:1, what is the distance travelled by Akshay till the meeting?

- (a) 40 m (b) 60 m (c) 80 m (d) Data sufficient

Q 27. If the ratio of speeds of Shilpa and Ravina is 1:2 and Akshay runs at a speed of 20 m/sec, after how much time since start will all 3 meet?

- (a) 2 sec (b) 3 sec (c) 4 sec (d) 5 sec

## MORE IN TIME SPEED DISTANCE

Q 28. Karan climbs 13 stairs in the same time as Arjun climbs 9 stairs. If both of them start climbing the stairs simultaneously Karan reaches the top 36 stairs ahead of Arjun. What is the number of stairs in the staircase?

- (a) 52 (b) 98 (c) 117 (d) None of these

Q 29. The running speeds of three people are in the ratio 1:3:9. If they run equal distances, then what is the ratio of the time taken: speed for the 3 activities?

- (a) 1 : 1 : 1 (b) 81 : 9 : 1 (c) 9 : 3 : 1 (d) 1 : 3 : 9

Q 30. At what time between 4.30 to 5 pm will the two hands of a clock make an angle of 90 degree?

- (a) 4 hr  $37\frac{2}{11}$  min (b) 4 hr  $38\frac{2}{11}$  min (c) 4 hr  $38\frac{7}{11}$  min (d) 4 hr  $39\frac{2}{11}$  min

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