Time and Distance

**Type-1**

1. A cyclist covers a distance of 500m in 3 min. What is the speed in km/hr of the cyclist?

(a)12 km/hr (b)10 km/hr (c)14 km/hr (d)16 km/hr

1. An athlete runs 300m race in 15 sec. His speed is:

(a)56 km/hr (b)48 km/hr (c)72 km/hr (d)36 km/hr

1. A car is running at a speed of 72 km/hr. What distance will it cover in 20 seconds?

(a)490m (b)450m (c)400m (d)460m

1. A truck covers a distance of 600 metres in 1 min whereas a bus covers a distance of 900 metres in 45 sec.The ratio of their speeds is:(a) 3:4 (b)3:2 (c)2:1 (d)1:2
2. Three cars travelled distance in the ratio 1:2:3.If the ratio of the time of travel is 3:2 :1, then the ratio of their speed is(a)3:9:1 (b)1:3:9 (c)1:2:4 (d)4:3:2
3. How long will the boy take to run round a square field of side 40m ,if he runs at the rate of 18 km/hr?

(a)32sec (b)50sec (c)44sec (d)48sec e.8 secs

**Type-2**

1. In covering a certain distance, the speed of A and B are in the ratio of 3:4. A takes 30 minutes more than B to reach the destination. The time taken by A to reach the destination is

(a)1hr (b)1 ½ hr (c)2 hr (d)2 ½ hr

1. The speed of A and B are in the ratio 3:4.A takes 20 minutes more than B to reach a destination. In what time does A reach the destination?(a)1(1/3) hrs (b)2 hrs (c)2(2/3) hrs (d)1(2/3) hrs
2. Walking at 5/7th of the usual speed a man reaches the office 24mins late. Then what would be the time taken by him if he walks at his usual speed
3. Walking at 4/3rd of the usual speed a man reaches the office 10mins early then what is the usual time?
4. A thief goes away with a maruti car at a speed of 40 km/h. The theft has been discovered after half an hour and the owner sets off in another car at 50km/h. when will the owner overtake the thief from the start?
5. A thief goes away with a maruti car at a speed of 20 km/h. The theft has been discovered after 15minutes and the owner sets off in another car at 30km/h. when will the owner overtake the thief from the start?
6. While walking 3/4th of his normal speed Ram arrives 1hr late . What is normal time?

(a) 3hrs (b) 2 hrs (c) 1 hr (d) none

1. While walking 6/5th of his normal speed Ram arrives 20min early. What is normal time?

(a) 1(1/2) hrs (b) 2hrs (c) 50 minutes (d) none

1. A man covers a certain distance between his house and office on scooter. Having an average speed of 30 km/hr, he late by 10 min. However, with a speed of 40 km/hr. he reaches his office 5 min earlier. Find the distance between his house and office.
2. 33.A student goes to school at the rate of 2 ½ km/hr and reaches 6 minutes late . If he travels at the speed of 3 km/hr , he is 10 minutes early . What is the distance to the school?

(a)4 km (b)3 ½ km (c)1 km (d)3 ¼ km

**Type-3**

1. a car travels a distance of 85 km in 2 hours partly at a speed of 50kmph and partly at 25kmph. Find the distance travelled at a speed of 50kmph a. 50 b. 60 c. 70 d. 80
2. a car travels a distance of 80 km in 3 hours partly at a speed of 45kmph and partly at 20kmph. Find the distance(in kms) travelled at a speed of 45kmph a. 54 b. 37 c. 36 d. 30

**Type-4**

1. A car covers 8kms in first quarter of an hr, 6kms in the second quarter and 16kms in the third quarter. Then the avg speed of the car during the journey is ?
2. A man covers a certain distance by car driving at 70 km/hr and he returns back to the starting point riding on a scooter at 55 km/hr. Find his average speed for the whole journey
3. A man covers a certain distance by car driving at 40 km/hr and he returns back to the starting point riding on a scooter at 10 km/hr. Find his average speed for the whole journey.
4. Sriya with her family travelled from Bolpur to Suri by car at a speed of 40 km/hr and returned to Bolpur at a speed of 50 km/hr .The average speed for the whole journey is

(a)44 4/9 km/hr (b)45 km/hr (c)45 ½ km/hr (d)44.78 km/hr

1. 26.A person travels from “P” to “Q” at a speed of 30 kmph and returns by increasing his speed by 50% . What is the average speed for both the trips?

(a)50 kmph (b)48 kmph (c)45 kmph (d)36 kmph

**Type-5**

1. Sarita and Juile start walking from the same place in the opposite directions. If Julie walks at a speed of 2(1/2) kmph and Sarita at a speed of 2 kmph , in how much time will they be 18 km apart?(a) 4 hrs (b) 4.5 hrs (c) 5 hrs (d) 4.8 hrs
2. Two trains leave two stations at the same time and are travelling towards each other with a speeds of 84km/hr and 72km/hr. when they met it was found that one train has covered 60kms more than the other. Then find the distance between the two stations?
3. Two men starting from the same place walk at the rate of 4 kmph and 4.5 hrs respectively. What time will they take to be 9 km a part, if they walk in the same direction?

(a)16 hrs (b)18 hrs (c)14 hrs (d)12 hrs

1. A train sets off at 2pm at the speed of 70kmph . another train starts at 3.30pm in the same direction at the rate of 85kmph . At what time the train will meet?

(a) 10.30pm (b) 10 pm (c) 11 pm (d) 9 pm

**Type-6**

1. Excluding stoppages, the speed of a bus is 54kmph and including stoppages, it is 45kmph. For how many minutes does the bus stop per hour?A. 9 b. 10 c. 12 d. 20
2. Excluding stoppages, the speed of a bus 90 km/hr and including stoppages, it is 81 km/hr. For how many minutes does the bus stops per hour?

(a)6 min (b)8 min (c)10 min (d)12 min

**Type-7**

1. A monkey tries to ascend a greased pole 14 m high. He ascends 2 m in first minute and slips 1 m in alternate minute. If he continues to ascend in this fashion, how long does he take to reach the top?

**Type 8: Rest time= Number of rest\* time for each rest**

1. A man is walking at a speed of 12 km per hour. After every km he takes rest for 12 minutes. How much time will he take to cover a distance of 36 km ?
2. A man is walking at a speed of 6 km per hour. After every km he takes rest for 6 minutes. How much time will he take to cover a distance of 18 km ?

**Problems on trains**

1. A train 360 m long, running with a speed of 72 kmph will pass a tree in:

(a)15 seconds (b) 18 seconds c) 16 seconds (d) 14 seconds

1. A train 250 m long is running at the speed of 15 kmph. Find the time taken by it to pass a man standing near the railway line.
2. A train running at the speed of 30kmph, crosses a pole in 18 secounds. What is the length of the train?
3. A train 150 meters long passes a telegraph pole in 15 sec. Find out the speed of the train?
4. A train covers a distance of 18 km in 10 minutes. If it takes 15 seconds to pass a telegraph post, then the length of the train is?

**Type-2**

1. A train is moving at a speed of 90kmph. If the length of the train is 150m, how long will it take to cross a railway platform 130 m long?
2. How long does a train 200 m long running at the speed of 36 kmph take to cross a bridge 150 m in length?
3. The length of the bridge, which a train 120 m long and travelling at 60 kmph can cross in 12 sec,
4. A train 800 m long is running at a speed of 63 kmph. If it crosses a tunnel in 2 min, then the length of the tunnel (in meters) is:
5. The length of a train and that of a platform are equal. If with a speed of 90 km/hr , the length of a train crosses the platform in one min , then the length of a train( in metres) is:
6. A train of length 100 m takes 50 sec to cross a tunnel of length 200 meters. What is the speed of the train?

**Type-3**

1. Two trains 140m and 160 m long run at the speed of 60 km / hr and 40 km / hr respectively in opposite directions on parallel tracks. The time (in seconds) which they take to cross each other,
2. Two trains of equal length are running on parallel lines in the opposite direction at 40 kmph and 50 kmph. The faster train passes the slower train in 10 seconds. The length of each train is:
3. Two trains are running in opposite directions with the same speed. If the length of each train is 200 meters and they cross each other in 48 seconds, then the speed of each train (in kmph) is:

**Type-4**

1. Two trains 100 meters and 300 meters long are running in the same direction with speeds of 54 kmph and 36 kmph. In how much time will the first train cross the second?
2. Two trains 200 m and 150 m long are running on parallel rai;s at the raye of 40 kmph and 45 kmph respectively. In how much time will the cross each other, if they are running in the same direction?
3. Two trains of equal length are running on parallel lines in the same direction at 54 kmph and 45 kmph. The faster passes the slower train in 16 seconds. The length of each train is:
4. A 50 m long train running at the speed of 54 kmph crosses another train running in same direction at the speed of 30 kmph in 12 seconds. What is the length of the other train?

**Type-5**

1. A train passes a station platform in 36 seconds and a man standing on the platform in 20 seconds. If the speed of the train is 54 kmph, what is the length of the platform?
2. A man is standing on a railway bridge which is 180m long. He finds that a train crosses the bridge in 20secs but himself in 8secs. Find the length of the train and its speed
3. If two trains start at the same time from points A and B towards each other and after crossing they take 9 and 16secs in reaching B and A respectively, then what is the ratio of A's speed and B's speed.

22. A train X starts from Meerut at 4 p.m. and reaches Ghaziabad at 5:00 p.m. while another train Y starts from Ghaziabad at 4 p.m. and reaches Meerut at 5:30 p.m. the two trains will cross each other at

A. 4:36pm. B. 4:42 pm. C. 4:48 pm. D. 4:50pm