TIME AND DISTANCE LEVEL 2 CLASSROOM DISCUSSION

Practice Exercise 1

1. Two cars C_1 and C_2 start simultaneously from a point P with speeds 30 km/hr and 40 km/hr respectively. C_1 moves towards north and C_2 towards east. After travelling for 3 hours what could be the distance between them?
   (1) 150 km (2) 90 km (3) 120 km (4) 210 km

2. Adam takes a total of 20 hrs to go from P to Q by car and return to P on foot. Had he traveled both the ways by car he would have saved 8 hours. What time will he take to travel both the ways on foot
   (1) 10 hours (2) 16 hours (3) 36 hours (4) 28 hrs

3. In 100 m race, A covers the distance in 36 seconds and B in 45 seconds. In this race A beats B by --- m
   (1) 36 m (2) 45 m (3) 20 m (4) 10m

4. 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 so that A and B might reach it at the same time?
   (1) 200 m (2) 100m (3) 150m (4) None of these

5. In 500 m race A beats B by 50 m or 10 secs. What is the speed of A?
   (1) 50 m/sec (2) 5 m/sec (3) 5 5/9 m/sec (4) 5 4/9 m/sec

Practice Exercise 2

6. The speed of the bus without stoppages is 75 km/hr and with stoppages it is 60 km/hr. How many minutes are spent for stoppages for every hour?
   (1) 15 mins (2) 12 mins (3) 10 mins (4) Cannot be determined

7. Suresh can reach his destination on time if he travels at 60 km/hr. He covers the five twelfth of his journey in half the time. Find the speed at which he must travel to cover the remaining journey?
   (1) 70 km/hr (2) 60 km/hr (3) 50 km/hr (4) 45 km/hr

8. Ramu reached his office on time when he started from home and travelled at 50 km/hr. He would have reached half an hour late if he had started from home and travelled at 40 km/hr. Find the distance between his home and office.
   (1) 200 km (2) 80 km (3) 160 km (4) 100 km

9. If Ashok travelled at 4/5th of his usual speed he would reach his destination 15 mins late. By how many mins would he be early if he travelled at 6/5th of his usual speed?

(1) 60 mins (2) 70 mins (3) 40 mins (4) 10 mins

10. Rajesh started in his car from town P towards town Q at 51 km/hr. After every minute the speed of his car increased by 1 km/hr. The speed of his car increased by 1 km/hr. The distance between P and Q is 3775 km. Find the time he would take to reach Q (in mins)
(1) 60 mins (2) 50 mins (3) 40 mins (4) 70 mins

Practice Exercise 3

11. Ram and Shyam started from A and B respectively. They traveled towards each other with speeds of 30 km/hr and 20 km/hr respectively. After their meeting Shyam took 5 hours more to reach A than the time Ram took to reach B. Find the distance between A and B.
(1) 350 km (2) 300 km (3) 200 km (4) 500 km

12. P Q and R participated in a race around a circular track. P and Q run in the same direction while R runs in the opposite direction. If the speeds of P Q and R are 10 m/sec, 20 m/sec and 30 m/sec respectively, and the length of the track is 1000 m, then after how much time will they meet for the first time?
(1) 150 secs (2) 50 secs (3) 100 sec (4) 180 secs

13. Meena starts running around a circular track at the same time Neela starts walking around the same circular track. Meena completes 32 laps around the track per hour and Neela completes 12 laps around the track per hour. How many minutes after Meena and Neela begin moving will Meena have completed 4 more laps around the track than Neela?
(1) 5 (2) 8 (3) 12 (4) 15

14. Amar, Akbar and Anthony start running in the same direction and from a point, around a circular track with speeds 11 m/sec, 22 m/sec and 33 m/sec respectively. If Akbar can complete 5 revolutions around the track in 40 sec when will they meet for the first time after they start?
(1) 16 secs (2) 8 secs (3) 24 secs (4) 11 secs

15. An escalator has 50 steps. Ajay starts walking up on it at 3 steps/sec. If the escalator moves up at 2 steps/sec, find the time he would take to reach its top.
(1) 50 secs (2) 30 secs (3) 20 secs (4) 10 secs

Practice Exercise 3

16. A walks down a stair case. He found that if he walks down 30 steps he requires 30 seconds more to the reach the bottom. If he walks down 40 steps he requires only 25 seconds to reach the bottom. Find the number of steps in the staircase.
(1) 100 (2) 90 (3) 80 (4) 120

17. Muthu takes 10 strides to 7 strides of Anbu. If one stride of Muthu is 2 meters and that of Anbu is 2.5 meters and Anbu gets a start of 35 metres then what distance should Muthu travel to overtake Anbu?
(1) 280 m (2) 250 m (3) 300 m (4) 500 m

18. A boat covered a round trip journey in a river between two points 18 km apart. The ratio of its average speed for the journey and its speed in still water is 15:16. Find the ratio of the speed of the boat in still water and the speed of the river
(1) 1:4 (2) 2:3 (3) 3:2 (4) 4:1

19. Train A is about to enter a tunnel of length 240 m while Train B is about to leave the tunnel. The speeds of train A and train B are 30 m/sec and 50 m/sec respectively and lengths are 100m and 120m respectively. The driver of train A got signal to move back and not to proceed further. After how many secs the two trains meet?
(1) 30 secs (2) 11 secs (3) 5 secs (4) 27.5 secs

20. A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going, in 10 seconds. The speed of the train is:
(1) 45 kmph (2) 50 kmph (3) 54 kmph (4) 55 kmph

Practice Exercise 3

21. If a boat takes 2 hours longer to travel a distance of 45 km upstream than to travel the same distance downstream, then find the speed of the boat in still water if the speed of the stream is 3 km/hr
(1) 10 km/hr (2) 15 km/hr (3) 12 km/hr (4) 20 km/hr

22. If a person travels 60 km at a speed of 30 km/hr and the next 120 km at a speed of 40 km/hr then find the average speed of the person for the total journey
(1) 36 kmph (2) 30 kmph (3) 35 kmph (4) 40 kmph

23. Ashok starts from home by car at 4:00 pm to pick his son from school and they return back home at 6:00 pm every day. On a particular day the school is closed at 4:00 pm. Ashok meets his son on the way and they return back 20 mins early. If the speed of Ashok is 80 km then the speed of his son is ----
(1) 40 km/hr (2) 16 km/hr (3) 20 km/hr (4) 10 km/hr

24. What is the ratio of the speeds of hour hand and minute hand?
(1) 12:1 (2) 1:12 (3) 6:1 (4) 1:6

25. A train takes 20 secs to cross a platform of length 250m and it takes 25 secs to cross a platform of length 350 m. What is the speed of the train?
(1) 20 m/sec (2) 10 m/sec (3) 25 m/sec (4) 5 m/sec