Time and Distance

Model 1: Basic Time and Distance

1. A bus covers a distance of 216 km in 4 hours. What is the speed of bus in m/s?

1) 5 m/s 2) 20 m/s 3) 15 m/s 4) 18 m/s 5) None of these

2. A bus covers a distance of 172 km in 4 hours. What is the speed of bus?

1) 52 kmph 2) 47 kmph 3) 43 kmph 4) 38 kmph 5) None of these

3. A man walks at the speed of 5 kmph and runs at the speed of 10 kmph. How much time will the man require to cover the distance of 28 km, if he covers half (first 14 km) his journey walking and half his journey running?

1) 8.4 hours 2) 6 hours 3) 5 hours 4) 4.2 hours 5) None of these

4. A man takes 6 hours in walking to a certain place and riding back. He would have taken 2 hours less by riding both ways. What would be the time he would take to walk both ways?

1) 4 hours 2) 8 hours 3) 10 hours 4) 12 hours 5) None of these

5. Anna left for the city A from city B at 5.20 a.m. She traveled at the speed of 80 kmph for hours 15 min. After that the speed was reduced to 60 kmph. If the distance between the two cities is 350 km, at what time did Anna reach City A?

1) 9.20 am 2) 9.25 am 3) 9.35 am 4) 10.05 am 5) None of these

Model 2: Constant Distance

6. A cyclist travels a certain distance in 6 hours at a uniform speed. In return, he increases his speed by 2 kmph and covers the same distance in 5 hours. What was his speed initially?

   1) 10.5 kmph 2) 12.5 kmph 3) 12 kmph 4) 10 kmph 5) None of these

7. Two buses travel to a place at speed of 95 kmph and 60 kmph respectively. If the second bus takes 52 hours more than the first for the journey, then what is the length of the journey? **[November 08, 2014 @ 37m 55s]**

   1) 1910 km 2) 1980 km 3)1900 km 4) 1400 km 5) None of these

8. A student walks to school at the rate of 2.5 kmph and reaches 6 min too late. Next day he increases his speed by 2 kmph and then reaches school 10 min early. What is the distance of the school from his home?

   1) 1.5 km 2) 3 km 3) 6 km 4) 12 km 5) None of these

Model 3: Distance between Meeting Point and Source

9. Two trains start at the same time from A & B and proceed towards B & A at 36 kmph & 42 kmph respectively. When they meet, it is found that one train has moved 48 km more than the other. What is the distance between A and B ?

   1) 624 km 2) 636 km 3) 544 km 4) 460 km 5) None of these

10. The distance between two stations A and B is 300 km. A train leaves station A at the speed of 30 kmph. At the same time another train departs from station B at the speed of 45 kmph. What will be the distance of the point where both the trains meet from the point A?

    1) 100 km 2) 120 km 3) 130 km 4) 200 km 5) None of these

11. A thief spots a policeman 100 m away and takes to his heels. If the police man gives a chase immediately, then how far would the thief have run before he is over taken? The speeds of the theif and policeman are 8 kmph and 10 kmph respectively.

    1) 500 m 2) 200 m 3) 400 m 4) 2 km 5) None of these

Model 4: Average Speed

12. A car covers the first 35 km of its journey in 45 minutes and the remaining 69 km in 75 minutes. What is the average speed of the car for the whole journey?

    1) 42 kmph 2) 50 kmph 3) 52 kmph 4) 60 kmph 5) None of these

13. Train covers a distance of 3735 km in 20 hours 45 minutes. What is the average speed of the train in kmph?

    1) 160 2) 140 3) 190

    4) Cannot decide 5) None of these

14. Prathiba covers a distance of 24 km at the speed of 8 kmph and a distance of 18 km at the speed of 9 kmph. Further, she covers a distance of 12 km at the speed of 3 kmph. What is her average speed in covering the whole distance?

    1) 8 kmph 2) 5.5 kmph 3) 3 kmph 4) 6 kmph 5) None of these

15. Praveen travelled from city A to city B at the speed of 60 kmph and back from city B to city A, via the same route at the speed of 40 kmph. Find his average speed for the round trip?

    1) 48 kmph 2) 50 kmph 3) 36 kmph 4) 40 kmph 5) None of these

16. Arjun travelled from A to B by a bus at the speed of 30 kmph and from B to C by a car at the speed of 70 kmph. What is his average speed for the whole journey from A to C if the distance between A and B is same as that between B and C?

    1) 48 kmph 2) 50 kmph 3) 40 kmph 4) 42 kmph 5) None of these

17. Aniruddh covered a certain distance in 4 hours, where he travelled at the speed of 48 kmph for the first 2 hours and 60 kmph for the next 2 hours. Find his average speed for the total journey?

    1) 52 kmph 2) 55 kmph 3) 53 kmph 4) 54 kmph 5) None of these

18. Ankit covered some part of his journey in 6 hours at the speed of 54 kmph and the remaining part of the journey in another 6 hours at the speed of 60 kmph. Find his average speed for the whole journey

    1) 55 kmph 2) 56 kmph 3) 57 kmph 4) 58 kmph 5) None of these

Model 5: Relation between Speed and Post-crossing Time

19. Two trains start from two stations A and B at the same time and proceed towards each other to reach B and A respectively. After crossing each other, they take 36 and 49 hours respectively to reach their destinations. Find the speed of the second train, if the first train runs at 140 kmph?

    1) 60 kmph 2) 120 kmph 3) 70 kmph 4) 160 kmph 5) None of these

20. A car starts from Hyderabad and moves towards Bangalore and at the same time, another car starts from Bangalore and moves towards Hyderabad. After crossing each other, they take 361 and 400 mins respectively to reach their destinations. What will be the speed of the first car, if the speed of second car is 76 kmph?

    1) 90 kmph 2) 120 kmph 3) 80 kmph 4) 60 kmph 5) None of these

Model 6: Stoppage Time

21. Excluding the stoppages, the speed of a bus is 64 kmph and including the stoppages, the speed of the bus is 48 kmph. For how many minutes does the bus stop per hour?

    1) 12.5 min 2) 15 min 3) 10 min 4) 18 min 5) None of these

22. Without stoppages a train travels a certain distance at an average speed of 80 kmph and with stoppages it covers the same distance with an average speed of 60 kmph. What is the time in minutes per hour for which train stops?

    1) 15 min/hr 2) 10 min/hr 3) 20 min/hr 4) 25 min/hr 5) None of these

Model 7: Relative Speed

23. Two cars starting from the same point and moving in the opposite directions will be 227.5 km apart in 3 hours 15 mins. Had they been travelling in the same direction, they would have been 32.5 km apart in the same time. Find the speed of both the cars?

    1) 45 kmph, 25 kmph 2) 40 kmph, 30 kmph 3) 55 kmph, 15 kmph
    4) 80 kmph, 70 kmph 5) None of these

24. Anita and Veena are running in opposite direction. Speed of Anita and Veena are 8 kmph and 10 kmph respectively. What will be the distance between them after 2.5 hours if both of them start from the same point?

    1) 36 km 2) 5 km 3) 45 km

    4) Cannot be determined 5) None of these

Model 8: Two Trains Crossing Each Other

25. A 270 m long train running at the speed of 120 kmph crosses another train running at the speed of 80 kmph in 9 seconds. What is the length of the other train?

    1) 230 m 2) 240 m 3) 260 m 4) 320 m 5) None of these

26. A train running at the speed of 48 kmph crosses another train coming from the opposite direction in 18 seconds. What is the length of first train?

    1) 200 m 2) 100 m 3) 150 m

    4) Cannot be determined 5) None of these

27. A train running at the speed of 72 kmph crosses another train coming from the opposite direction at the speed of 54 kmph in 10 seconds. What is the length of first train if the length of the second train is 150 m?

    1) 200 m 2) 100 m 3) 150 m

    4) Cannot be determined 5) None of these

28. A 270 m long train running at the speed of 120 kmph passes another train running in same direction at the speed of 80 kmph in 36 seconds. What is the length of the other train?

    1) 130 m 2) 240 m 3) 260 m 4) 320 m 5) None of these

Model 9: Train Crossing a Platform

29. A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the train?

    1) 230 m 2) 240 m 3) 260 m 4) 270 m 5) None of these

30. A train of length 170 m running at 72 kmph cleared a tunnel in 18 sec. What is the length of the tunnel?

    1) 200 m 2)190 m 3) 185 m 4) 206 m 5) None of these

Model 10: Train Crossing a Pole

31. A 180 m long train crosses a man standing on a platform in 20 seconds. What is the speed of train (in kmph)?

    1) 24 2) 18 3) 32.4 4) 28.6 5) None of these

32. A 340 m long train crosses a pole in 20 seconds. What is the speed of train (in m/s)?

    1) 15 2) 9 3) 17 4) 12 5) None of these

33. 400 m long train crosses a flag post in half a minute. What is its speed?

    1) 102 kmph 2) 48 kmph 3) 96 kmph 4) 84 kmph 5) None of these

34. A 240 m long train crosses a man, standing on a platform of length 400 m, in 8 seconds. What is the speed of the train? **[May 24, 2014 @ 56m 36s]**

    1) 60 kmph 2) 108 kmph 3) 288 kmph 4) 90 kmph 5) None of these

35. A train of length 120 m long crosses a pole in 3 sec. How long will it takes to cross a railway platform of length 240 m?

1) 4.5 sec 2) 3.5 sec 3) 5 sec 4) 9 sec 5) None of these

36. A train 100 m long passes a telegraph pole in 4 sec. How long will it takes to cross a railway platform of length 150 m?

1) 4.5 sec 2) 3.5 sec 3) 5 sec 4) 10 sec 5) None of these

37. A train running at 60 kmph crosses a man running parallel to the track in 6 seconds. What is the length of the train?

1) 200 m 2) 110 m 3) 100 m
4) Cannot be determined 5) None of these

Model 11: Boats and Stream

38. A man can swim with the stream at the rate of 3 kmph and against the stream at the rate of 2 kmph. How long will it take him to swim 7.5 km in still water?

1) 3 hours 2) 2.8 hours 3) 2.6 hours 4) 3.2 hours 5) None of these

39. A man can row 9 km in 3 hours against a stream running at 2 kmph. How long would he take in rowing the same distance down the stream?

1) 9/7 hours 2) 7/9 hours 3) 1.5 hours 4) 3 hours 5) None of these

40. A boat goes up a river 20 km and down the river 24 km in 8 hours. It also goes up the river 30 km and down the river 28 km in 11 hours. What is the speed of the boat and the river?

1) 6 kmph, 2 kmph 2) 3 kmph, 1kmph 3) 12 kmph, 4 kmph
4) 2kmph, 6kmph 5) None of these

Answers

1 - 3	2 - 3	3 - 4	4 - 2	5 - 5	6 - 4	7 - 5	8 - 1	9 - 1	10 - 2
11 - 3	12 - 3	13 - 5	14 - 4	15 - 1	16 - 4	17 - 4	18 - 3	19 - 2	20 - 3
21 - 2	22 - 1	23 - 2	24 - 3	25 - 1	26 - 4	27 - 1	28 - 1	29 - 4	30 - 2
31 - 3	32 - 3	33 - 2	34 - 2	35 - 4	36 - 4	37 - 4	38 - 1	39 - 1	40 - 1

Note: The date and time mentioned against some questions refer to the doubts clarification session on Quantitative Aptitude in which the question was solved.

Additional Examples

1. A person travels 285km in 6 h. In the first part of the journey, he travels at 40km/h by bus. In the second part, he travels at 55km/h by train. The distance travelled by train is

   a) 165km b) 615km c) 561km d) 156km

2. A boat running upstream takes 528 min to cover a certain distance, while it takes 240 mins to cover the same distance running downstream. What is the ratio between the speed of the boat and speed of water current, respectively?

   a) 2:1 b) 3:2 c) 8:3 d) Cannot be determined

3. Walking at 5 km/hr a student reaches his school from his house 15 minutes early and walking at 3 km/hr he is late by 9 minutes. What is the distance between his school and his house?

   a) 5 km b) 8 km c) 3 km d) 2 km

4. Two cars are moving with speeds v1, v2 towards a crossing along two roads. If their distances from the crossing be 40 metres and 50 metres at an instant of time then they do not collide if their speeds are such that

   a) $v_1:v_2 \neq 16:25$ b) $v_1:v_2 \neq 4:5$ c) $v_1:v_2 \neq 5:4$ d) $v_1:v_2 = 25:16$

5. A, B, and C walk 1 km in 5 min, 8 min and 10 min, respectively, C starts walking from a point, at a certain time, B starts from the same point 1 min later and A starts from the same point 2 min later than C. Then, A meet B and C at times

   a) 2m, 3m b) $\frac{4}{3}$m, 3m c) 2m, $\frac{5}{3}$ m d) 1m , 2m

6. Buses start forms a bus terminal with a speed of 20 km/hr at intervals of 10 minutes. What is the speed of a man coming from the opposite direction towards the bus terminal if he meets his buses at intervals of 8 minutes?

   a) 3 km/hr b) 4 km/hr c) 5 km/hr d) 7 km/hr

7. A man rides at the rate of 18km/h but stops for 6 min, to change horses at the end of every 7th km. The time that he will take to cover a distance of 90km is

   A) 6 h b) 6 h 12 min c) 6h 18min d) 6 h 24 min

8. A, B and C are situated at the bank of the river which is flowing at a constant rate. B is at an equal distance with A and C. A swimmer Avinash takes 10 hr to swim from A to B and B to A. Also he takes 4hr to swim from A to C. What is the ratio of speed of Avinash in still water and speed of stream?

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

9. Ram travelled 1200 km by air which formed $\frac{2}{5}$ of his trip. He travelled one-third of the trip by car and the rest by train. The distance (in km) travelled by train was

   a) 480 b) 800 c) 1600 d) 1800

10. A man can swim 3 km/hr in still water. If the velocity of the stream is 2 km/hr, the time taken by him to swim to a place 10 km upstream and back is

    a) $9\frac{1}{3}$ b) 10 hr c) 12 hr d) $8\frac{1}{3}$ hr

11. With average speed of 40 km/hr, a train reaches its destination in time. If it goes with an average speed of 35 km/hr it is late by 15 minutes. The total journey is_

    a) 30 km b) 40 km c) 70 km d) 80 km

12. A ship is moving at a speed of 30 km/hr. to know the depth of the ocean beneath it, it sends a radio wave which travels at a speed of 200 m/s. The ship receives the signal after it has moved 500m. The depth of the ocean is_

    a) $\frac{\sqrt{143}}{2}$ km b) 12 km c) $\sqrt{6}$ km d) 8 km

13. A man performs $\frac{2}{15}$ of the total journey by train, $\frac{9}{20}$ by bus and the remaining 10 km on foot. His total journey in km is –

    a) 15.6 b) 24 c) 16.4 d) 12.8

14. By walking at $\frac{3}{4}$ of his usual speed, a man reaches his office 20 minutes later than usual. His usual time is –

    a) 30 min b) 75 min c) 90 min d) 60 min

15. Walking $\frac{6}{7}$th of his usual speed, a man is 12 minutes too late. The usual time taken by him to cover that distance is

    a) 1h b) 1h 12m c) 1h 15m d) 1h 20m

16. If I walk at 5 km/hr, I miss a train by 7 minutes. If, however, I walk at 6 km/hr, I reach the station 5 minutes before the departure of the train. The distance (in km) between my house and the station is

    a) 6 b) 5 c) 4 d) 3

17. A man can row 6 km/hr in still water. If the speed of the current is 2 km/hr, it takes 3 hours more in upstream than in the downstream for the same distance. The distance is

    a) 30 km b) 24 km c) 20 km d) 32 km

18. A student goes to school at the rate of $2\frac{1}{2}$ km/hr and reaches 6 minutes late. If he travels at the speed of 3 km/hr, he is 10 minutes early. The distance (in km) between the school and his house is

    a) 5 b) 4 c) 3 d) 1

19. Walking at $\frac{6}{7}$ th of his usual speed of man is 25 minutes too late. His usual time to cover this distance is

    a) 2h 30m b) 2h 15m c) 2h 25m d) 2h 10m

20. Shri X goes to his office by scooter at a speed of 30 km/hr and reaches 6 minutes earlier. If he goes at a speed of 24 km/hr, he reaches 5 minutes late. The distance to his office is

    a) 20 km b) 21 km c) 22 km d) 24 km

21. A train 300 m long passed a man walking along the line in the same direction at the rate of 3 km/hr in 33 seconds. The speed of the train is

    a) 30 km/hr b) 32 km/hr c) $32\frac{8}{11}$ km/hr d) $35\frac{8}{11}$ km/hr

Answers

1 – a	2 - c	3 - c	4 - b	5 - c	6 - c	7 - b	8 - a	9 - b	10 - c
11 - c	12 - b	13 - b	14 - d	15 - b	16 - a	17 - b	18 - b	19 - a	20 - c
21 - d									