CAT 2025 - Advanced Time, Speed & Distance (30 Questions)

This document contains 30 challenging CAT-level questions on Time, Speed & Distance, curated to match the toughness of high-quality practice sets like those from 2IIM. The problems span all subtopics: meeting point, races, trains, boats & streams, escalators, circular tracks, relative speed, time/speed constant, and ratio-based twists.

Q1. Two cyclists start simultaneously from towns A and B, 80 km apart, towards each other. After meeting, one reaches B in 3 hours and the other reaches A in 5 hours. How long (in hours) did they take to meet?

Q2. A and B start from two points 108 km apart towards each other. After meeting, A takes 9 hours and B takes 16 hours to reach the other's town. Find the time (in hours) before meeting.

Q3. Two friends A and B start simultaneously from P and Q, 60 km apart, towards each other. After meeting, A takes 90 minutes to reach Q while B takes 150 minutes to reach P. How long (in minutes) did they take before meeting?

Q4. In a 400 m race, A beats B by 40 m and B beats C by 50 m. If A runs at 8 m/s, what is C's speed?

Q5. In a 1 km race, A gives B a head start of 200 m and still beats him by 100 m. If A runs at 6 m/s, find the speed of B.

Q6. In a 500 m race, A gives B a 50 m start and still beats him by 25 m. If A runs at 10 m/s, what is B's speed?

Q7. A runs at 8 m/s and B at 6 m/s on a circular track of 300 m. Starting together, after how many seconds will A overtake B for the 4th time?

Q8. In a race of 1 km, A can give B a 200 m start and still beat him by 100 m. If A completes the race in 150 seconds, how long does B take?

Q9. An escalator moves downwards at 5 steps per second. A person walks up at 15 steps per second and takes 24 seconds to reach the top. Another person walks up at 10 steps per second. How long will he take?

Q10. An escalator has 100 steps. If a person walks at 4 steps/sec upwards and the escalator moves at 1 step/sec upwards, he takes 20 seconds. Find the time if the escalator is reversed in direction but at the same speed.

Q11. A boat goes 20 km downstream in 2 hours and returns the same distance upstream in 5 hours. How long will it take to cover 90 km downstream?

Q12. A boat can travel 36 km downstream in 3 hours and the same distance upstream in 6 hours. Find the speed of the boat in still water and the speed of the stream.

Q13. A man rows 12 km downstream in 3 hours and returns in 4 hours. Find the speed of the man in still water and the speed of the stream.

Q14. A train crosses a pole in 18 seconds and a platform double its own length in 54 seconds. Find the length of the platform.

Q15. A 200 m long train running at 54 km/h crosses another train 300 m long running at 36 km/h in opposite direction. Find the time taken to cross.

Q16. A train 240 m long crosses a platform 360 m long in 1 minute. Find the speed of the train in km/h.

Q17. Two trains of lengths 120m and 150m run on parallel tracks in opposite directions at 54 km/h and 72 km/h. In how much time will they cross each other?

Q18. A train running at 72 km/h crosses another train running at 36 km/h in the same direction in 54 seconds. If the first train is 540 m long, find the length of the second train.

Q19. Two men start from the same point. One walks east at 3 km/h and the other north at 4 km/h. After how many hours will they be 25 km apart?

Q20. Two cars are 500 km apart and move towards each other. One moves at 60 km/h, the other at 90 km/h. After how many hours do they meet?

Q21. Two cyclists start at the same point and move in perpendicular directions at 12 km/h and 16 km/h. After how long will they be 100 km apart?

Q22. Two cyclists start together to cover a distance. The first goes 4 km/h faster than the second. If the first reaches the destination 20 minutes earlier, what is the distance?

Q23. A car travels 120 km at one speed and returns at another speed. If the average speed for the whole trip is 40 km/h and one-way speed was 30 km/h, what was the return speed?

Q24. A man drives from P to Q at 40 km/h and from Q to R at 60 km/h. If the total time taken is 5 hours and PQ is twice QR, find PQ.

Q25. A car covers a certain distance at 60 km/h and returns at 90 km/h. Find the average speed of the car for the whole journey.

Q26. A person covers half a distance at 40 km/h and the remaining half at 60 km/h. Find the average speed.

Q27. Two men start from the same point, one at 5 km/h and another at 10 km/h, in the same direction. How long before they are 50 km apart?

Q28. A man rows 18 km downstream in 2 hours and returns upstream in 6 hours. Find the speed of the stream.

Q29. A runner covers 2 km at 6 km/h, next 4 km at 12 km/h, and final 6 km at 18 km/h. Find the average speed of the runner.

Q30. A car runs at 40 km/h for the first half of the distance and at 60 km/h for the second half. Find the average speed of the car for the whole journey.