

IEM KOLKATA
SPEED, DISTANCE & TIME

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Q1) A boy increases his speed to $\frac{9}{5}$ times of his original speed. By this, he reaches his school 30 minutes before the usual time. How much time does he usually take?

(a) 60 mins (b) 67 mins (c) 1 hr 7 min 5 secs (d) 1 hr 7 min 30 secs

Q2) P, Q and R are in a cycle race of 4500 metres. P cycles twice as fast as Q. R cycles $\frac{1}{3}$ rd as fast as Q. R completes the race in 45 minutes. Then where was Q from the finishing line when P finished the race?

(a) 1350m (b) 1125m (c) 1250m (d) 2250m

Q3) In a 500m race, ratio of speed of A & B is 3:4. If A has a start of 140m, then by how many metres does A win?

(a) 15 (b) 20 (c) 30 (d) 25

Q4) A train covers a certain distance in 45 mins. If its speed is reduced by 5km/hr, it takes 3 minutes more to cover the same distance. The distance (in km) is:

(a) 64 (b) 60 (c) 54 (d) 80

Q5) Pratik travels 96kms at a speed of 16km/hr using a bike, 124 kms at 31 km/hr by car and another 105 kms at 7km/hr in horse cart. Then, find his average speed for the entire distance travelled?

(a) 13km/hr (b) 17km/hr (c) 19km/hr (d) None

Q6) Rohit covers one-fourth of the total distance at 20 km/hr, one-fourth at 10 km/hr and rest of his journey at 80 km/hr. Find Rohit's average speed for the whole distance?

Q7) Anita travelled a distance for 11 minutes at the speed of 35km/hr in a auto. She travelled for 11 mins in a taxi at 55 km/hr & finally she travelled for 11 mins by bus at 42 km/hr to reach home. Find her average speed for the whole journey.

(a) 52 km/hr (b) 64 km/hr (c) 34 km/hr (d) 44 km/hr

Q8) Ramesh sees a thief at a distance of 80m. Ramesh starts chasing the thief who is running at a speed of 5m/s. Ramesh is chasing him with a speed of 7m/s. How much distance does the thief cover before Ramesh catches him?

(a) 120m (b) 100m (c) 240m (d) 200m

Q9) A thief is observed by a policeman from a distance of 420m. The thief starts running & the policeman chases him. The policeman and the thief run at a speed of 25 km/hr & 20 km/hr respectively. What is the distance between them after 3 minutes?

- (a) 250m (b) 320m (c) 170m (d) 230m

Q10) Ajay and Vijay travel from A to B at 17 km/hr and 19 km/hr, respectively. A is 72 km away from B. Vijay reaches B first and returns immediately and meets Ajay at C. Find the distance between B & C?

- (a) 2km (b) 3km (c) 4km (d) 6km

Q11) Surendra travels from home to office by car. With an average speed of 50 km/hr, he is late by 30 minutes. But when he comes with a speed of 60km/hr, he reaches his office 10 minutes earlier. How far is his office from his home?

- (a) 200km (b) 350km (c) 400km (d) None

Q12) Rohit drives from his home at a speed of 30km/hr and reaches his bank 20 minutes late. Then the next day he increases his speed by 15 km/hr but still he is late by 8 minutes. How far is his bank from his home?

- (a) 13km (b) 16 km (c) 18km (d) None

Q13) A travels from Jammu to Delhi and at the same time B starts from Delhi to Jammu. After passing each other, they complete their journeys in 361 hours and 289 hours, respectively. Find the ratio of speed of A to that of B?

- (a) 4:5 (b) 11:12 (c) 17:19 (d) 25:26

Q14) A car travelling with $\frac{5}{7}$ th of its actual speed covers 42 km in 1 hr 40 mins 48 seconds. Find the actual speed of the car.

- (a) 35 km/hr (b) 30 km/hr (c) 25 km/hr (d) None

Q15) A person can complete a journey in 28 hrs. He covers the first $\frac{1}{3}$ rd part of the journey at the rate of 81 km/hr & the remaining distance at the rate of 27 km/hr. What is the total distance of his journey?

- (a) 979 (b) 982 (c) 972 (d) 981