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Class 9 Physics Chapter 2 Kinematics MCQ Quiz Online | Level 3

Class 9 Physics · Chapter 2: Kinematics

Name: _____ Date: _____ Score: _____ / 28

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1. A delivery rider travels 6 km towards the east and then 8 km towards the north. The whole journey takes him 40 minutes. What is the total distance covered by the rider?

A) 10 km
B) 14 km
C) 2 km
D) 48 km

2. A delivery rider travels 6 km towards the east and then 8 km towards the north. The whole journey takes him 40 minutes. What is the magnitude of the rider's displacement?

A) 14 km
B) 2 km
C) 10 km
D) 48 km

3. A delivery rider travels 6 km towards the east and then 8 km towards the north. The whole journey takes him 40 minutes. What is the rider's average speed in km/h?

A) 21 km/h
B) 15 km/h
C) 35 km/h
D) 10 km/h

4. A delivery rider travels 6 km towards the east and then 8 km towards the north. The whole journey takes him 40 minutes. The magnitude of his average velocity is less than his average speed because:

A) the time taken is different for both
B) velocity is a scalar quantity
C) the rider stopped midway
D) the displacement is shorter than the distance travelled

5. A fast bowler delivers a cricket ball at a speed of 144 km/h. The batsman stands 20 m away from the bowler. A radar gun used by the commentators displays the speed of the ball at the moment it leaves the bowler's hand. What is the speed of the ball in m/s?

A) 4 m/s
B) 400 m/s
C) 40 m/s
D) 518.4 m/s

6. A fast bowler delivers a cricket ball at a speed of 144 km/h. The batsman stands 20 m away from the bowler. A radar gun used by the commentators displays the speed of the ball at the moment it leaves the bowler's hand. How much time does the ball take to reach the batsman?

A) 0.2 s
B) 0.5 s
C) 2 s
D) 800 s

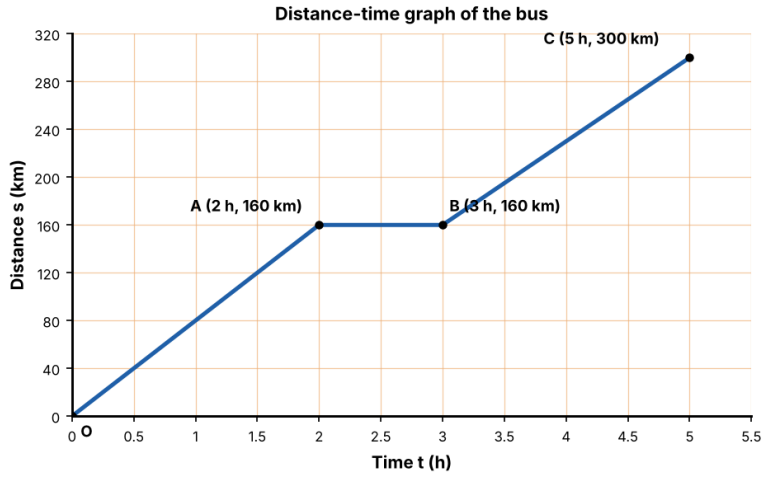
7. A fast bowler delivers a cricket ball at a speed of 144 km/h. The batsman stands 20 m away from the bowler. A radar gun used by the commentators displays the speed of the ball at the moment it leaves the bowler's hand. If the same ball is bowled at half the speed, the time taken to reach the batsman will:

A) be halved
B) stay the same
C) become zero
D) double

8. A fast bowler delivers a cricket ball at a speed of 144 km/h. The batsman stands 20 m away from the bowler. A radar gun used by the commentators displays the speed of the ball at the moment it leaves the bowler's hand. The reading shown by the radar gun is the ball's:

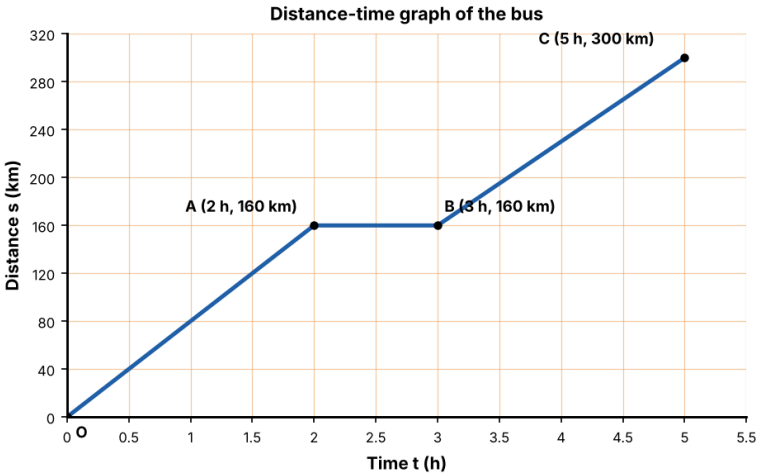
A) instantaneous speed
B) average speed
C) displacement
D) average velocity

9. A bus travels on the motorway. Its distance-time graph shows three parts. In the first 2 hours it covers 160 km. It then stops at a rest area for 1 hour. In the next 2 hours it covers another 140 km. What is the speed of the bus in the first part of the journey?



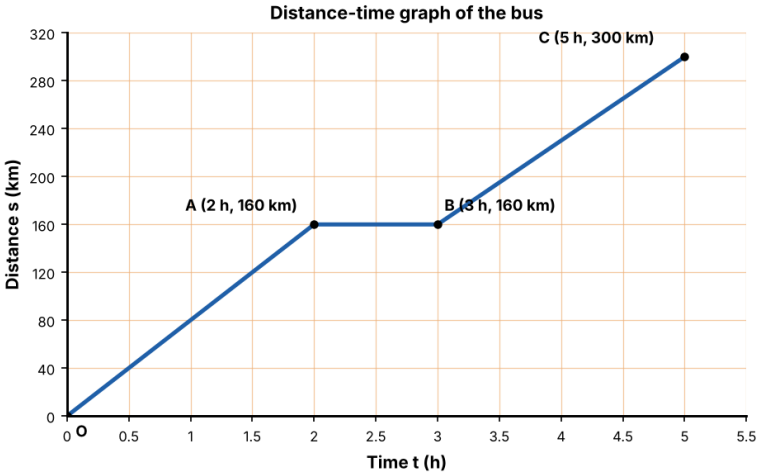
A) 40 km/h
B) 80 km/h
C) 160 km/h
D) 320 km/h

10. A bus travels on the motorway. Its distance-time graph shows three parts. In the first 2 hours it covers 160 km. It then stops at a rest area for 1 hour. In the next 2 hours it covers another 140 km. During the stop at the rest area, the graph is:



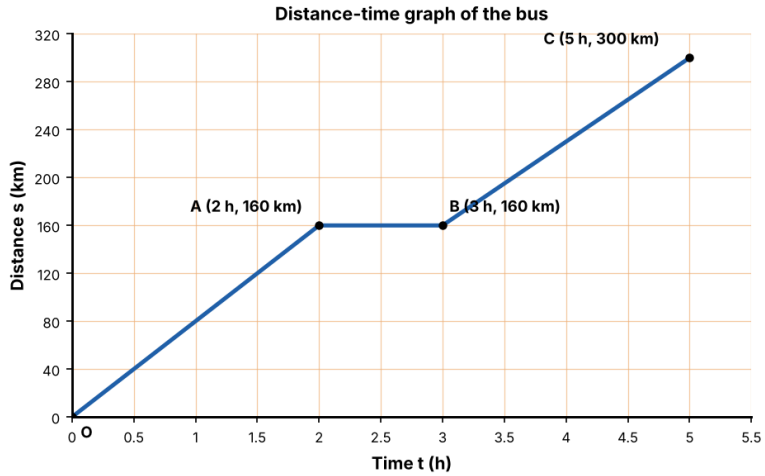
A) a straight line sloping upward
B) a curve bending upward
C) a curve bending downward
D) a horizontal line

11. A bus travels on the motorway. Its distance-time graph shows three parts. In the first 2 hours it covers 160 km. It then stops at a rest area for 1 hour. In the next 2 hours it covers another 140 km. What is the speed of the bus in the last part of the journey?



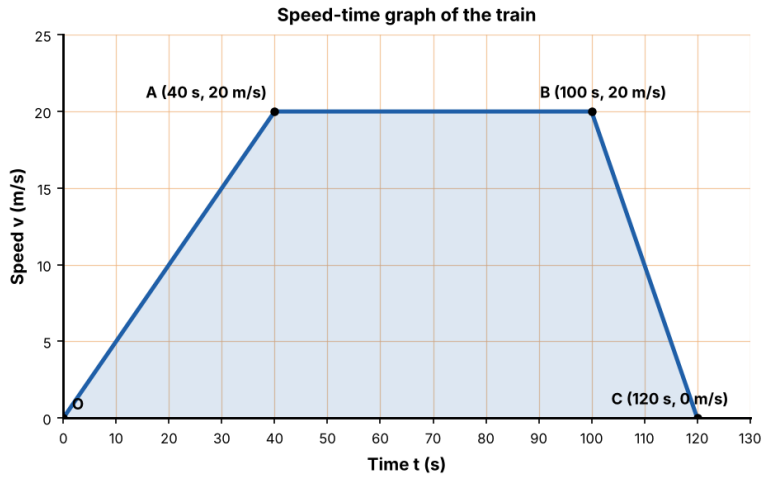
A) 70 km/h
B) 140 km/h
C) 280 km/h
D) 35 km/h

12. A bus travels on the motorway. Its distance-time graph shows three parts. In the first 2 hours it covers 160 km. It then stops at a rest area for 1 hour. In the next 2 hours it covers another 140 km. What is the average speed of the bus for the whole journey?



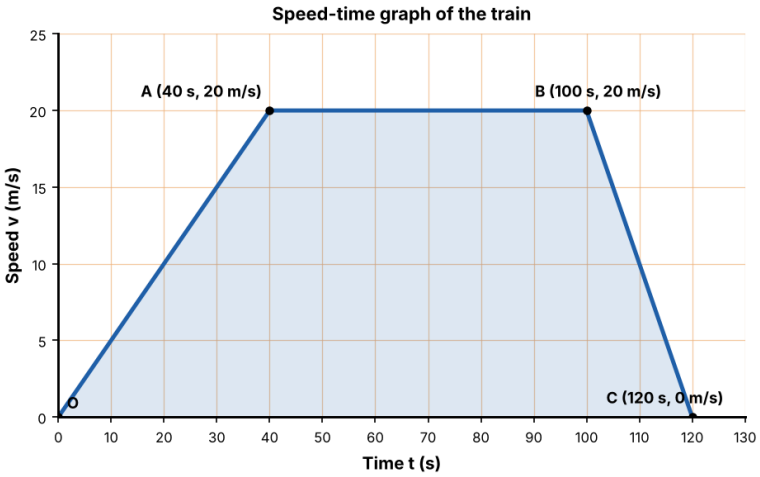
A) 75 km/h
B) 150 km/h
C) 60 km/h
D) 100 km/h

13. A train starts from rest and increases its speed uniformly to 20 m/s in 40 s. It then moves at this constant speed for the next 60 s. Finally, the brakes are applied and the train stops uniformly in 20 s. The journey is represented on a speed-time graph. What is the acceleration of the train in the first 40 s?



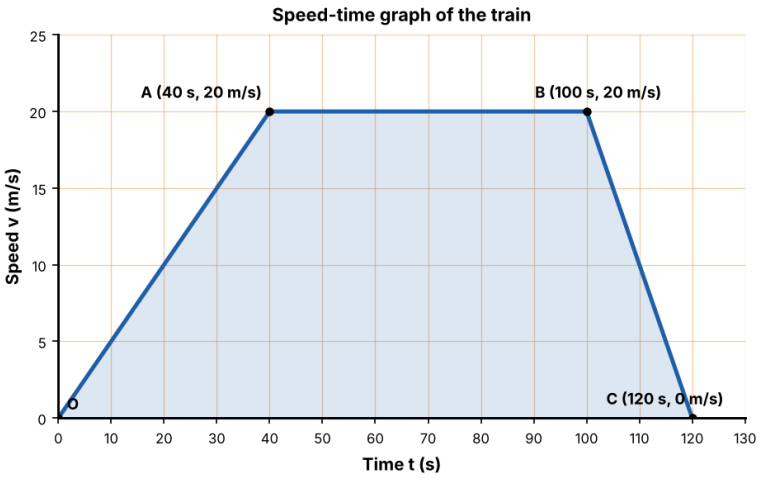
A) 0.5 m/s²
B) 2 m/s²
C) 800 m/s²
D) 20 m/s²

14. A train starts from rest and increases its speed uniformly to 20 m/s in 40 s. It then moves at this constant speed for the next 60 s. Finally, the brakes are applied and the train stops uniformly in 20 s. The journey is represented on a speed-time graph. What is the acceleration of the train in the last 20 s?



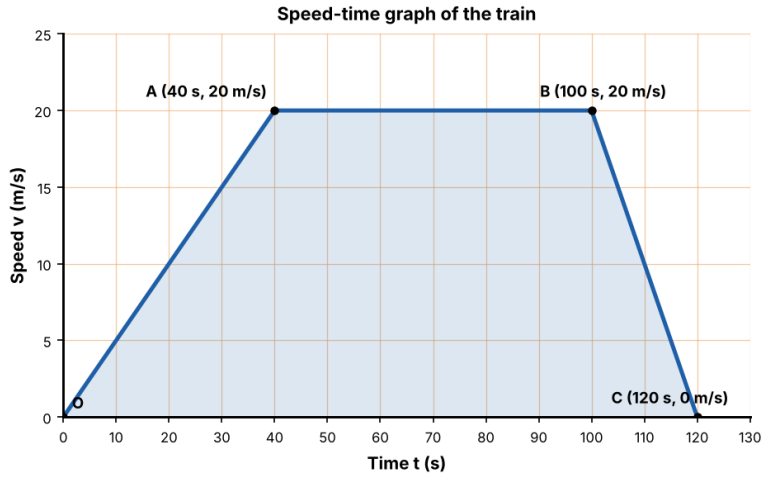
A) +1 m/s²
B) 0 m/s²
C) -1 m/s²
D) -0.5 m/s²

15. A train starts from rest and increases its speed uniformly to 20 m/s in 40 s. It then moves at this constant speed for the next 60 s. Finally, the brakes are applied and the train stops uniformly in 20 s. The journey is represented on a speed-time graph. What is the total distance covered by the train, found from the area under the graph?



A) 400 m
B) 1200 m
C) 1600 m
D) 1800 m

16. A train starts from rest and increases its speed uniformly to 20 m/s in 40 s. It then moves at this constant speed for the next 60 s. Finally, the brakes are applied and the train stops uniformly in 20 s. The journey is represented on a speed-time graph. The middle part of the graph (60 s at 20 m/s) is:

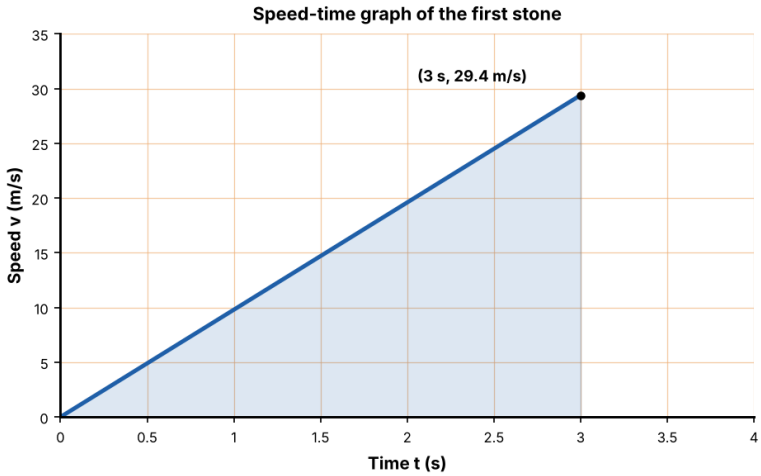


A) a line sloping upward
B) a horizontal line
C) a line sloping downward
D) a curve

17. A student stands on a bridge and drops a stone. The stone strikes the water after 3 s. Then he throws another stone vertically upward. Ignore air resistance and take g = 9.8 m/s². What is the speed of the first stone when it hits the water?

A) 9.8 m/s
B) 3 m/s
C) 29.4 m/s
D) 88.2 m/s

18. A student stands on a bridge and drops a stone. The stone strikes the water after 3 s. Then he throws another stone vertically upward. Ignore air resistance and take g = 9.8 m/s². Using the area under its speed-time graph, what is the height of the bridge?



A) 29.4 m
B) 44.1 m
C) 88.2 m
D) 14.7 m

19. A student stands on a bridge and drops a stone. The stone strikes the water after 3 s. Then he throws another stone vertically upward. Ignore air resistance and take g = 9.8 m/s². If a stone of double the mass is dropped from the same bridge, the time to reach the water will be:

A) 3 s
B) 6 s
C) 1.5 s
D) zero

20. A student stands on a bridge and drops a stone. The stone strikes the water after 3 s. Then he throws another stone vertically upward. Ignore air resistance and take g = 9.8 m/s². At the top of its path, the stone thrown upward has zero velocity and an acceleration of:

A) zero
B) 9.8 m/s² upward
C) 19.6 m/s² downward
D) 9.8 m/s² downward

21. A car moves around a circular track of circumference 400 m. It keeps a constant speed of 10 m/s and completes exactly one lap, returning to the starting point. What type of motion does the car have?

A) rectilinear motion
B) vibratory motion
C) random motion
D) circular motion

22. A car moves around a circular track of circumference 400 m. It keeps a constant speed of 10 m/s and completes exactly one lap, returning to the starting point. How much time does the car take to complete one lap?

A) 40 s
B) 4000 s
C) 0.025 s
D) 410 s

23. A car moves around a circular track of circumference 400 m. It keeps a constant speed of 10 m/s and completes exactly one lap, returning to the starting point. What is the average velocity of the car over one complete lap?

A) 10 m/s
B) zero
C) 40 m/s
D) 400 m/s

24. A car moves around a circular track of circumference 400 m. It keeps a constant speed of 10 m/s and completes exactly one lap, returning to the starting point. The velocity of the car is variable even though its speed is constant because:

A) its mass changes
B) its distance is zero
C) its direction keeps changing
D) its speed is zero

25. A car and a motorcycle start from rest at the same time. The car reaches 27 km/h in 5 s. The motorcycle reaches 72 km/h in 10 s. Later the motorcycle brakes from 20 m/s and comes to rest in 4 s. What is the acceleration of the car?

A) 5.4 m/s^2
B) 1.5 m/s^2
C) 7.5 m/s^2
D) 27 m/s^2

26. A car and a motorcycle start from rest at the same time. The car reaches 27 km/h in 5 s. The motorcycle reaches 72 km/h in 10 s. Later the motorcycle brakes from 20 m/s and comes to rest in 4 s. What is the acceleration of the motorcycle?

A) 7.2 m/s^2
B) 20 m/s^2
C) 0.5 m/s^2
D) 2 m/s^2

27. A car and a motorcycle start from rest at the same time. The car reaches 27 km/h in 5 s. The motorcycle reaches 72 km/h in 10 s. Later the motorcycle brakes from 20 m/s and comes to rest in 4 s. Which vehicle has the greater acceleration?

A) the car, because it takes less time
B) both are equal
C) the motorcycle, because it gains more speed every second
D) they cannot be compared because the units are different

28. A car and a motorcycle start from rest at the same time. The car reaches 27 km/h in 5 s. The motorcycle reaches 72 km/h in 10 s. Later the motorcycle brakes from 20 m/s and comes to rest in 4 s. What is the acceleration of the motorcycle while braking?

A) -5 m/s²
B) +5 m/s²
C) -80 m/s²
D) -0.2 m/s²

Answer key

1-B 2-C 3-A 4-D 5-C 6-B 7-D 8-A 9-B 10-D

11-A 12-C 13-A 14-C 15-D 16-B 17-C 18-B 19-A 20-D

21-D 22-A 23-B 24-C 25-B 26-D 27-C 28-A