

MOTION

1.

A car travels 100 km. The highest speed of the car is 90 km/h, and the lowest speed is 30 km/h. The journey takes two hours.

What is the average speed for the journey?

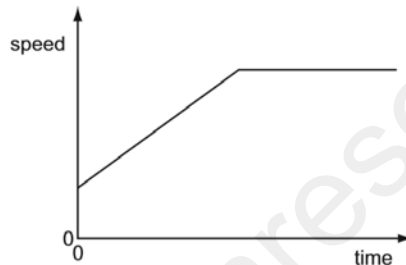
- A 30 km/h B 50 km/h C 60 km/h D 90 km/h

Ans

B

2.

The data from an aeroplane flight recorder is used to plot the speed / time graph for part of the flight.



Which statement describes this part of the flight?

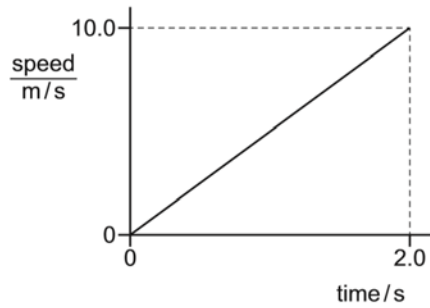
- A The aeroplane accelerates from rest to a constant speed.
B The aeroplane decelerates after flying at a constant speed.
C The aeroplane reaches a constant speed after a period of changing speed.
D The aeroplane travels at an increasing speed followed by a decreasing speed.

Ans

C

3.

The diagram is a speed-time graph for a moving object.



What is the acceleration of the object and what distance does it travel in 2.0 s?

	<u>acceleration</u> m/s ²	distance travelled/m
A	5.0	10
B	5.0	20
C	20	10
D	20	20

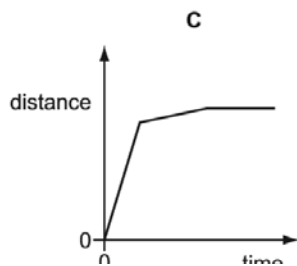
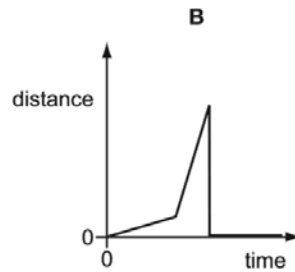
Ans

A

4.

A boy walks along a track. He starts running, and finally stops for a rest.

Which distance / time graph represents his journey?

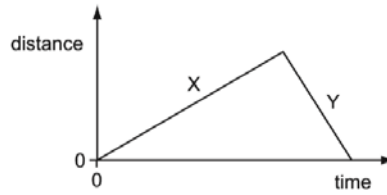


Ans

A

5.

The distance/time graph shows the motion of a car.



Which row describes the speed of the car in section X and the speed of the car in section Y of the graph?

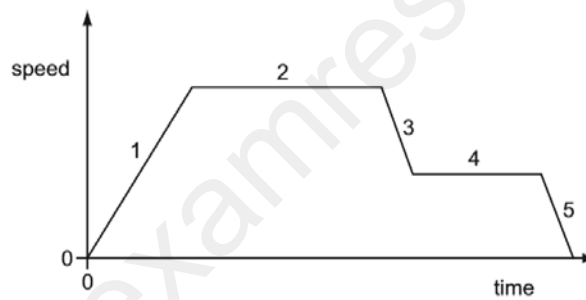
	speed in section X	speed in section Y
A	constant	constant
B	constant	decreasing
C	increasing	constant
D	increasing	decreasing

Ans

A

6.

The speed/time graph for a car journey is shown.



During which two parts of the journey is the car moving at constant speed?

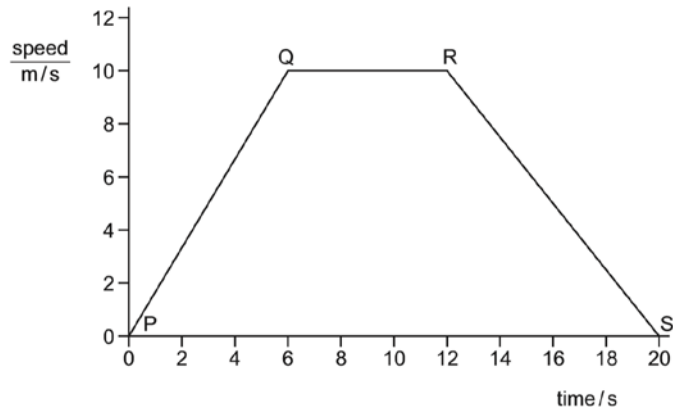
- A** 1 and 3 **B** 1 and 5 **C** 2 and 4 **D** 3 and 5

Ans

C

7.

The graph shows how the speed of a car changes with time.



Between which points on the graph is the acceleration zero?

- A** PQ only **B** QR only **C** RS only **D** PQ and RS

Ans

B

8.

A car takes 30 minutes to travel a distance of 60 km.

What is the average speed of the car?

- A** 2.0 km/hour
B 30 km/hour
C 120 km/hour
D 1800 km/hour

Ans

C

9.

A student travels a distance of 6.0 km at a steady speed. She completes her journey in a time of 5.0 minutes.

What is her speed?

- A** 1.2 m/s **B** 20 m/s **C** 30 m/s **D** 50 m/s

Ans

B

10.

An athlete runs 10 000 metres in 30 minutes.

What is her average speed?

- A 3 km/hour
- B 5 km/hour
- C 10 km/hour
- D 20 km/hour

Ans

D

11.

An object travels 6.0 km in 2 minutes.

What is its speed?

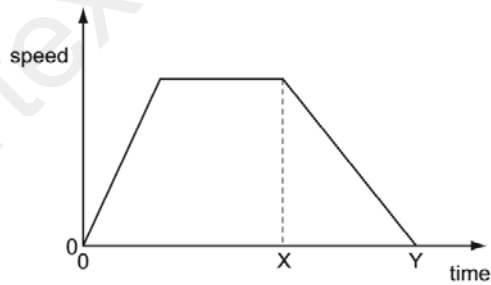
- A 0.050 m/s B 3.0 m/s C 50 m/s D 3000 m/s

Ans

C

12.

The graph shows how the speed of an object changes over an interval of time.



Which statement describes the acceleration of the object between time X and time Y?

- A It is constant.
- B It is decreasing.
- C It is increasing.
- D It is zero.

Ans

A