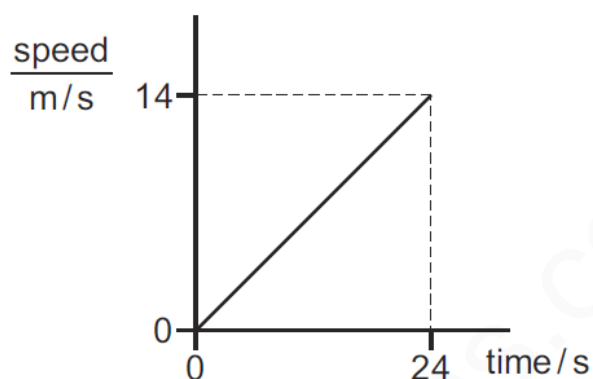


SPEED-TIME-SET-2-MS

1

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

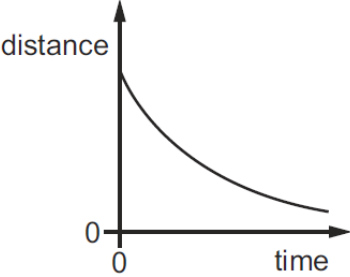
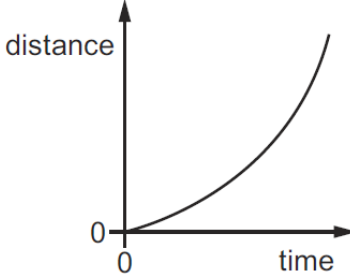
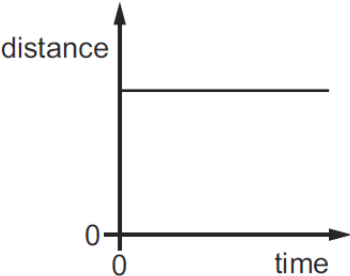
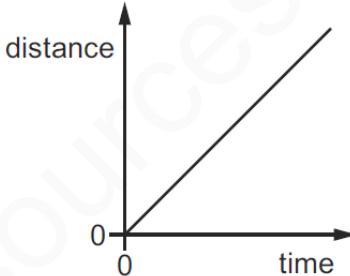


Which calculation gives the distance travelled by the car in 24 seconds?

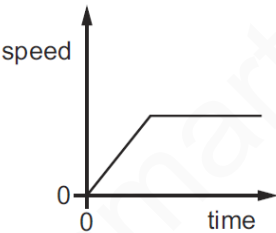
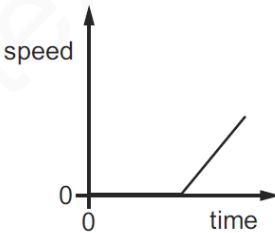
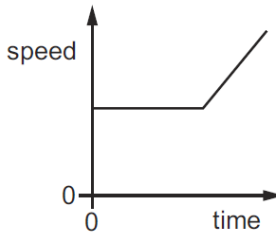
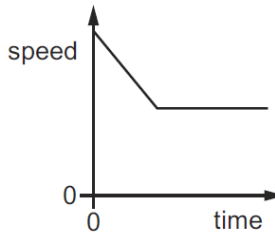
- A** $\left(\frac{14}{24}\right)\text{m}$
- B** $\left(\frac{24}{14}\right)\text{m}$
- C** $\left(\frac{24 \times 14}{2}\right)\text{m}$
- D** $(24 \times 14)\text{m}$

MS-1

C

2	<p>Which distance/time graph represents the motion of an object moving at constant speed?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A</p>  </div> <div style="text-align: center;"> <p>B</p>  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>C</p>  </div> <div style="text-align: center;"> <p>D</p>  </div> </div>
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MS-2	D
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3	<p>A car moves with constant speed and then constant acceleration.</p> <p>Which graph is the speed-time graph for the car?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A</p>  </div> <div style="text-align: center;"> <p>B</p>  </div> <div style="text-align: center;"> <p>C</p>  </div> <div style="text-align: center;"> <p>D</p>  </div> </div>
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MS-3	C
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4

What does the area under a speed-time graph represent?

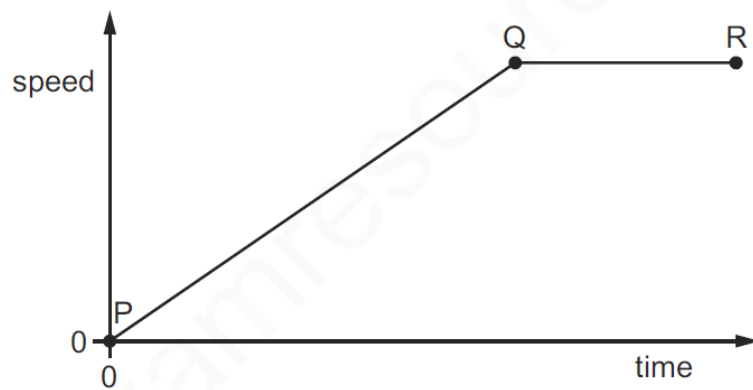
- A** acceleration
- B** average speed
- C** deceleration
- D** distance travelled

MS-4

D

5

The speed-time graph shows the motion of a car.



Which row describes the motion?

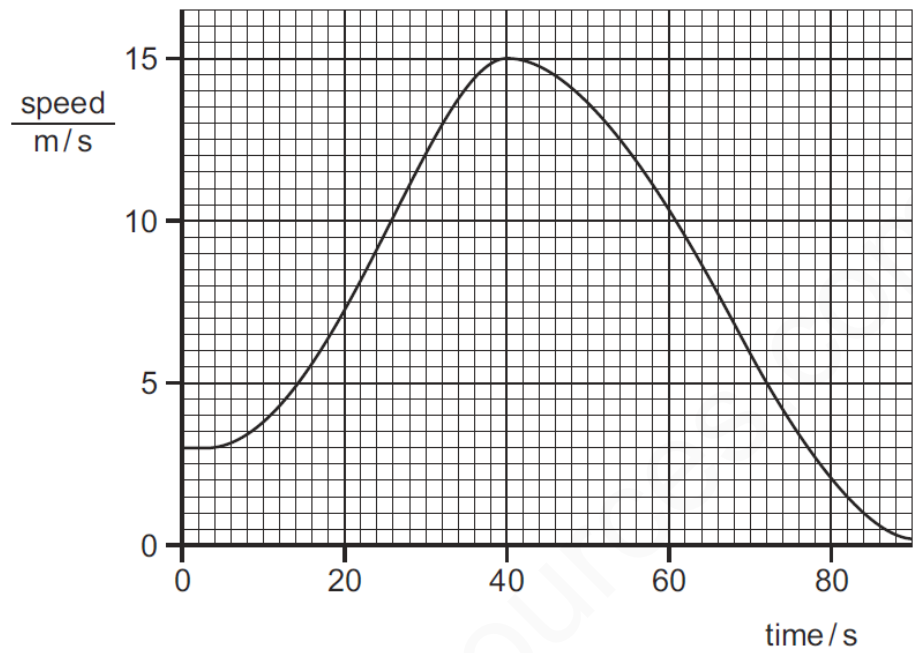
	between P and Q	between Q and R
A	accelerating	moving at constant speed
B	accelerating	not moving
C	moving at constant speed	decelerating
D	moving at constant speed	not moving

MS-5

A

6

The speed-time graph shown is for a car moving in a straight line.



What is the acceleration of the car when the time is 40 s?

- A** 0 m/s^2 **B** $\frac{15-3}{40} \text{ m/s}^2$ **C** $\frac{15}{40} \text{ m/s}^2$ **D** $(15-3) \text{ m/s}^2$

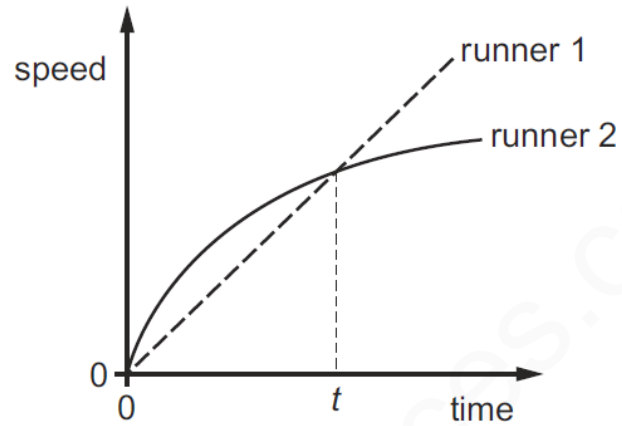
MS-6

A

7

Two runners take part in a race.

The graph shows how the speed of each runner changes with time.



What does the graph show about the runners at time t ?

- A** Both runners are moving at the same speed.
- B** Runner 1 has zero acceleration.
- C** Runner 1 is overtaking runner 2.
- D** Runner 2 is slowing down.

MS-7

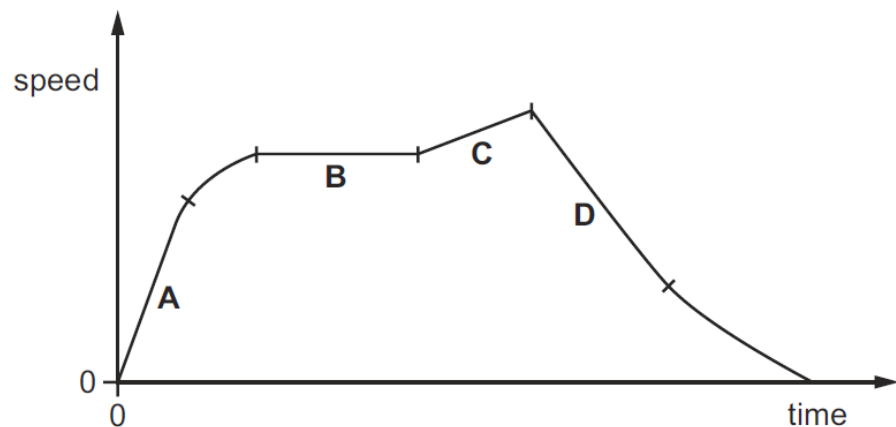
A

8

A car travels along a straight road.

The speed-time graph for this journey is shown.

During which labelled part of the journey is the resultant force on the car zero?



MS-8

B

9	<p>A large stone is dropped from a bridge into a river. Air resistance can be ignored.</p> <p>Which row describes the acceleration and the speed of the stone as it falls?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>acceleration of the stone</th> <th>speed of the stone</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>constant</td> <td>constant</td> </tr> <tr> <td>B</td> <td>constant</td> <td>increasing</td> </tr> <tr> <td>C</td> <td>increasing</td> <td>constant</td> </tr> <tr> <td>D</td> <td>increasing</td> <td>increasing</td> </tr> </tbody> </table>			acceleration of the stone	speed of the stone	A	constant	constant	B	constant	increasing	C	increasing	constant	D	increasing	increasing
	acceleration of the stone	speed of the stone															
A	constant	constant															
B	constant	increasing															
C	increasing	constant															
D	increasing	increasing															

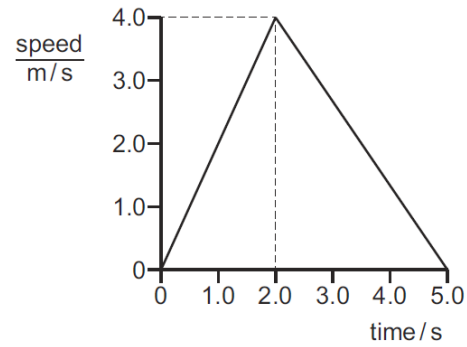
MS-9 B

10	<p>An object moves at a constant speed for some time, then begins to accelerate.</p> <p>Which distance-time graph shows this motion?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>A</p> </div> <div style="text-align: center;"> <p>B</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>C</p> </div> <div style="text-align: center;"> <p>D</p> </div> </div>	
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MS-10 C

11

The diagram shows the speed-time graph for a toy car travelling in a straight line.



What is the acceleration of the car during the first two seconds and what is the total distance that it travels?

	<u>acceleration</u> m/s^2	total distance / m
A	0.50	10
B	0.50	20
C	2.0	10
D	2.0	20

MS-11

C