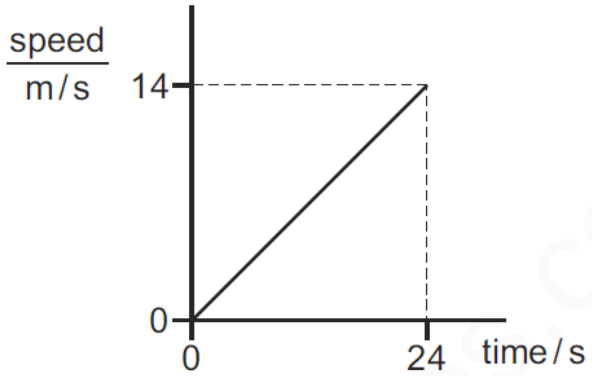
SPEED-TIME-SET-2-QP

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?

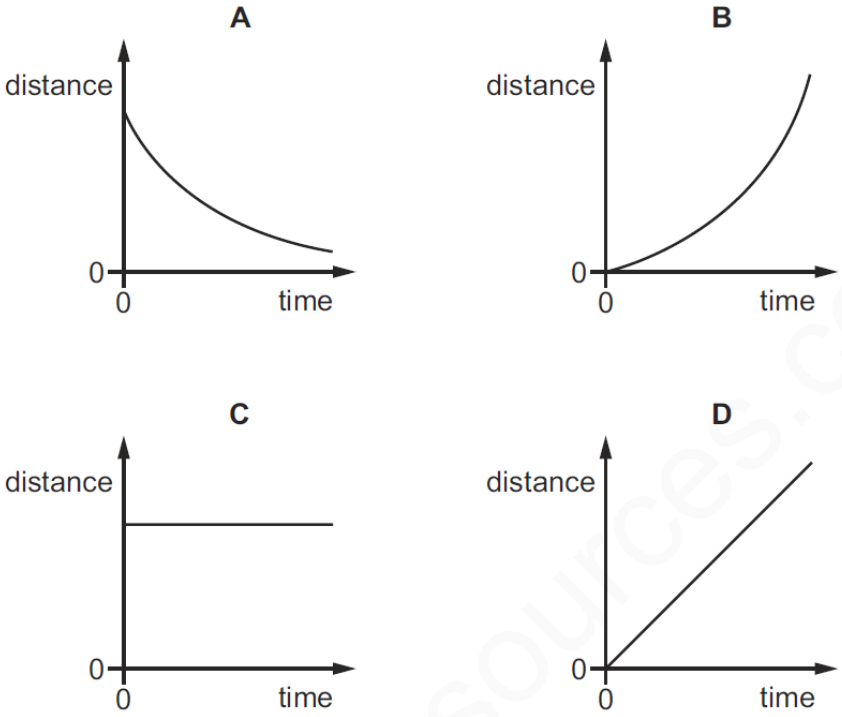
A $\left(\frac{14}{24}\right)$m

B $\left(\frac{24}{14}\right)$m

C $\left(\frac{24 \times 14}{2}\right)$m

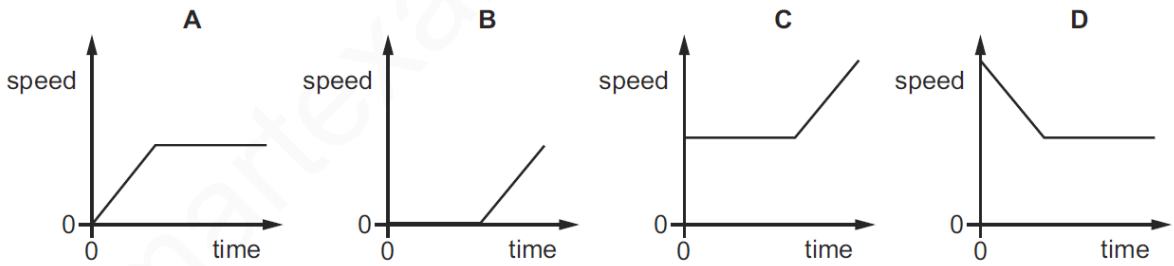
D (24×14)m

2 Which distance / time graph represents the motion of an object moving at constant speed?



3 A car moves with constant speed and then constant acceleration.

Which graph is the speed-time graph for the car?



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

A acceleration

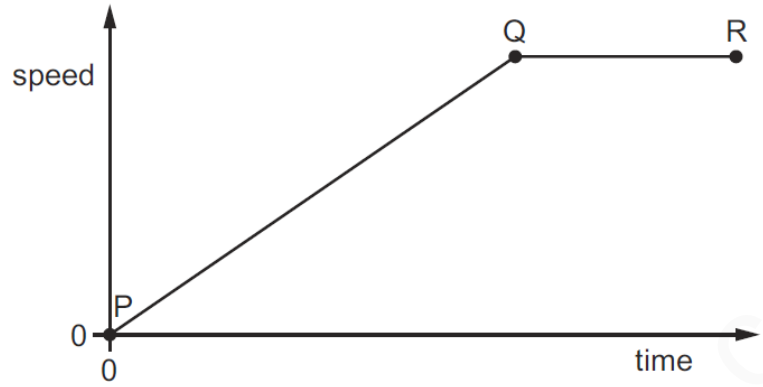
B average speed

C deceleration

D distance travelled

5

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

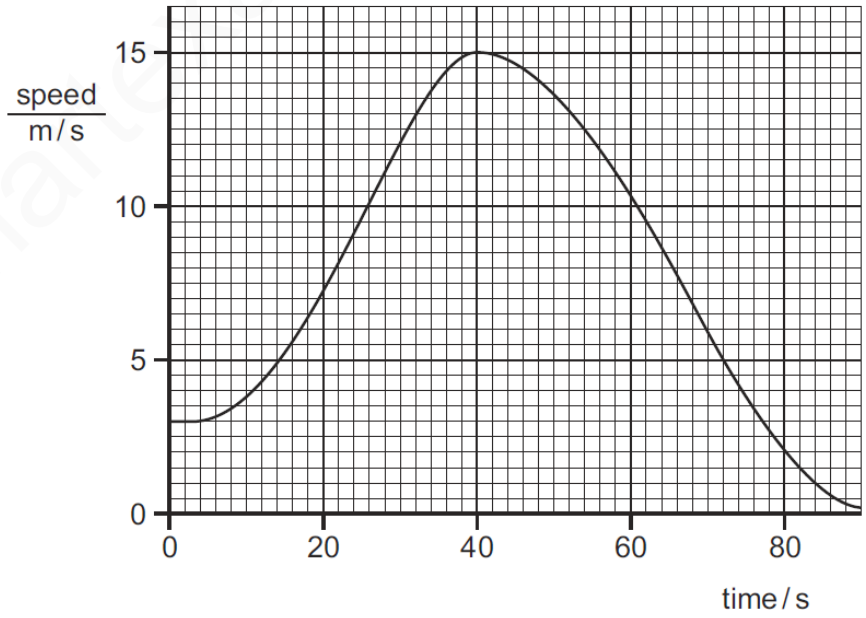


Which row describes the motion?

	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

6

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



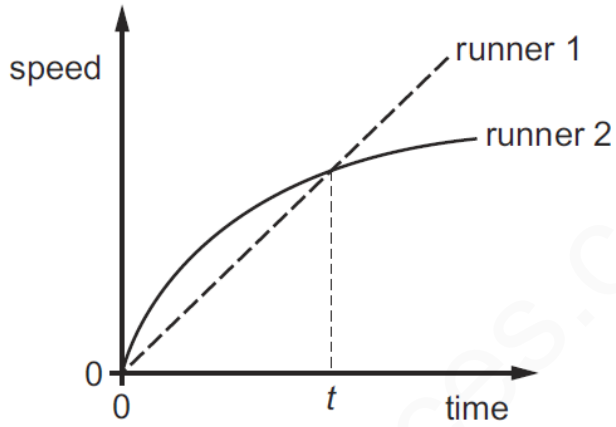
What is the acceleration of the car when the time is 40 s?

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

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.

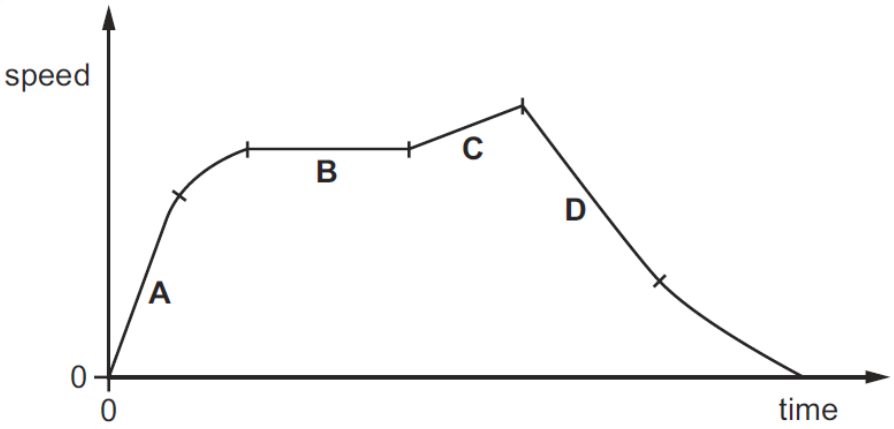
D Runner 2 is slowing down.

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?



9

A large stone is dropped from a bridge into a river. Air resistance can be ignored.

Which row describes the acceleration and the speed of the stone as it falls?

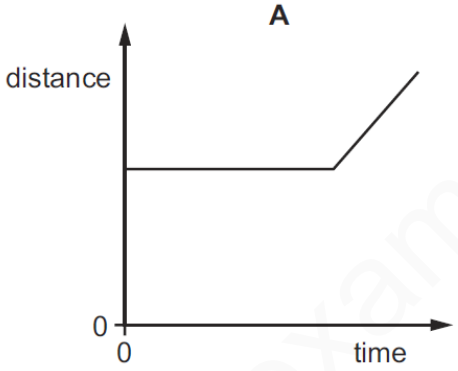
	acceleration of the stone	speed of the stone
A	constant	constant
B	constant	increasing
C	increasing	constant
D	increasing	increasing

10

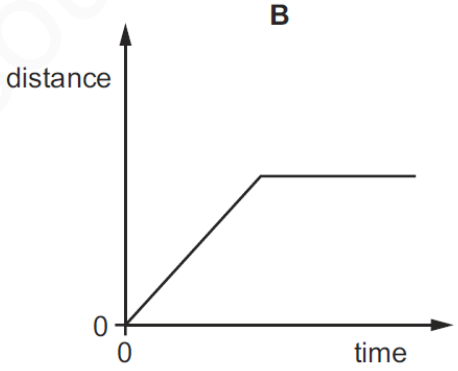
An object moves at a constant speed for some time, then begins to accelerate.

Which distance-time graph shows this motion?

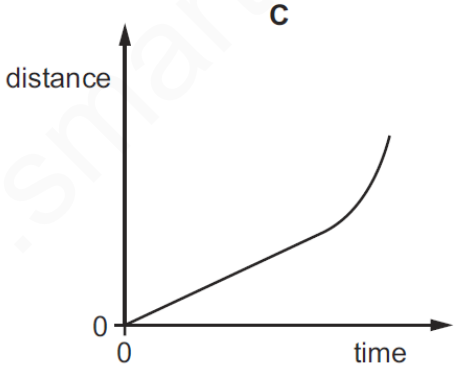
A



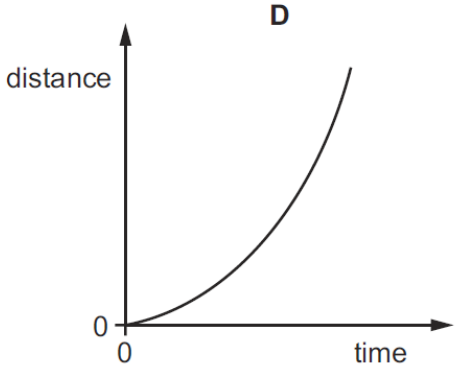
B



C

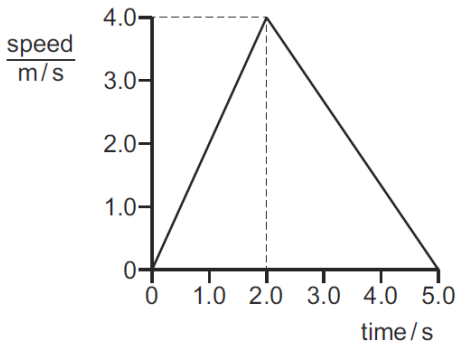


D



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?

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