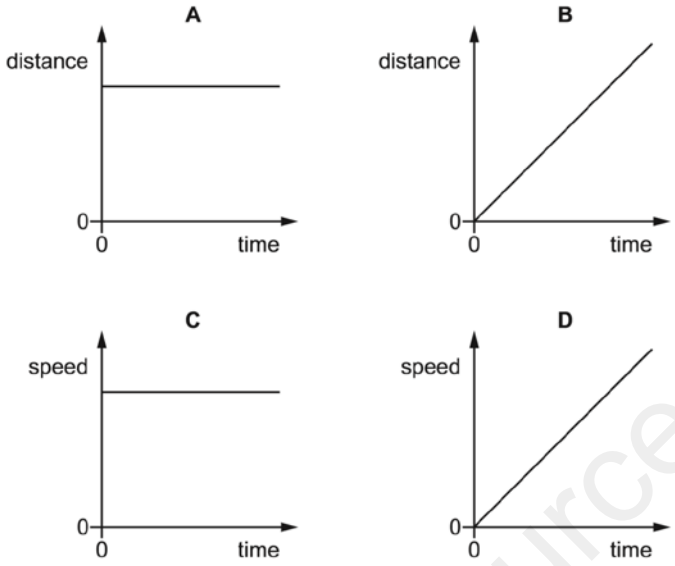
13. The diagrams show two distance-time graphs and two speed-time graphs.

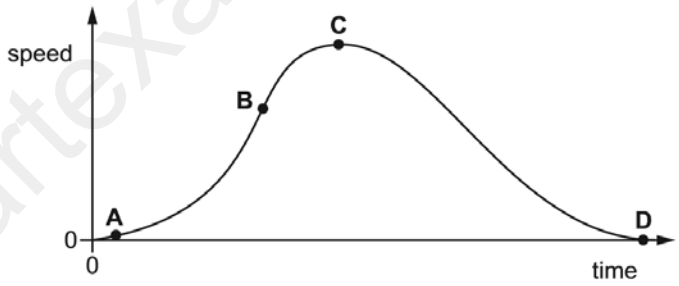
Which graph represents the motion of an object that is moving with constant acceleration?



Ans

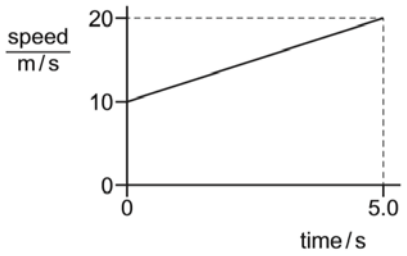
14. The speed-time graph shown is for a bus travelling between stops.

Where on the graph is the acceleration of the bus greatest?



Ans

15. The diagram shows the speed-time graph for a car.

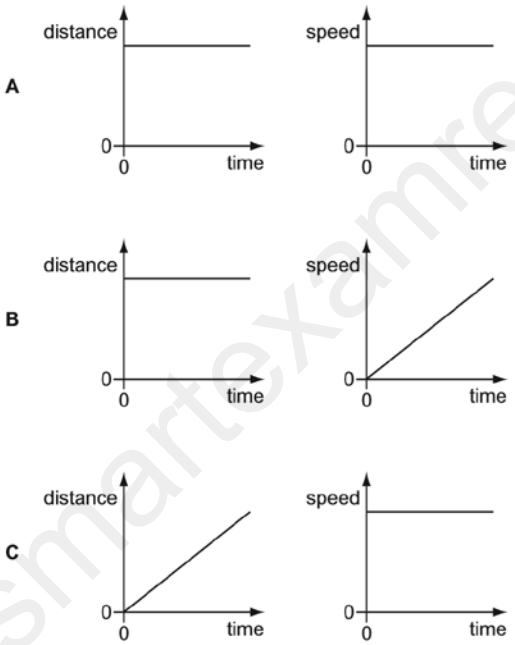


What is the acceleration of the car?

A $2.0\,m/s^2$ **B** $4.0\,m/s^2$ **C** $50\,m/s^2$ **D** $75\,m/s^2$

Ans

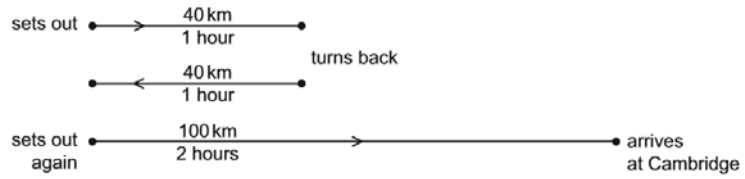
16. Which pair of distance / time and speed / time graphs represents an object which is moving with constant speed?



Ans

17.

A car driver sets out from home to travel to Cambridge. After one hour he is 40 km from home. He discovers that he must return home to collect his briefcase. This journey also takes him one hour. He sets off again immediately. He reaches Cambridge, 100 km from home, 2 hours later.



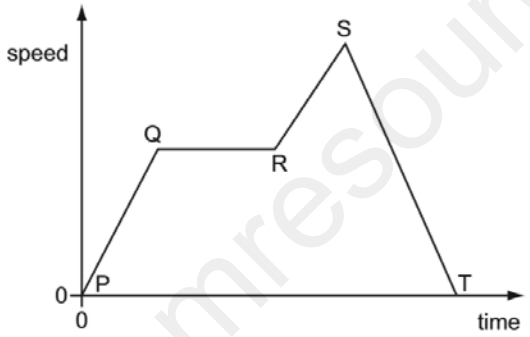
What is the average speed for the whole of his journey from leaving home the first time?

A 25 km/h **B** 45 km/h **C** 50 km/h **D** 90 km/h

Ans

18.

The diagram is a speed/time graph for a car travelling along a city street.



Where on the graph is the car moving with changing speed?

A PQ, QR, RS and ST

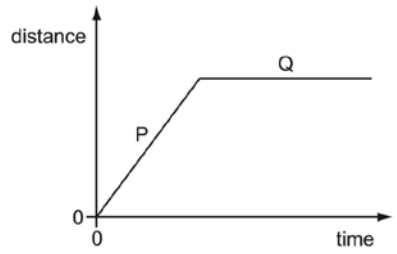
B PQ, RS and ST only

C PQ and RS only

D QR only

Ans

19. The graph is the distance / time graph for a bicycle journey.

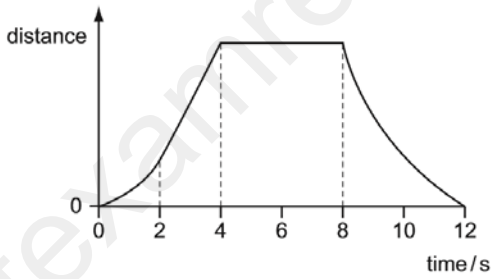


Which row describes the behaviour of the bicycle in part P and the behaviour of the bicycle in part Q of the graph?

	part P	part Q
A	moving at constant speed	moving at constant speed
B	moving at constant speed	not moving
C	moving at increasing speed	moving at constant speed
D	moving at increasing speed	not moving

Ans

20. The graph shows how the distance of an object changes with time.



Between which two times is the object moving with a non-zero constant speed?

A between 0 s and 2 s

B between 2 s and 4 s

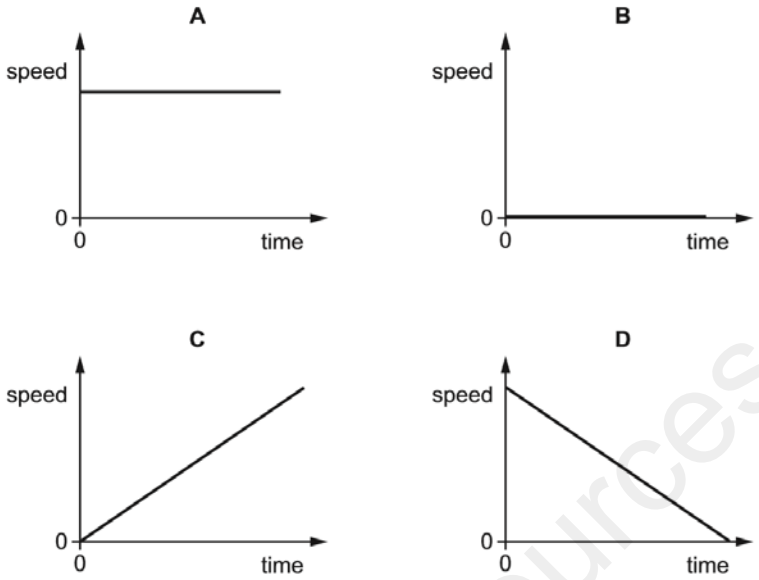
C between 4 s and 8 s

D between 8 s and 12 s

Ans

21. A car is moving downhill along a road at a constant speed.

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



Ans

22. In a race, a car travels 60 times around a 3.6 km track. This takes 2.4 hours.

What is the average speed of the car?

A 1.5 km / h **B** 90 km / h **C** 144 km / h **D** 216 km / h

Ans

23. A tunnel is 50 km long. A train takes 20 min to travel between the two ends of the tunnel.

What is the average speed of the train in the tunnel?

A 2.5 km / hour

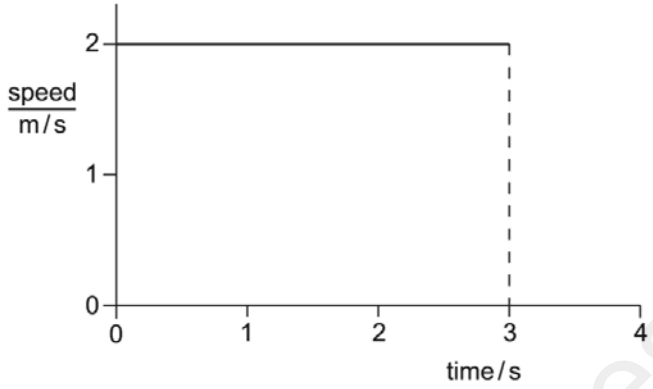
B 16.6 km / hour

C 150 km / hour

D 1000 km / hour

Ans:

24. The diagram shows the speed-time graph for an object moving at constant speed.



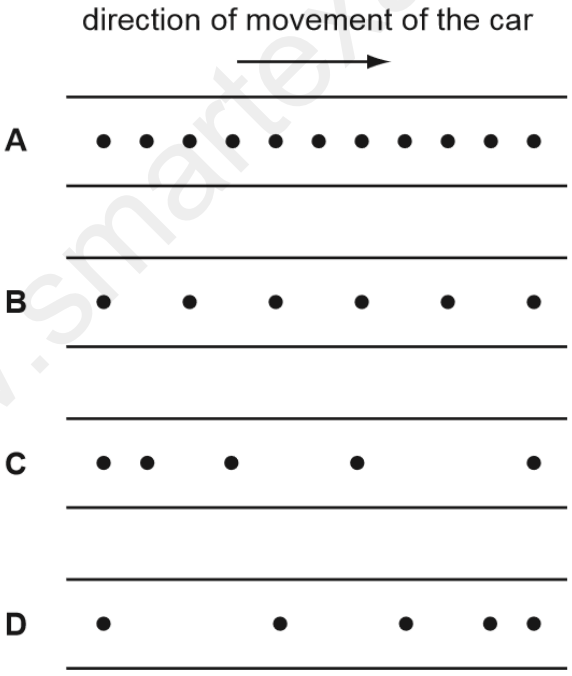
What is the distance travelled by the object in the first 3 s?

A 1.5 m **B** 2.0 m **C** 3.0 m **D** 6.0 m

Ans:

25. A moving car drips oil on to a road at a steady rate.

Which diagram shows that the speed of the car is increasing?



Ans: