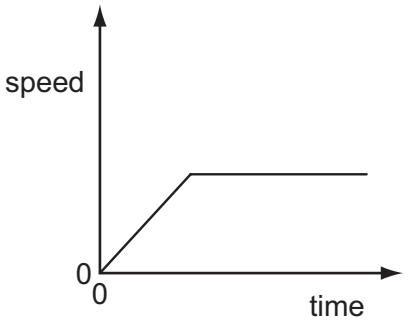
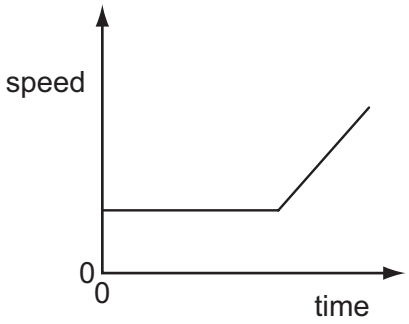
1. An object moves initially with constant speed and then with constant acceleration.

Which graph shows this motion?

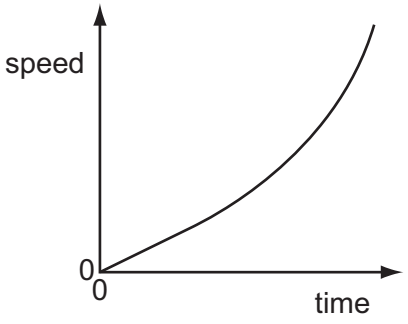
A



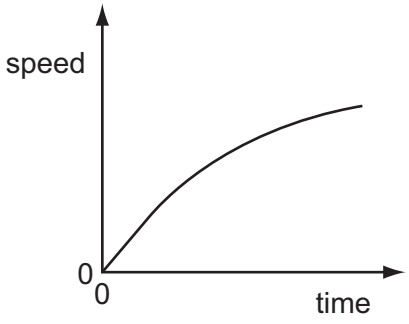
B



C



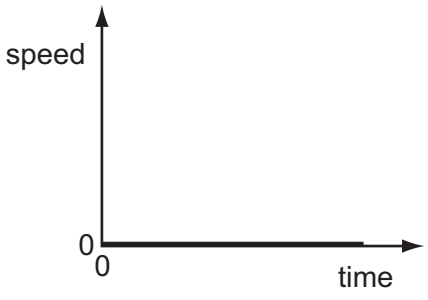
D



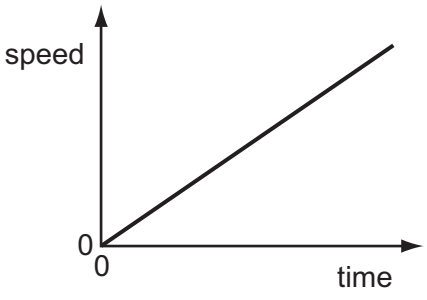
2. A car is moving downhill along a road at a constant speed.

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

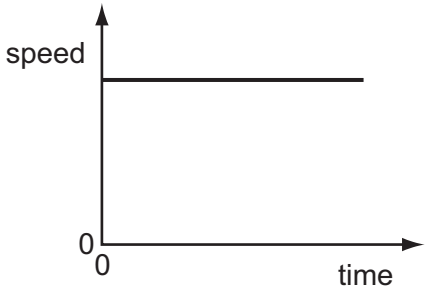
A



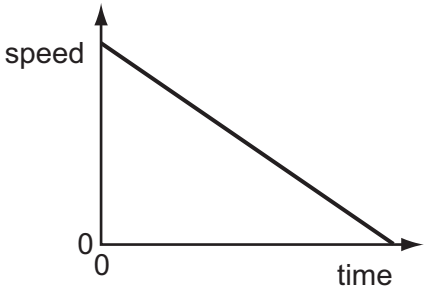
B



C



D



3. 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

4. Which person is experiencing an acceleration?

A a driver of a car that is braking to stop at traffic lights

B a passenger in a train that is stationary in a railway station

C a shopper in a large store ascending an escalator (moving stairs) at a uniform rate

D a skydiver falling at constant speed towards the Earth

5. A car travels at various speeds during a short journey.

The table shows the distances travelled and the times taken during each of four stages P, Q, R and S.

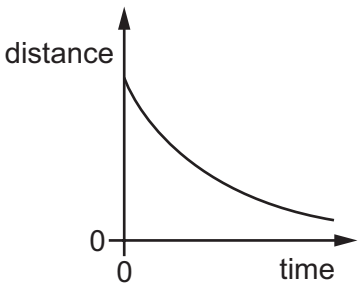
stage	P	Q	R	S
distance travelled / km	1.8	3.6	2.7	2.7
time taken / minutes	2	2	4	3

During which two stages is the car travelling at the same average speed?

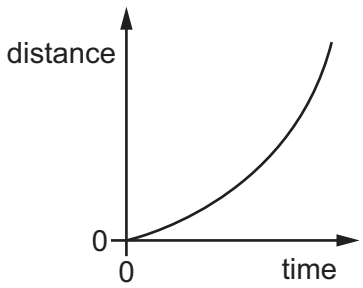
A P and Q **B** P and S **C** Q and R **D** R and S

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

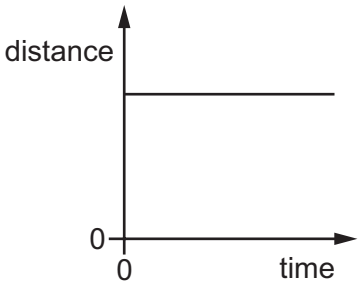
A



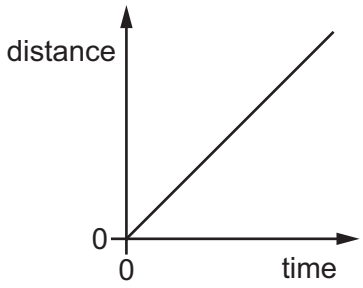
B



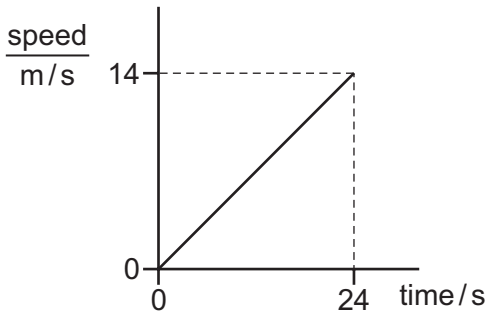
C



D



7. 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

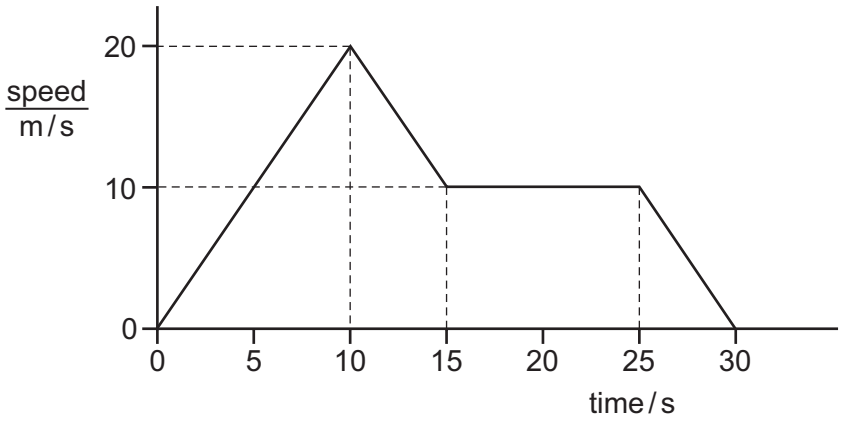
D (24×14)m

8. A car takes 15 minutes to travel along a road that is 20 km long.

What is the average speed of the car?

A 0.75 km/h **B** 5.0 km/h **C** 80 km/h **D** 300 km/h

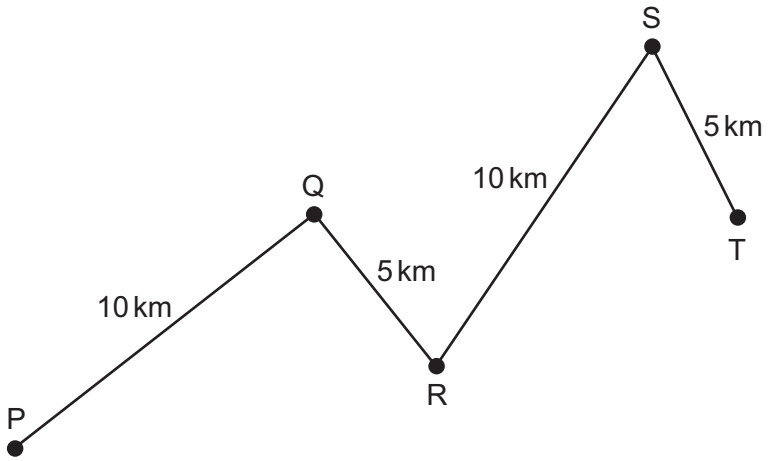
9. The graph represents the motion of a car.



What is the distance travelled by the car while it is moving at a constant speed?

A 100 m **B** 150 m **C** 250 m **D** 300 m

10. A car travels along the route PQRST in 30 minutes.

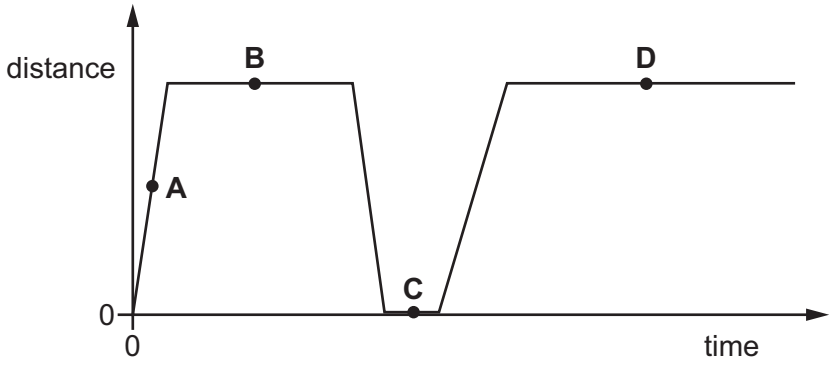


What is the average speed of the car?

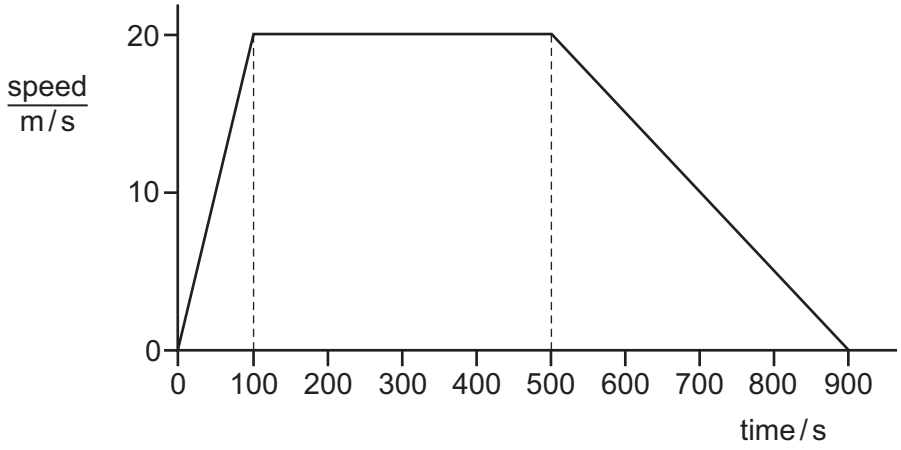
A 10 km / hour **B** 20 km / hour **C** 30 km / hour **D** 60 km / hour

11. The diagram shows the distance-time graph for a car.

At which labelled point is the car moving with constant speed?



12. The graph represents the motion of a train travelling between two stations.



Which statement about the train is correct?

A Its acceleration takes a longer time than its deceleration.

B It travels at constant speed for less than half of its journey time.

C It travels 2000 m in the first 100 s.

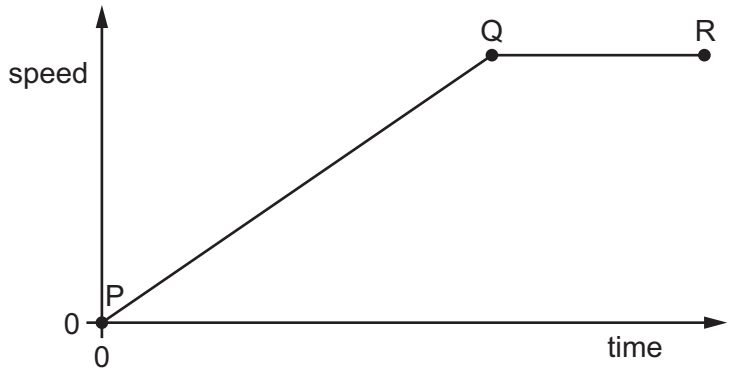
D It travels 10 000 m at constant speed.

13. A car travels 100 km. The journey takes two hours. The highest speed of the car is 80 km / h, and the lowest speed is 40 km / h.

What is the average speed for the journey?

A 40 km / h **B** 50 km / h **C** 60 km / h **D** 120 km / h

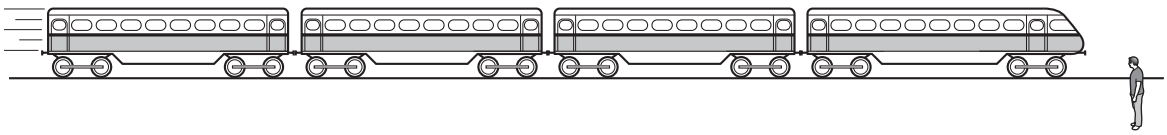
14. The speed-time graph shows the motion of a car.



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

15. A man stands by a railway track.

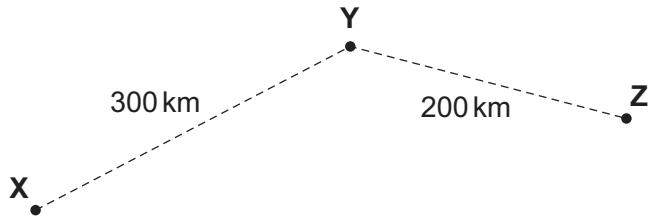


A train travelling at 40 m / s takes 2.0 s to pass the man.

What is the length of the train?

A 20 m **B** 38 m **C** 40 m **D** 80 m

16. An aeroplane flies from town **X** to town **Z**, stopping for 1 hour at town **Y** to pick up more passengers. The distances between the towns are shown in the diagram.

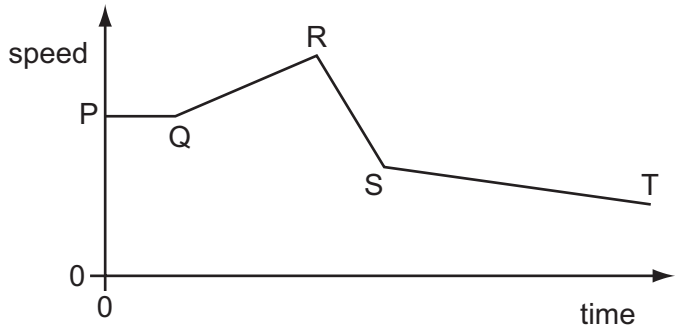


The total time taken between leaving **X** and arriving at **Z** is 3 hours.

What is the average speed of the aeroplane **in the air**?

A $\frac{500}{4}$ km/h **B** $\frac{500}{3}$ km/h **C** $\frac{500}{2}$ km/h **D** $\frac{500}{1}$ km/h

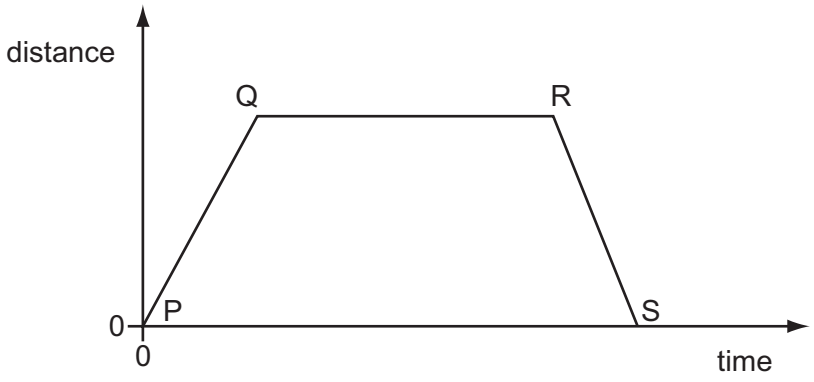
17. The diagram shows the speed/time graph for a train as it travels along a track.



For which part of the graph is the train's speed changing at the greatest rate?

A PQ **B** QR **C** RS **D** ST

18. The graph shows how the distance travelled by a vehicle changes with time.

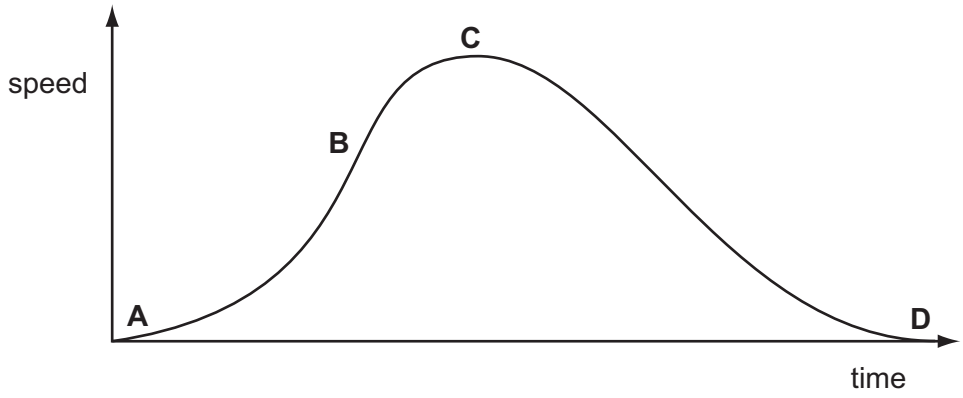


Which row describes the speed of the vehicle in each section of the graph?

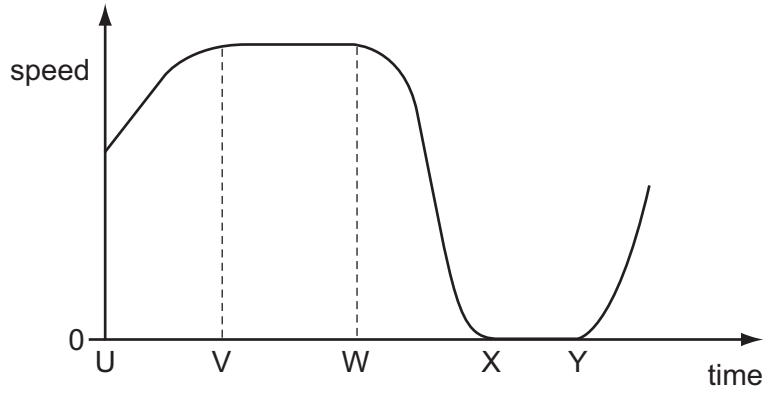
	P to Q	Q to R	R to S
A	constant	zero	constant
B	constant	zero	decreasing
C	increasing	constant	decreasing
D	increasing	zero	decreasing

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

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



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



Between which two times is the car stationary?

A U and V **B** V and W **C** W and X **D** X and Y