O Level Combined Physics MCQs

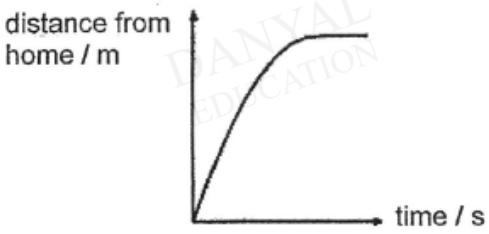
Kinematics Test 1.0

Q1

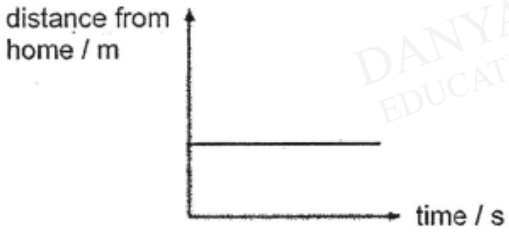
Benny is riding his bicycle from home to school. As he is almost late, he is riding with increasing speed.

Which graph correctly shows how his distance from home varies with time?

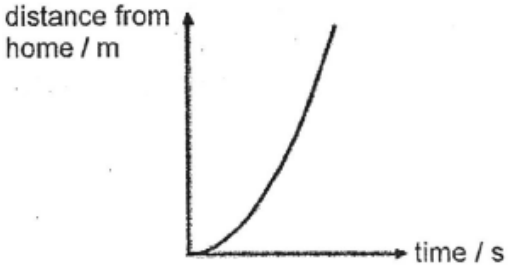
A



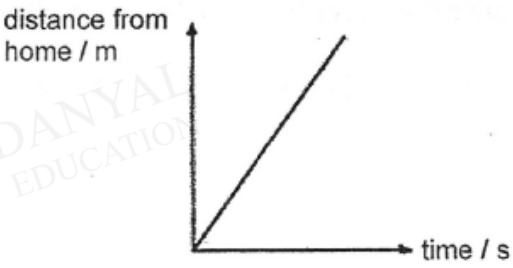
B



C

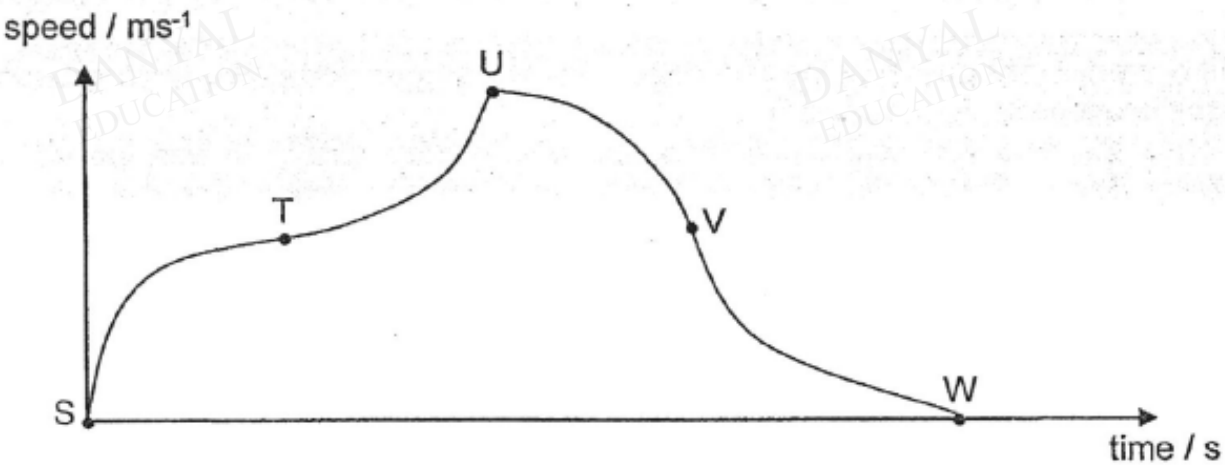


D



Q2

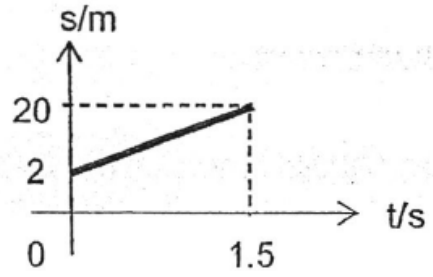
The figure shows the speed-time of an object. In which region is the object undergoing increasing deceleration?



(A) ST
(B) TU
(C) UV
(D) VW

Q3

Refer to the following displacement-time graph of a car.



Which of the following is true?

A The car is moving at a constant speed of 13.3 m/s.
B The car is moving at a constant speed of 12 m/s.
C The car is moving at a constant acceleration of 13.3 m/s.
D The car is accelerating non-uniformly.

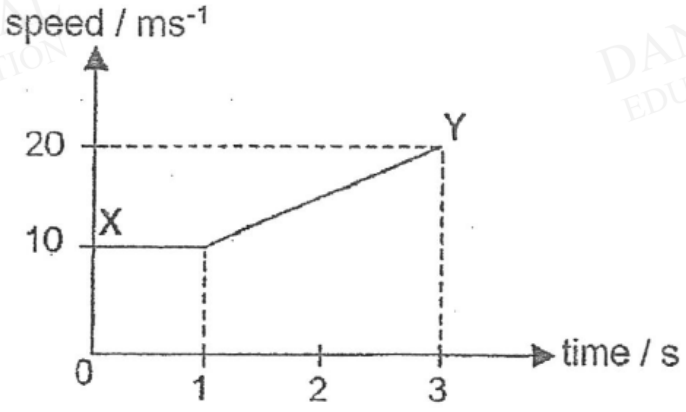
Q4

A boy throws a stone upwards into the air. Which of the following is true of the stone at the highest point?

A The acceleration of the stone is zero.
B The acceleration of the stone is approximately 10 m/s^2.
C The speed of the stone is approximately 10 m/s^2.
D The speed of the stone is equal to the speed at which it is thrown up.

Q5

The figure shows a speed-time graph.



The average speed between X and Y is _____.

A 6.7 ms^{-1} B 13.3 ms^{-1} C 15 ms^{-1} D 20 ms^{-1}

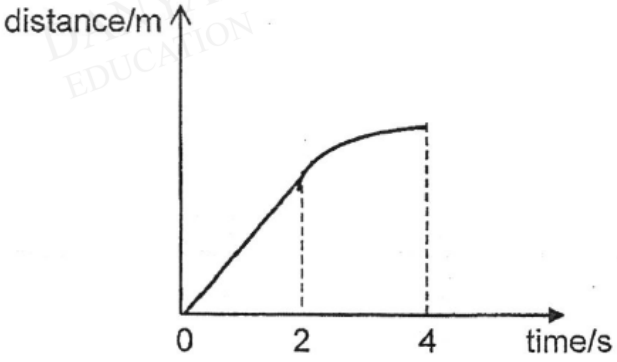
Q6

A vehicle decelerates uniformly from a speed of 20 m/s to rest within a duration of 3.0 s. What is the distance covered during the deceleration?

A 6.7 m **B** 20 m **C** 30 m **D** 60 m

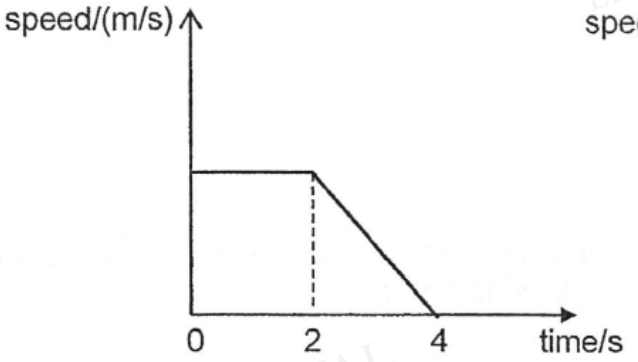
Q7

The distance-time graph of an object is shown below.

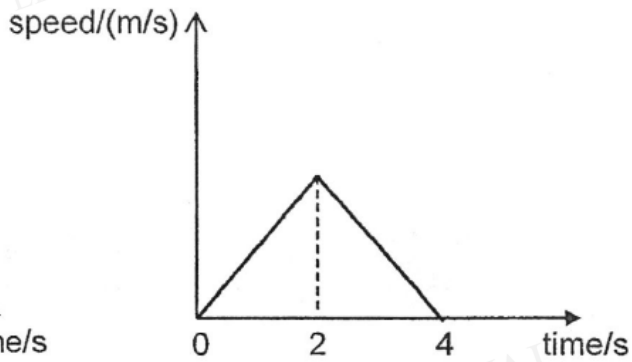


Which of the following correctly shows the speed-time graph of the object?

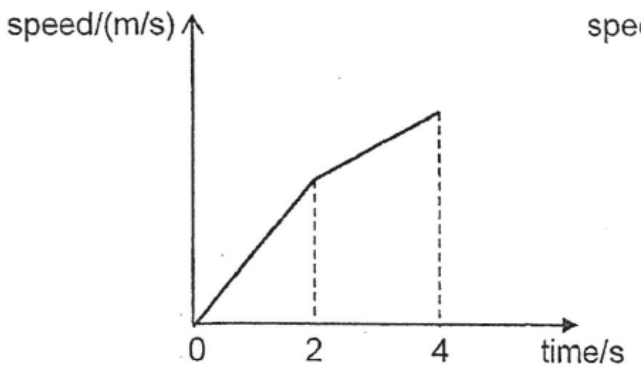
A



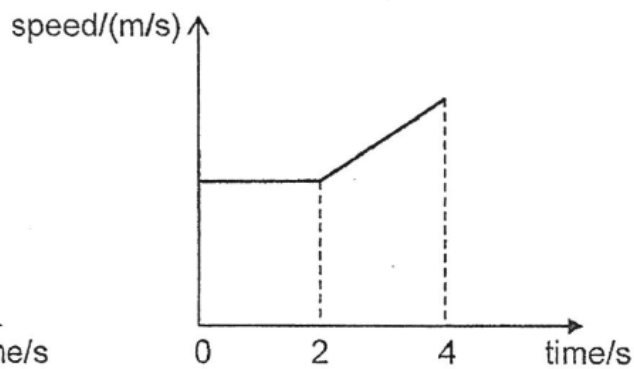
B



C

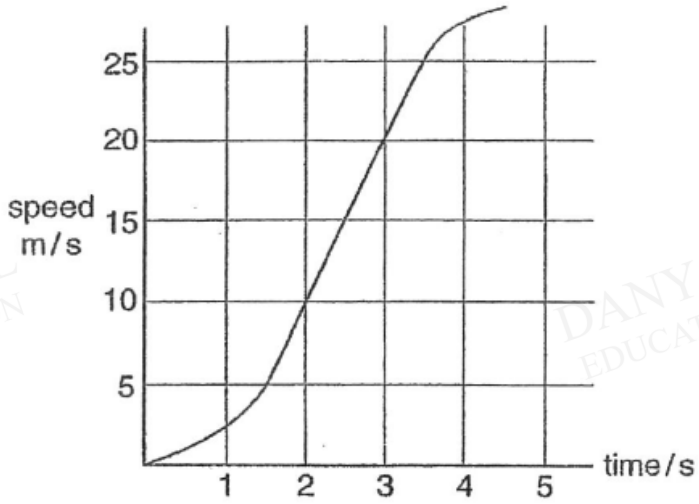


D



Q8

The graph below shows the speed of a car as it accelerates from rest. During part of this time the acceleration is uniform.



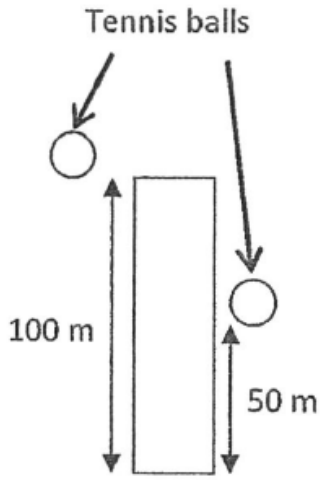
What is the size of this uniform acceleration?

A 5 m/s^2 **B** 10 m/s^2

C 15 m/s^2 **D** 40 m/s^2

Q9

Two similar tennis balls are released from a building at different heights at the same time. One is released from 100 m above the ground, while the other is released from 50 m above the ground. Ignore the effects of air resistance.



Which quantity is the same for both balls just before they reach the ground?

A speed **C** kinetic energy

B acceleration **D** displacement

Q10

A parachutist is falling at constant speed with his parachute opened.

Which of the following describes the resultant force acting on, and the acceleration of, the parachutist at that instant?

	resultant force	acceleration
A	decreasing	increasing
B	increasing	decreasing
C	downward	increasing
D	zero	zero

Answers

Kinematics Test 1.0

Q1 C

Q2 C

Q3 B

Q4 B

Q5 B

Q6 C

Q7 A

Q8 B

Q9 B

Q10 D