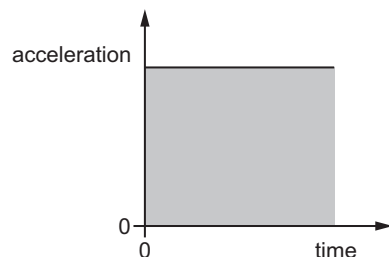


5 How can the acceleration of an object be determined?

- A from the area under a displacement–time graph
- B from the area under a velocity–time graph
- C from the gradient of a displacement–time graph
- D from the gradient of a velocity–time graph

A-Level Physics: **w21 13**

6 The graph shows the variation with time of the acceleration of a car.

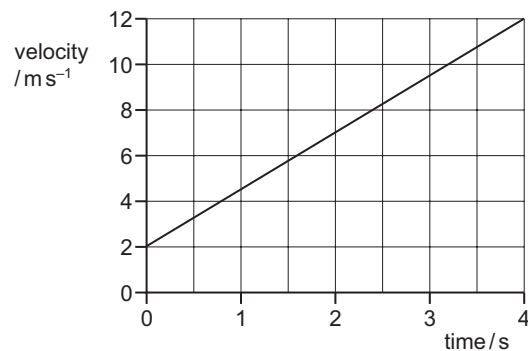


What **must** the shaded area under the graph represent?

- A the average velocity of the car
- B the change in velocity of the car
- C the final velocity of the car
- D the initial velocity of the car

A-Level Physics: **s21 13**

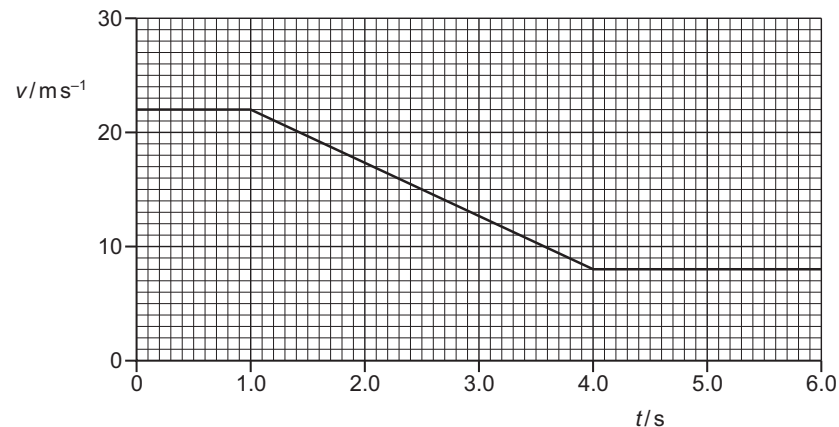
6 The diagram shows a velocity–time graph for a car.



What is the distance travelled during the first 4.0 s?

- A 2.5 m
- B 3.0 m
- C 20 m
- D 28 m

6 A car travels along a straight horizontal road. The graph shows the variation of the velocity v of the car with time t for 6.0 s of its journey.



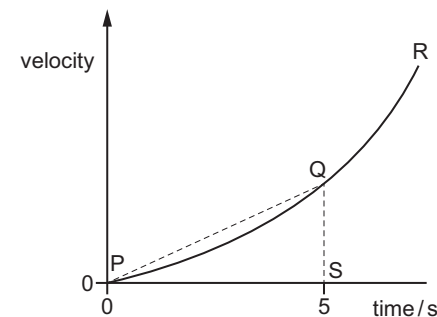
The brakes of the car are applied from $t = 1.0$ s to $t = 4.0$ s.

How far does the car travel while the brakes are applied?

- A 21 m
- B 45 m
- C 67 m
- D 83 m

A-Level Physics: **s22 11**

5 The curved line PQR is the velocity–time graph for a car starting from rest.

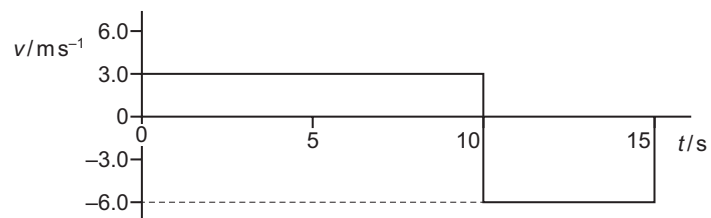


What is the average acceleration of the car over the first 5 s?

- A the area below the curve PQ
- B the area of the triangle PQS
- C the gradient of the straight line PQ
- D the gradient of the tangent at Q

6 A radio-controlled toy car travels along a straight line for a time of 15 s.

The variation with time t of the velocity v of the car is shown.

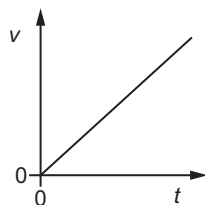


What is the average velocity of the toy car for the journey shown by the graph?

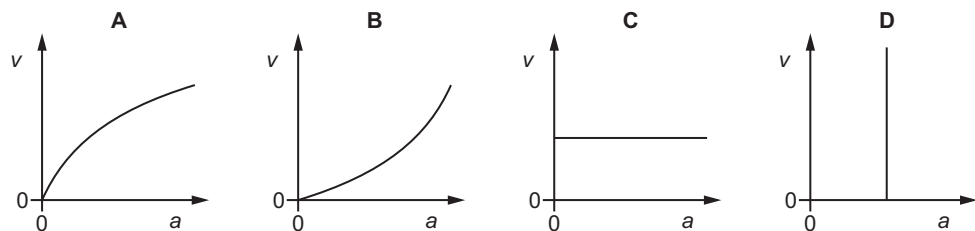
- A** -1.5 ms^{-1} **B** 0.0 ms^{-1} **C** 4.0 ms^{-1} **D** 4.5 ms^{-1}

5 A particle accelerates from rest.

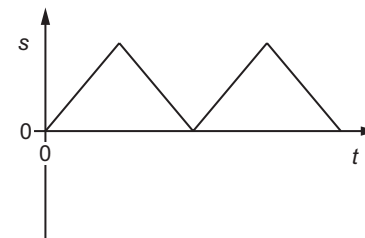
The graph shows the variation of the velocity v of the particle with time t .



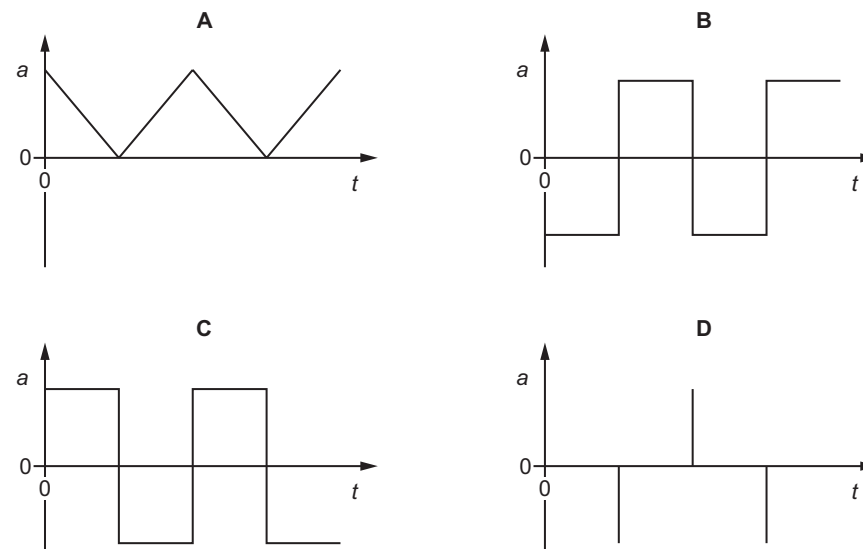
Which graph shows the variation of the velocity v with the acceleration a of the particle?



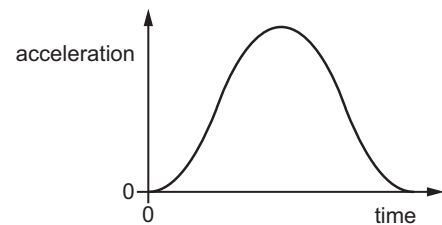
6 The graph shows the variation with time t of the displacement s of an object.



Which graph represents the variation with time t of the acceleration a of the object?



- 4 The graph shows how the acceleration of an object moving in a straight line varies with time.



The object starts from rest.

Which graph shows the variation with time of the velocity of the object over the same time interval?

