Velocity-Time Graph Questions for GCSE Physics

1. What is plotted on the x-axis and y-axis of a velocity–time graph?

2. How is constant velocity shown on a velocity–time graph?

3. What does the gradient of a velocity–time graph represent?

4. What does the area under a velocity–time graph represent?

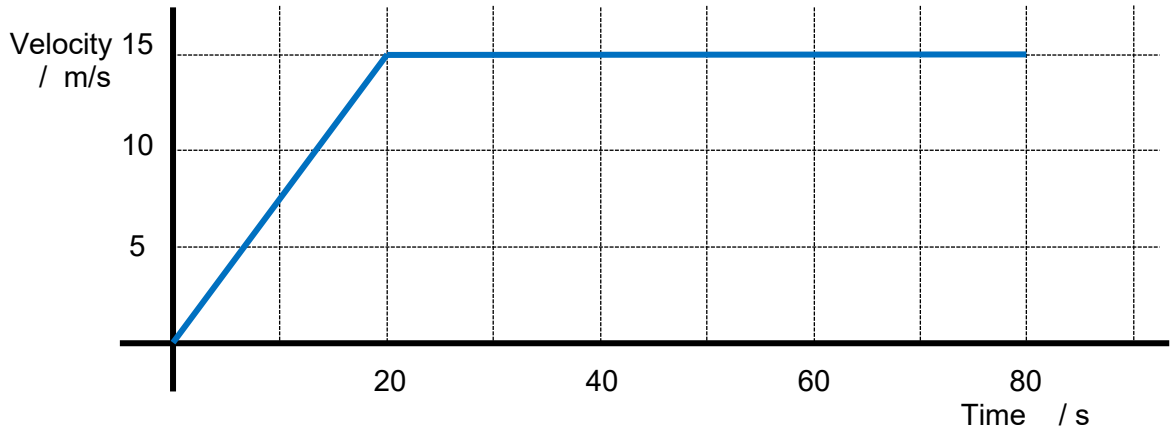
5. A horizontal line on a distance–time graph means the object is stationary. What does a horizontal line mean on a velocity–time graph?

6. A car accelerates from 0 to 20 m/s in 5 s. Calculate its acceleration.

7. A bus travels at a constant velocity of 15 m/s for 30 s. How far does it travel?

8. An object accelerates from rest at 2 m/s² for 8 s. What is its final velocity?

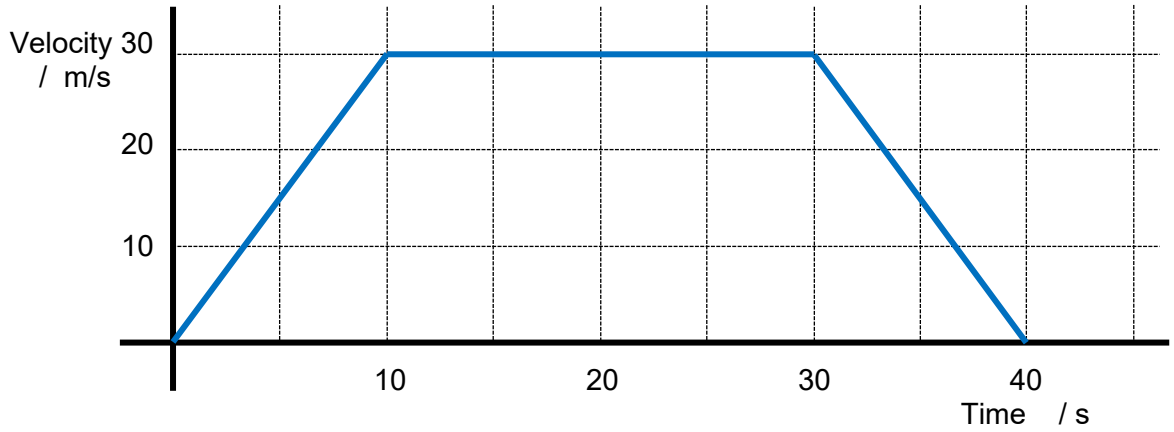
9.



Using the graph above, calculate the acceleration of the object during the first 20 seconds.

10. Using the graph from question **9** calculate the total distance travelled by the object in 80 seconds.

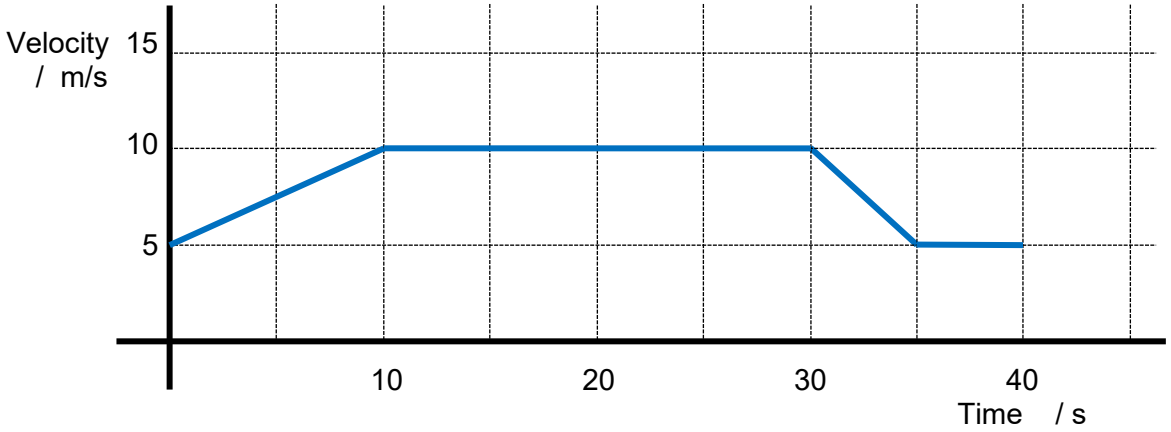
11.



Calculate the deceleration of the object in this graph in the last 10 seconds of the journey.

12. What is the total distance travelled by the object shown in the graph for question **11**?

13.



The graph above shows part of a car journey. What is the acceleration of the car in the first 10 seconds?

14. What is the acceleration of the car in question **13** from 30 to 35 seconds?

15. What is the distance travelled by the car in question **13** in the last 10 seconds of its journey?