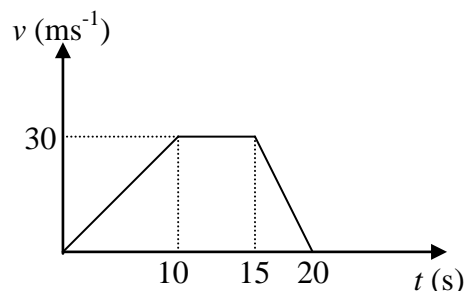


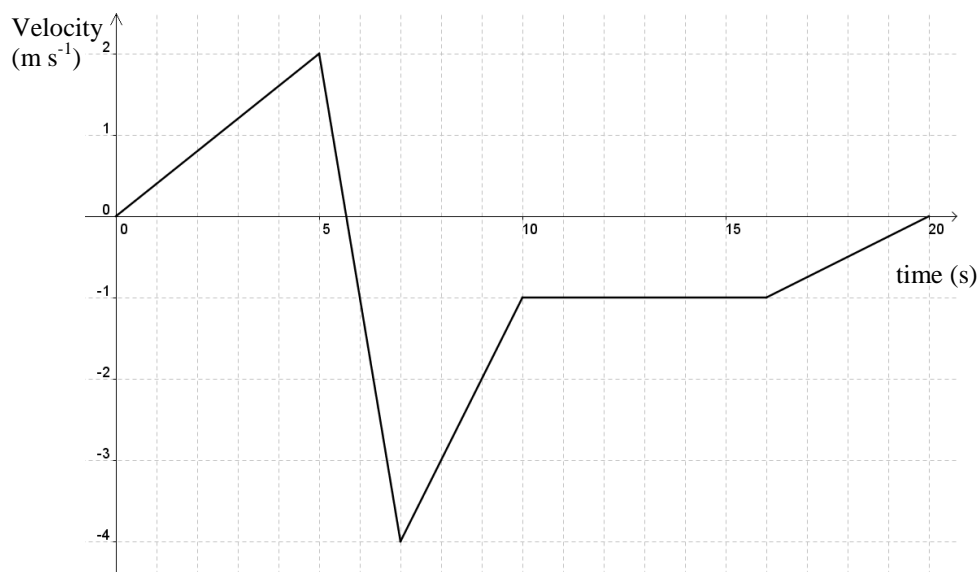
Section 2: Velocity and acceleration

Exercise level 1

- From the velocity-time graph shown find
 - The acceleration in the first 10 seconds,
 - The deceleration in the last 5 seconds,
 - The total distance travelled.



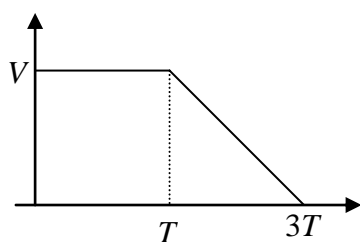
- Calculate the acceleration for each part of the journey shown by this graph:



- Sketch an acceleration-time graph for the journey.



3.



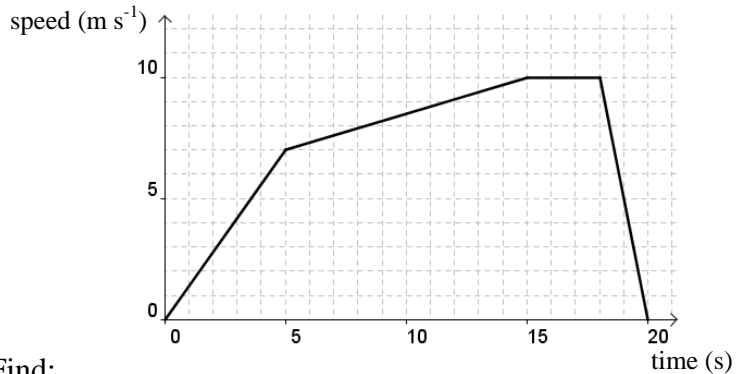
For the graph above, the time for the whole journey is 45 seconds. The acceleration between T and $3T$ is -1.5 ms^{-2} . Find

- the value of T ,
 - the value of V .
- A, B, C, and D lie in a straight line. A particle starts from rest at A and moves from A to B with a uniform acceleration for 2 seconds reaching a speed of 12 ms^{-1} . The acceleration then halves and the particle takes 10 seconds to reach C. The particle then decelerates uniformly for a further 10 seconds before coming to rest at D.
 - Draw a velocity-time graph for the motion.

Edexcel AS Maths Kinematics 2 Exercise

- (ii) Find the acceleration from A to B and from B to C.
- (iii) Find the speed of the particle at C.
- (iv) Find the deceleration from C to D.

5. This graph shows the speed of a car travelling along in a traffic queue.

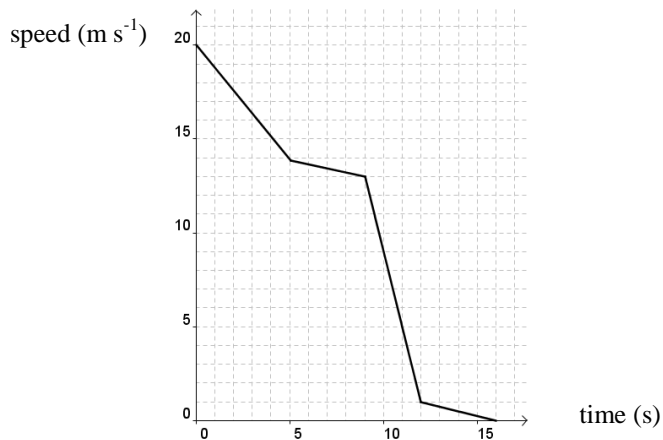


Find:

- (i) the acceleration for each part of the motion
- (ii) the total distance it travels in the 20s shown
- (iii) the average speed of the car.

Is this graph a realistic model for the situation?

6. This graph shows the speed of a car as it gradually slows down.



Find:

- (i) the acceleration for each part of the motion
- (ii) the total distance it travels in the 16s shown
- (iii) the average speed of the car