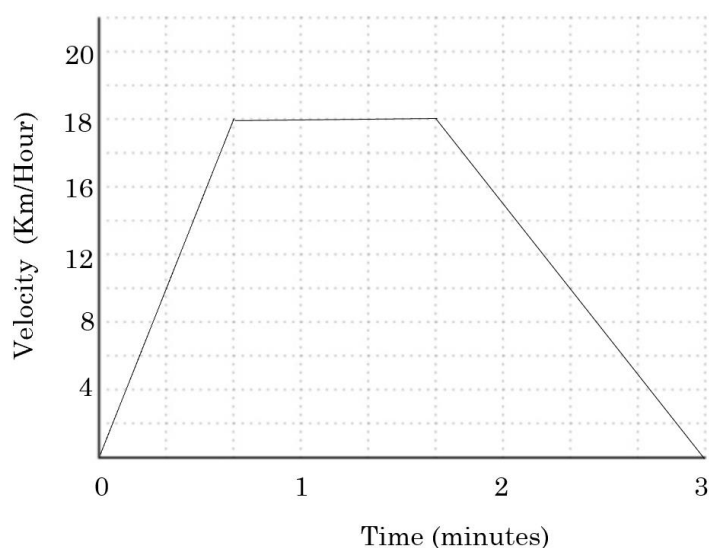




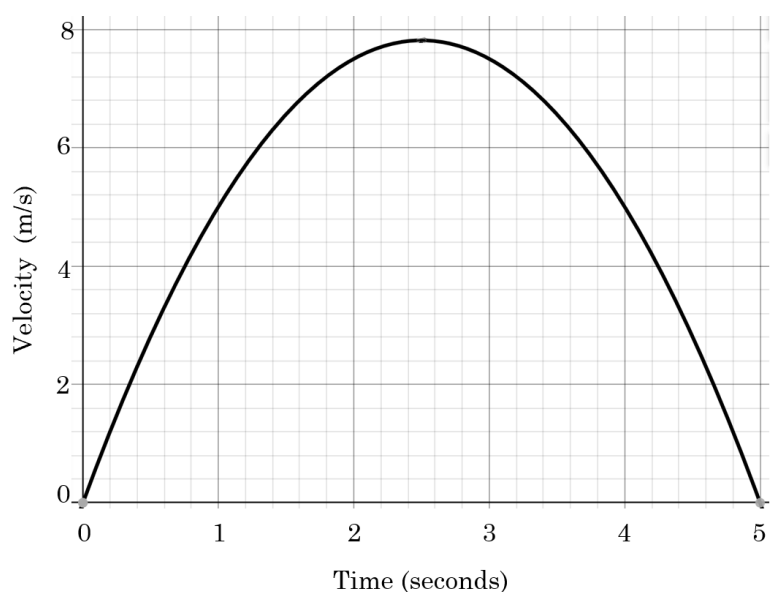
Velocity-Time Graphs Exam Practice

Q1. Ken cycles from his house. The velocity-time graph for part of his journey is shown below:



- Work out the total distance which Ken has travelled. [3]
- Work out the rate at which Ken decelerates before coming to rest, stating suitable units. [2]
- Explain why the graph shown above is unlikely to be a completely realistic representation of his journey. [1]

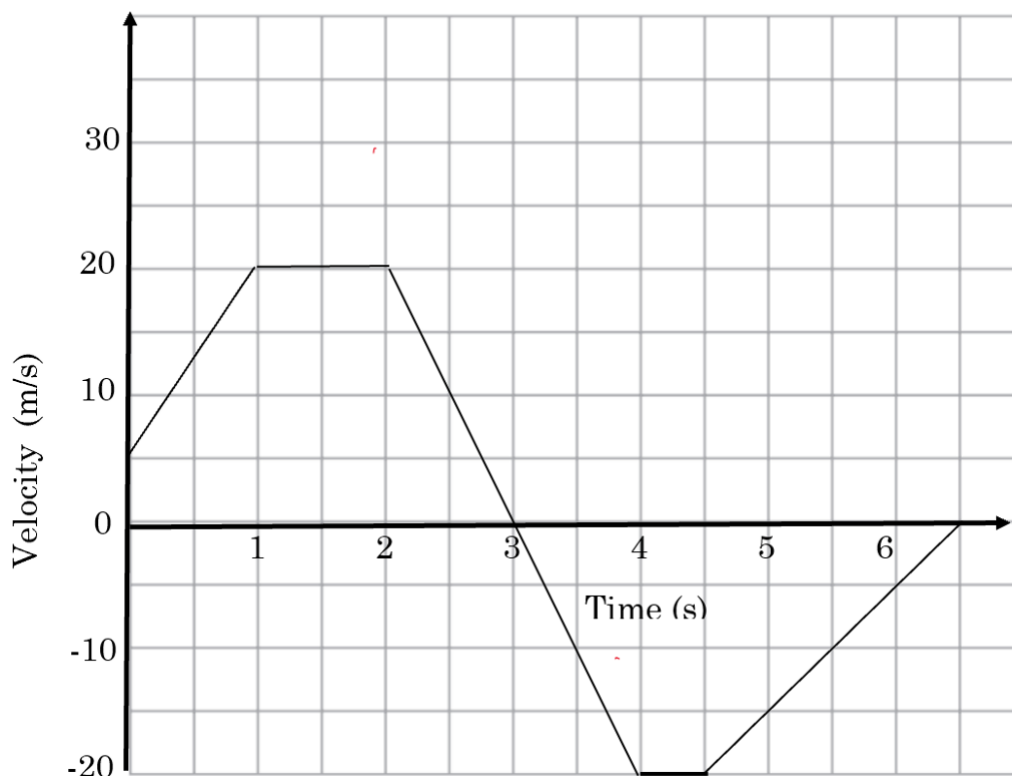
Q2. Below is the velocity-time graph of the journey of a particle.



- Estimate the acceleration of the particle at a time of 2.4 seconds. [2]
- (i) How many seconds have passed until the particle changes direction? [1]
- (ii) What is the average acceleration of the particle up until this time? [2]



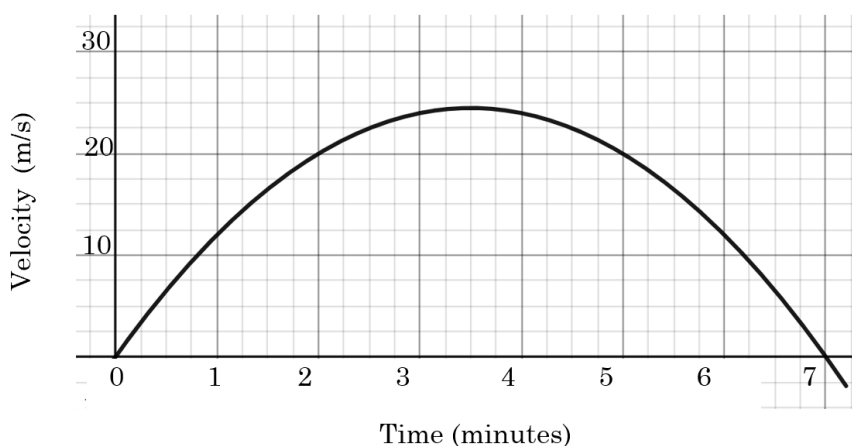
Q3. The graph below shows the velocity-time graph of a particle which is travelling along a straight line.



At time $t = 0$, the particle is at point P. Find all the times at which the particle is at a distance of 22.5 m from point P.

[4]

Q4. The journey of a particle is modelled using the velocity-time graph shown below.



a) Using 3 equal strips, estimate the distance travelled by the particle in the first 6 s [3]

b) (i) Explain whether your answer to part (a) is an under-estimate or over-estimate. [1]

(ii) Explain how you could have obtained a more accurate answer to part (a) [1]