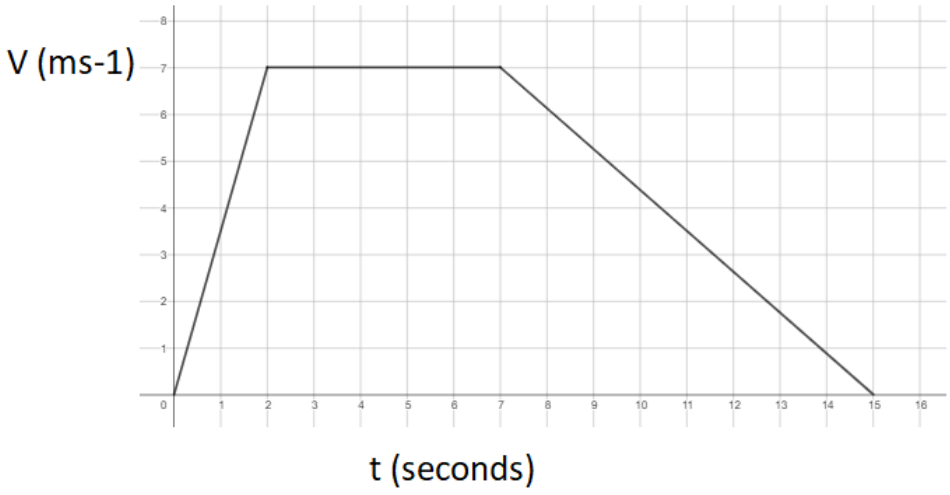
Velocity/Time Graphs – www.m4ths.com – Steve Blades ©

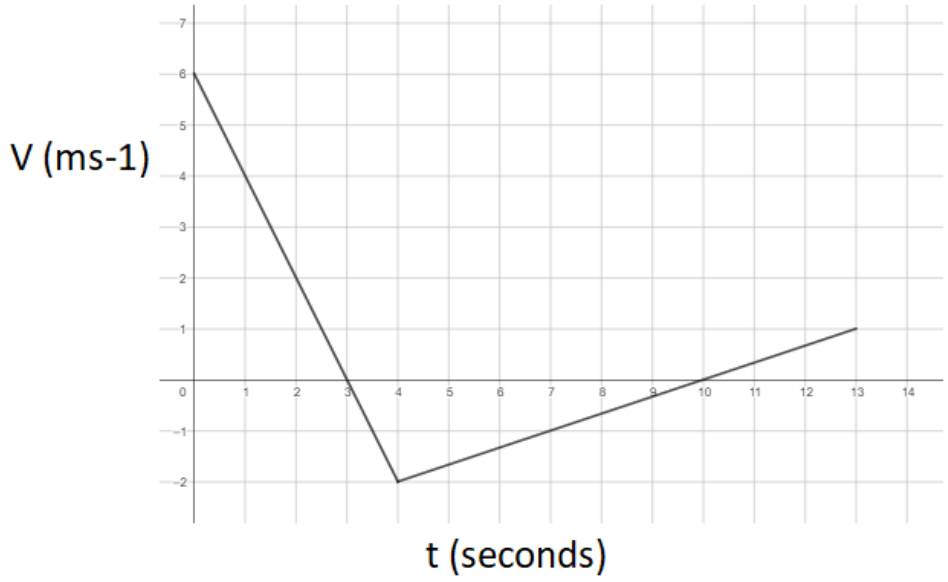
(1) Study the velocity/time graph below and answer the following questions:

(a) State the velocity after 2 seconds
(b) Find the acceleration for the first 2 seconds
(c) Explain why the acceleration is constant
(d) State the velocity for the 2nd section
(e) Explain why there is no acceleration in the second period
(f) Find the acceleration for the 3rd section of travel
(g) Find the deceleration for the 3rd section of travel
(h) Find the distance and displacement of the journey



(2) Study the velocity/time graph below and answer the following questions:

(a) State the initial velocity of the particle in the graph below
(b) Find the deceleration in the first period.
(c) Given that the particle is moving along the x axis, describe the motion of the particle.



(3) A particle starts from rest and travels with constant acceleration
After 4 seconds the speed of the particle is 10ms-1
The particle maintains this speed for a further 8 seconds
The particle then decelerates to rest. The total time for the journey is T seconds.

(a) Draw a velocity/time graph to represent the motion of the particle
(b) Find the acceleration of particle in the first section and the second section

Given that the total distance travelled is 160m, find the value of T.