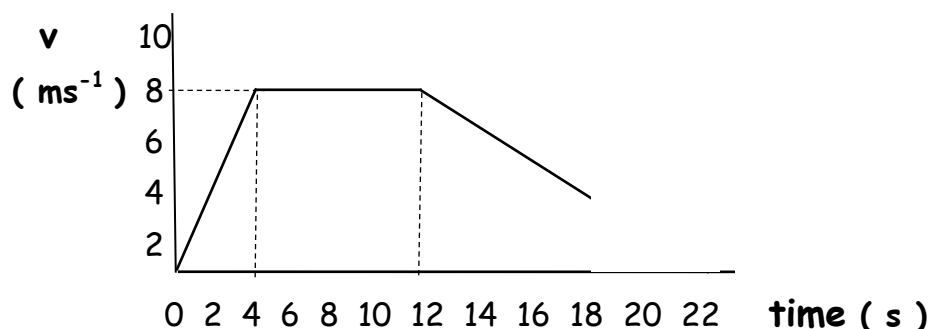


Exemplar exam question

1. Part of a bus journey is represented by the velocity - time graph below.



Using the graph:

- (a) **Show** that the acceleration in the first 4 seconds is 2 ms^{-2} (3)
- (b) **Explain** what causes this acceleration (2)
- (c) **Determine** the distance travelled in the first 12 seconds (4)
- (d) **State** the relationship between engine force and friction at 9 seconds. (1)
- (e) **Predict** the time at which the bus comes to a halt. (1)
- (f) Is the magnitude of deceleration at the end of the journey greater, equal to, or less than the acceleration at the start?
You must **justify** your answer. (2)