**Combined science higher tier homework Name ……………………………….**

**Q1.** Figure 7 is a velocity/time graph showing a 34 s part of a train's journey.



(i)  Calculate the acceleration of the train in the 34 s.

Give your answer to an appropriate number of significant figures.

**(3)**

acceleration = ........................................................... m/s2

(ii)  Calculate the distance the train travels in the 34 s.

**(3)**

distance ........................................................... m

**(Total for question = 6 marks)**

**Q2.** A car driver sees a rabbit on the road. The driver makes an emergency stop after he sees the rabbit. Figure 6 shows the speed of the car from the time the driver sees the rabbit until the car stops.

**Figure 6**

Calculate the distance that the car travels in the first 0.5 seconds.

**(3)**

distance = ........................................................... m

**(Total for question = 3 marks)**

**Q3.**      Here is the velocity-time graph for a car for the first 20 s of a journey.



(i) Calculate the change in velocity of the car during the first 5 s.

**(1)**

      ..............................................................................................................................................

(ii) Calculate the acceleration of the car during the first 5 s.

**(2)**

 acceleration = ......................m/s2