1. The diagram given below shows the speed-time graph for the motion of a cyclist who moves along a straight line in the same direction.
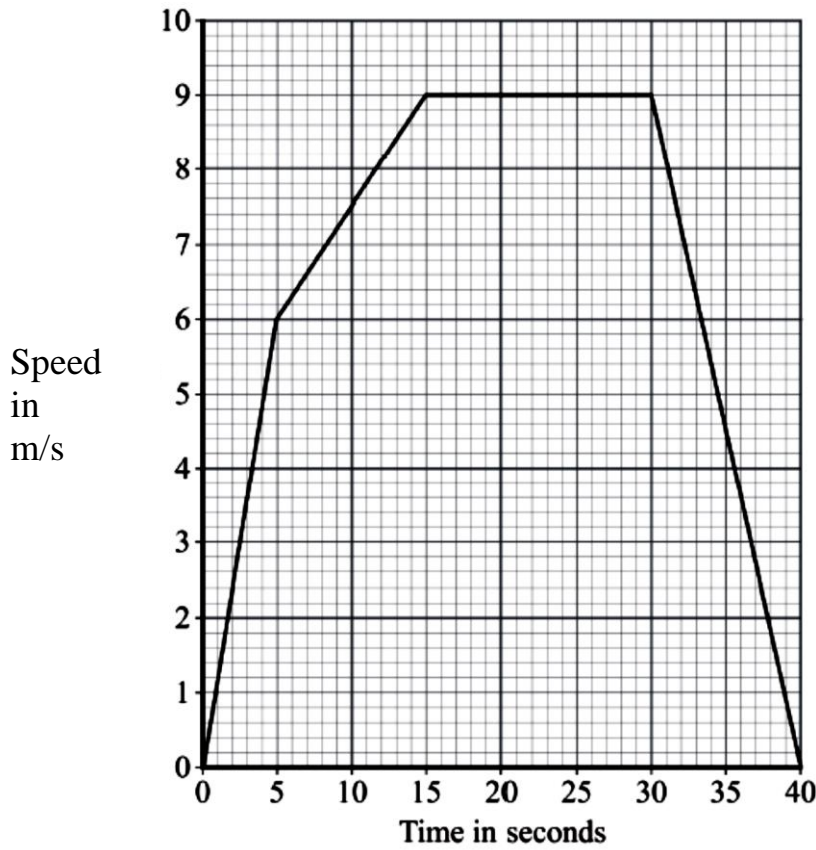
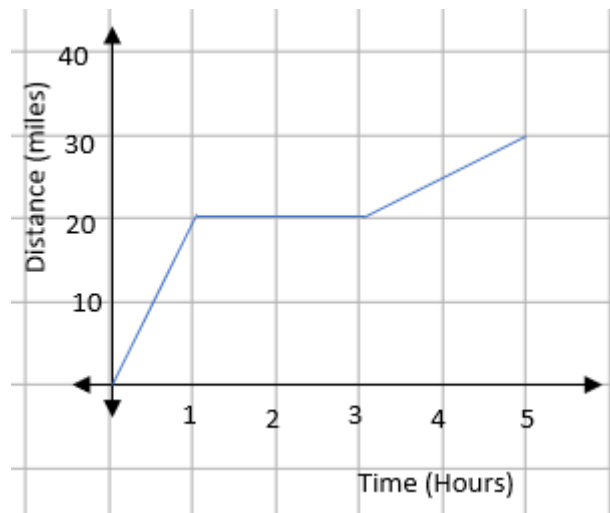(a) Calculate the acceleration of the cyclist during the first 5 seconds of his journey.

Give a suitable unit for your answer.

……………….

(3 marks)

(b) Work out the distance travelled by the cyclist between 5 seconds and 15 seconds.

……………….

(2 marks)

2. The diagram given below is the distance-time graph for a car journey.

Choose the correct description for the car's motion for each of the time intervals given below.

(i) Between 1 hour and 3 hours

    A. Moves at a constant speed.

    B. Moves with a constant acceleration.

    C. Stationary

    D. Moves with a constant deceleration.

(1 mark)

(ii) Between 3 hours and 5 hours

    A. Moves at a constant speed.

    B. Moves with a constant acceleration.

    C. Stationary

    D. Moves with a constant deceleration.

(1 mark)

3. Sam starts from his home and walks 150 m west.

He then turns through 90^0 and walks a further 150 m north to reach a shop.

For Sam's journey to the shop, calculate,

(a) the distance he walks.

………………….

(1 mark)

(b) the displacement he makes.

……………………
(3 marks)

4. (a) An object moves along a straight line with a constant acceleration.

Its velocity increases from 12 m/s to 36 m/s in 6 seconds.

Calculate the acceleration of the object. Give a suitable unit for your answer.

…………………
(2 marks)

(b) Another object also moves along a straight line with a constant acceleration of 5 m/s^2.

If its velocity now is 17 m/s, what will its velocity be after 6 seconds?

…………………..
(2 marks)

- End of Test -