K Education Centre

GCSE Physics Forces P9

Motion

Assignment Questions

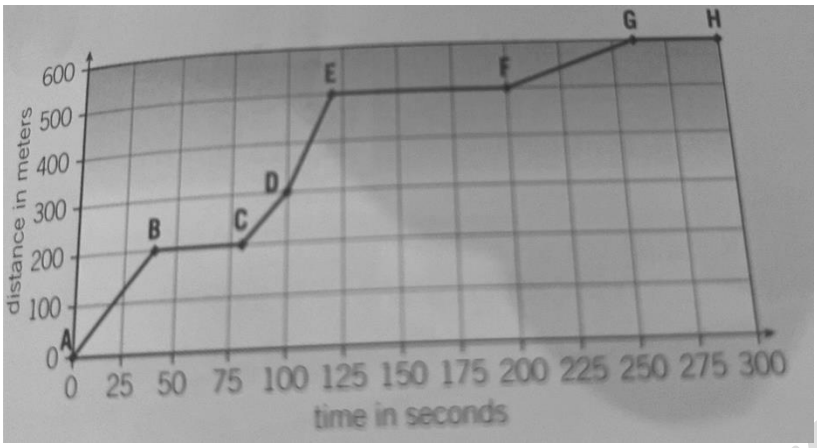
Year 2022

P9: Motion

Q1: A vehicle on the motorway travels 2000 m in 60 secs. Calculate:

a) Average speed of the vehicle
b) How far it travels at the same speed for 5 minutes.

Q2: Following is the distance time graph for a truck



a) Which two points the truck was travelling with the greatest speed.
b) Which two points truck change the speed without stopping.
c) Determine the total time truck stop during this journey
d) Calculate the average speed of the truck

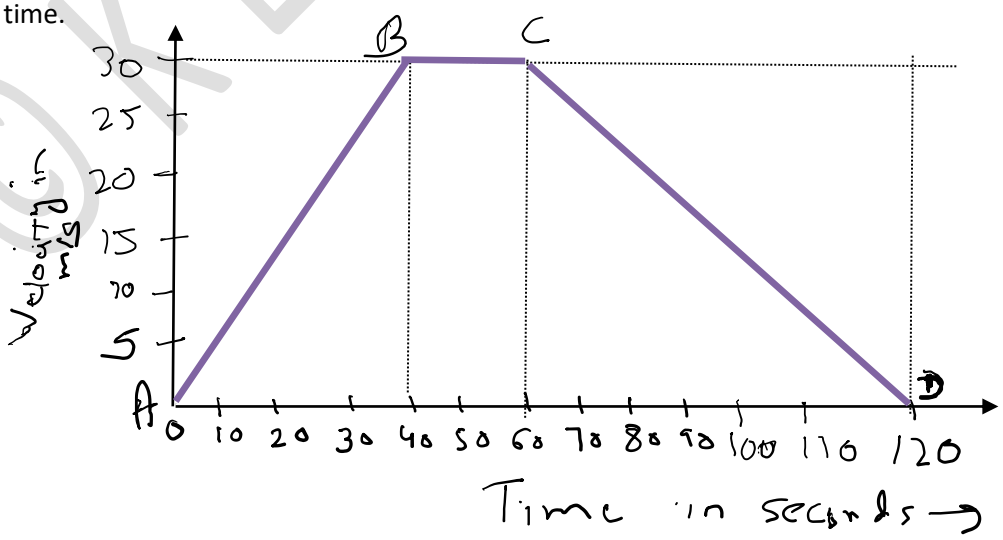
Q3: What is the difference between speed and velocity? Explain with an example.

Q4 : Calculate the deceleration of the car moving at velocity of 40 m/s and stops in 12 seconds.

Q5: A cyclist travelling distance of 600 meters accelerated from rest and reach speed of 10.2 m/s in 3 seconds.
a) Calculate the acceleration of the cyclist
b) The cyclist continued his journey with the top speed and covered the distance in 9 secs. Calculate his average speed.

Q6: A car accelerated at 6 m/s^2 in 8 seconds. If the car was travelling at 15 m/s initially, calculate its velocity at the end of this time.

Q7 :



Above is the velocity time graph of a car.

a) Calculate the acceleration of the car from point A to point B
b) Calculate the total distance travelled by the car
c) Calculate the deceleration of the car from point C to D
d) Calculate the average speed of the car for whole journey.

Q8: A water skier are started from rest and accelerated steadily to 1.2 m/s in 15 s , then travelled at a constant speed for 45 s , before slowing down steadily and coming to a halt 90 s before she started.

a) Draw velocity- time graph for the journey.
b) Calculate the acceleration of skier in first 15 seconds.
c) Calculate the deceleration of the skier in final 30 seconds
d) Calculate total distance travelled by the skier.