PQ 2b Q

Speed and EoM

Q1

A car is travelling at a speed of 60 km/h. How many metres will it travel per second?

Q2

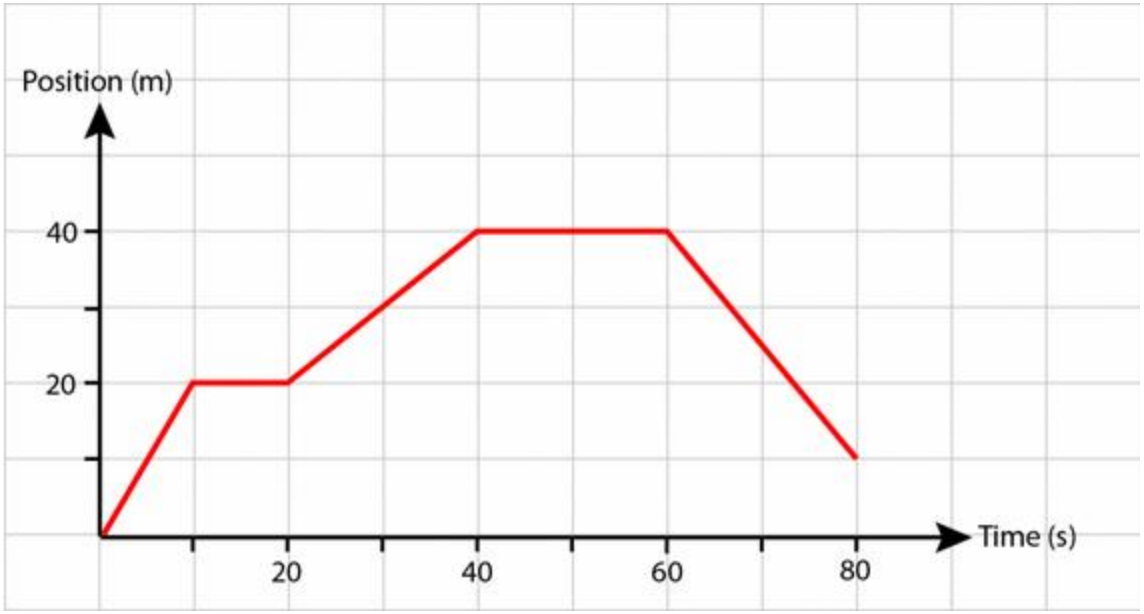
- Mr Mac's DB 9 can accelerate from 0 to 100 km/h in 2.5 seconds. This is an acceleration of?

Q3

- A car accelerates at a constant rate from 0 to 15 m/s over a period of 10 seconds. What is the distance covered during that time?

Q4

- The graph below shows the position of a walker up and down a street.



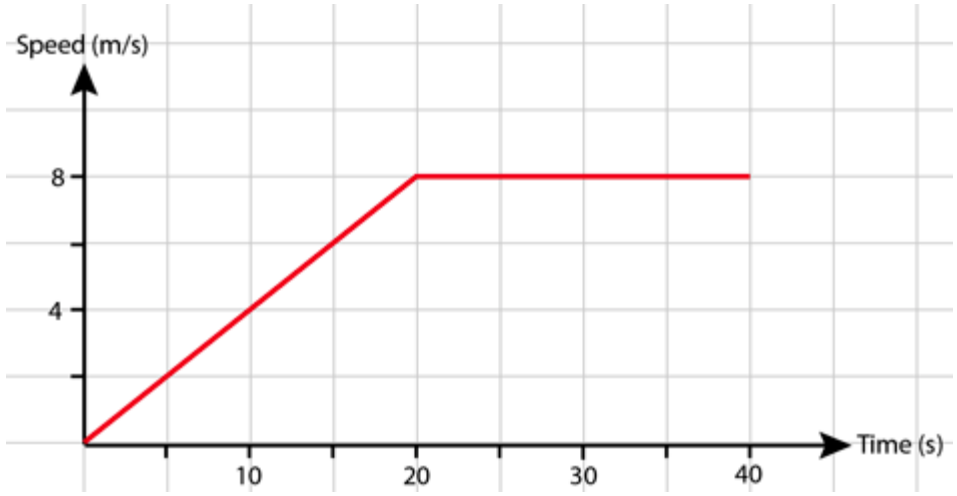
- Which of the following statements about the walk is incorrect?

Q4 continued

- The walker averages 1 m/s for the the first 40 seconds.
- The walk back towards the starting point is the fastest part of the motion.
- The walker is stationary for a total of 30 seconds.
- At 30 seconds, the walker is 30 m from the starting point.

Q5

- The graph below shows the speed of a cyclist over a period of 40 seconds.



- What was the average speed of the cyclist during the 40 seconds?

Q6

- A stone is dropped 30 metres to the ground below. How long does it take to hit the ground?

Q7

- A stone is dropped 30 metres to the ground below. How fast is will it be travelling when it hits the ground?

Q8

- The student driver of a car travelling at 72 km/h sees an obstacle on the road and manages to come to a stop in 4.0 s. What distance has the car covered while braking?

Q9

- A ball is thrown up into the air and falls back down to the starting height after 3.0 s. What speed was the ball thrown at?

Q10

- A car is travelling on road at 108 km/h and the driver sees an obstacle 50m down the road. The combination of tyres and road surface allow a deceleration of 7 m/s2.
- At what speed will the car hit the obstacle?