Speed questions from OL maths

## Questiong 20170L P1 Q9

Martin took part in a 60 metre race.
The graph below shows the distance in metres travelled by Martin after $t$ seconds during the race. The graph is in three sections, labelled A, B, and C.

(a) (i) How many seconds did it take Martin to finish the race?
Answer $=\square$
(ii) What distance had Martin travelled after 16 seconds?

(b) (i) Which was Martin's slowest section of the race?
Martin's slowest section:
A
B (Tick ( $\checkmark$ ) one box only)
$\square$
C
(ii) Find Martin's speed during his slowest section of the race, in metres per second.


This question continues on the next page.


## 2016 OL P1 Q9

## Question 9

(Suggested maximum time: 10 minutes)
Ned and Laurie had a race. Laurie was given a head start, so she ran a shorter distance than Ned. The graphs below show the distance along the track, in metres, that each of them was from the starting line after $t$ seconds of the race.

(a) What distance did Ned run during the race?

Ned's distance $=\square \mathrm{m}$
(b) What distance did Laurie run during the race?


(c) How many seconds did it take Laurie to finish the race?

seconds
(d) Work out Laurie's mean speed during the race, in metres per second.

(e) Ned says: "I ran at the same speed for the whole race."

Is Ned correct? Give a reason for your answer.


## 2016 O P2 Q7.

A helicopter leaves Shannon at 9:30 a.m. and arrives in Limerick at 9:45 a.m. the same morning. It travels 25 km during this journey.
(d) Find its mean speed on the journey, in km per hour.


## 2015 OL P1 Q8

## Question 8

Grainne is taking part in a training session.
The graph shows the distance she travelled during the session.
The four parts of the graph are labelled A, B, C, and D.

(a) Write the letters A, B, C, and D into the table to match each description with the correct part of the graph.

| Description | Part of the Graph |
| :--- | :--- |
| Gráinne runs for 20 minutes |  |
| Gráinne stops for 15 minutes |  |
| Gráinne walks for 10 minutes |  |
| Gráinne stops for 5 minutes |  |

(b) Gráinne runs 4 km in 20 minutes at a steady pace.

Find her speed in km per hour.


## 2014 OL P1 Q8

## Question 8

(Suggested maximum time: 10 minutes)
The students in a PE class are doing a fitness test.
Each student runs from the baseline of the gym to the halfway line of the gym, and back again. This is called a lap. They run a number of laps in the fitness test.
The graph below shows Miriam's distance from the baseline for her first lap.

(i) From the graph, how long did it take Miriam to complete her first lap?

(ii) From the graph, how far is the baseline of the gym from the halfway line of the gym?

(iii) For her second lap, Miriam increases her average speed to 5 metres per second.

On the diagram, continue the graph to show her distance from the baseline over the course of this lap.


## 2014 sample paper

Sample paper
Olive cycled to the shop to get some milk for her tea. She cycled along a particular route, and returned by the same route. The graph below shows the different stages of her journey.

(i) How long did Olive stay in the shop?
(ii) how far from her home is the shop?
(iii) Compare the speed of her trip to the shop with her speed on the way home.
(iv) Write a paragraph to describe her journey

