

Emyr has set his lawn mower to work at a constant speed of 2000m per hour.
He walks a distance of 300m when he cuts his lawn.



- (a) (i) Use this information to calculate how long Emyr takes to cut his lawn.
Give your answer in minutes. [2]

It takes Emyr minutes.

- (ii) What assumption have you made? [1]

- (iii) What impact would this have on the time you calculated in answering (a)(i)? [1]

Higher Numeracy Summer 2018 P2 Q2

- (a) Megan and Rhodri both set out at the same time from home to go to the swimming pool.
Rhodri travels by car.
Megan cycles straight through the park.

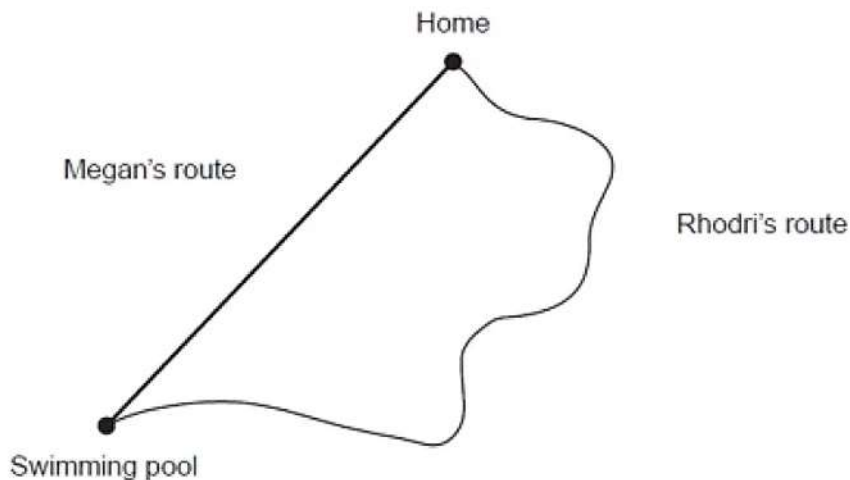


Diagram not drawn to scale

Rhodri's journey by car is 5.5 miles.
His average speed for the journey is 22 mph.

Megan's average speed on her bike is 12 mph.
Megan arrives at the swimming pool 5 minutes before Rhodri.

Calculate the distance Megan cycles.
Give your answer in miles.
You must show all your working.

[5]

(b) Gary travelled a distance of 231 km in 3 hours and 30 minutes.
 Calculate Gary's average speed in km/h.
 Circle your answer.

[1]

0.015

1.1

66

70

77

Higher Numeracy Summer 2018 P1 Q3c

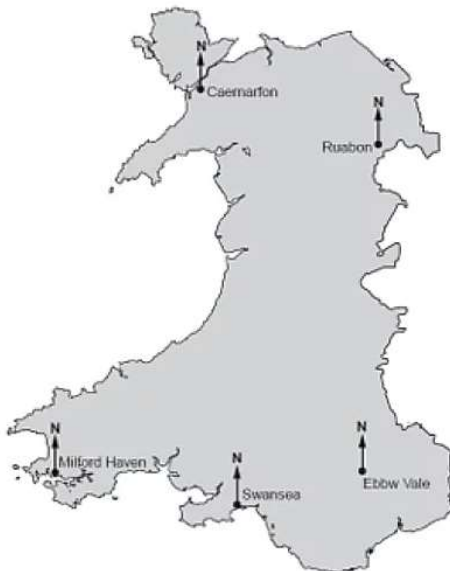
The area of the land covered by the three villages is 200 km².
 The total population of the three villages is 8400 people.

(i) What is the population density of the three villages?
 Give your answer in population/km².

[2]

Higher Numeracy Summer 2019 P1 Q4

A helicopter pilot is planning a route from Milford Haven to Ruabon and then on to Swansea.



(a) *In this part of the question, you will be assessed on the quality of your organisation, communication and accuracy in writing.*

The plan for the flight is shown below.

Journey	Average speed	Time
Milford Haven to Ruabon	90 mph	1 hour 20 minutes
Ruabon to Swansea	80 mph	1 hour 15 minutes

Calculate the total distance of the flight.
 Give your answer in miles.
 You must show all your working.

[4 + 2 OCW]

(b) On average, the helicopter uses 0.4 gallons of fuel per minute.

Remember: 1 gallon = 4.55 litres

Use this information to calculate how many litres of fuel the helicopter would be expected to use for the flight planned in (a).
You must show all your working. [5]

Higher Numeracy Summer 2019 P1 Q7

The table below shows the approximate land area and population for 5 countries in 2014.

Country	Approximate land area, km ²	Approximate population
Argentina	2 800 000	40 000 000
Austria	84 000	8 400 000
Canada	10 000 000	34 000 000
Pakistan	800 000	170 000 000
United Kingdom	240 000	62 000 000

(a) Which of the 5 countries had a population density of approximately 100 people per km²?
Circle your answer. [1]

Argentina Austria Canada Pakistan United Kingdom

(b) Which of these countries had the greatest population density?
Circle your answer. [1]

Argentina Austria Canada Pakistan United Kingdom

(c) Which of these countries had a population density that is approximately 4 times the population density of Canada?
You must show all your working. [2]

Higher Numeracy Sample 2 P2 Q9

9. An engineer needs to check the density of steel produced by the factory where he works.

He collects a sample of 1000 ball bearings, each with a radius of 0.8 cm.

The total mass of the ball bearings is 16.935 kg.

Calculate the density of the steel.

Give your answer in kg / m³.

[5]