

REASONING

9ER18

First name _____

Last name _____

School _____

Class _____

Date of birth ○○ ○○ ○○○○

Date of test ○○ ○○ (2018)

Total score (maximum 20)



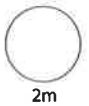
165133



Llywodraeth Cymru
Welsh Government

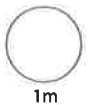
1 Complete the table.

Area of solar panels (m ²)	Power generated (megawatts)	Amount of CO ₂ saved each year (tonnes)
2000	1	430
	10	
40 000		8600



40 000m² of solar panels is the same area as

a **square** that is m by m



1 car gives out about 2.7 tonnes of CO₂ each year.

8600 tonnes of CO₂ is the amount of CO₂ that

about cars give out in a year.



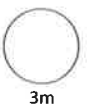


A solar farm with 40 000m² of solar panels will generate enough power for 6000 homes.

There are about 1.4 million homes in Wales.

How many solar farms of this size would power 5% of the homes in Wales?

solar farms



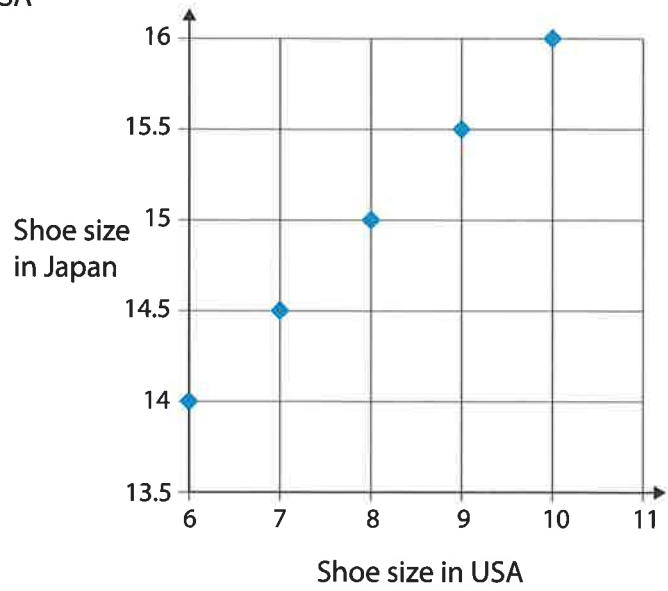
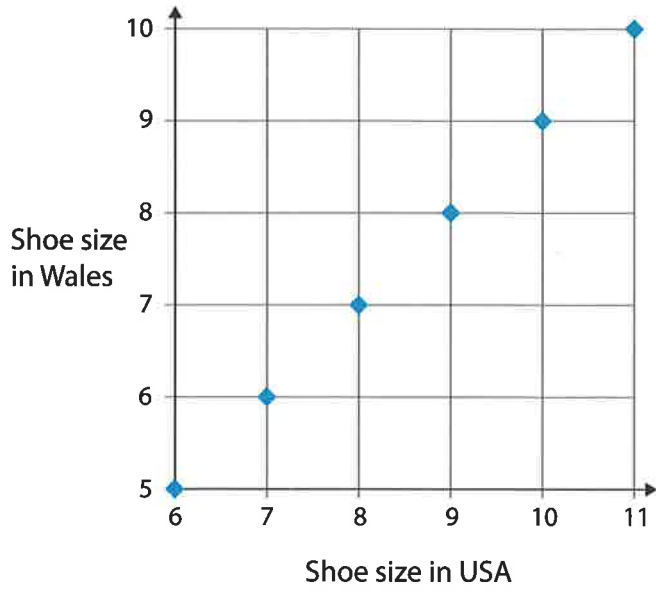
3m

TOTAL

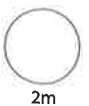
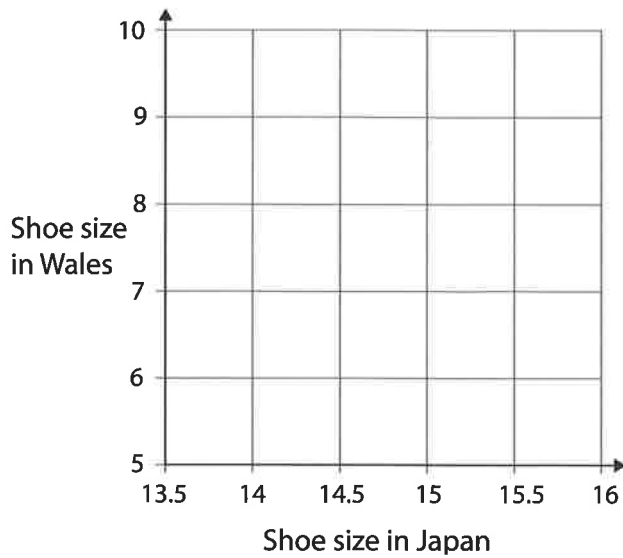


7m

2 A website compares shoe sizes for young children.



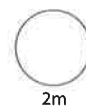
Use the two charts above to complete the one below.



- 3 Beti is 2 years **younger** than Ifor.
Beti's and Ifor's ages add up to 140



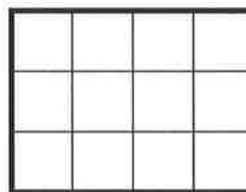
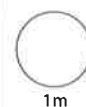
How old are Beti and Ifor?



- 4 This rectangle contains 12 small squares.

Sam wants to shade $\frac{1}{5}$ of the rectangle.

Why can't he do this by shading whole squares?

What fractions of the rectangle can he make by shading whole squares?

Write all possible fractions with 1 as the numerator.

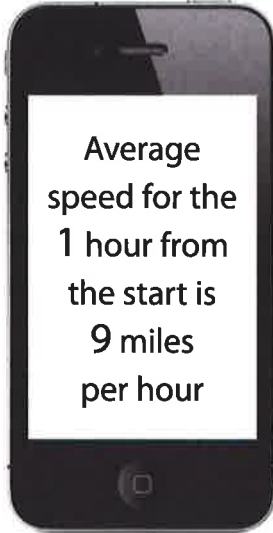


5 Rachel started her cycle ride at 2pm.

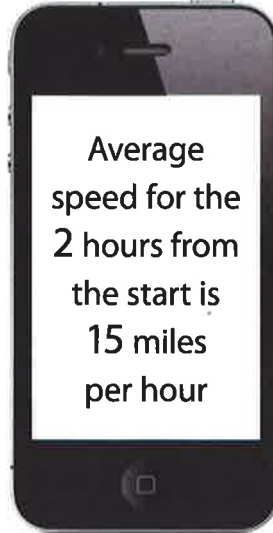


Here is what her phone showed at 3pm, 4pm and 5pm.

At 3pm



At 4pm



At 5pm



Show that Rachel cycled 21 miles between 3pm and 4pm.

Blank area for writing the solution to the first problem.

1m

How many miles did Rachel cycle between 4pm and 5pm?

Blank area for writing the solution to the second problem.

_____ miles

2m

