

# REASONING

## 9ER18

First name \_\_\_\_\_

Last name \_\_\_\_\_

School \_\_\_\_\_

Class \_\_\_\_\_

Date of birth

Date of test     **2** **0** **1** **8**

Total score  (maximum 20)



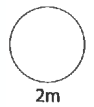
165133



Llywodraeth Cymru  
Welsh Government

1 Complete the table.

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

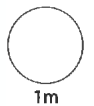


40 000m<sup>2</sup> of solar panels is the same area as

a square that is

 m

by

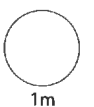
 m

1 car gives out about 2.7 tonnes of CO<sub>2</sub> each year.

8600 tonnes of CO<sub>2</sub> is the amount of CO<sub>2</sub> that

about

cars give out in a year.



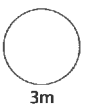


A solar farm with 40 000m<sup>2</sup> of solar panels will generate enough power for 6000 homes.

There are about 1.4 million homes in Wales.

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

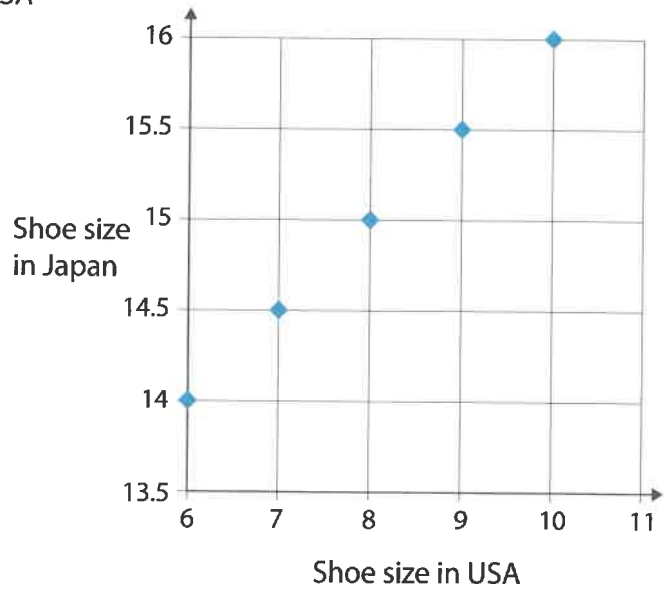
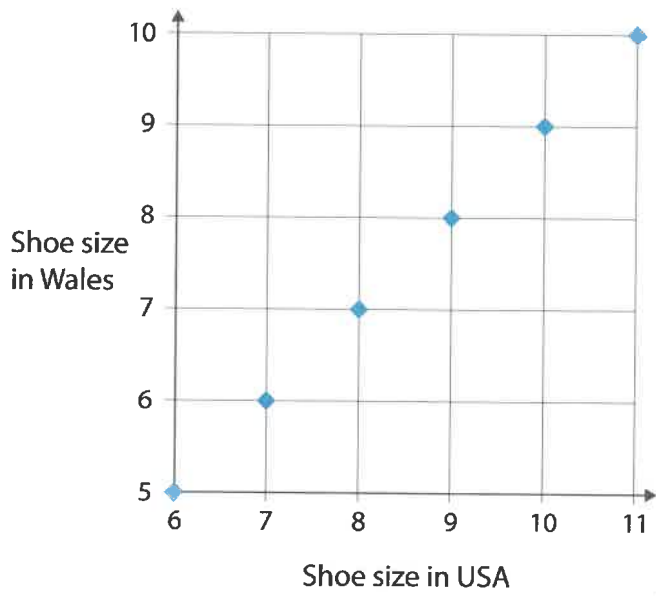
solar farms



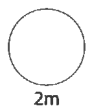
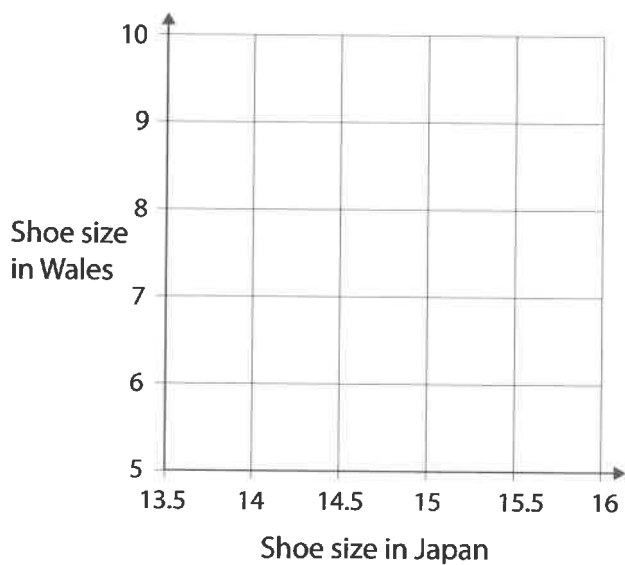
TOTAL



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



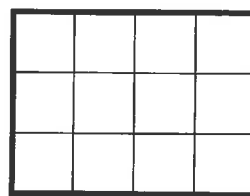
How old are Beti and Ifor?



- 4 This rectangle contains 12 small squares.

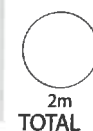
Sam wants to shade  $\frac{1}{5}$  of the rectangle.

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.

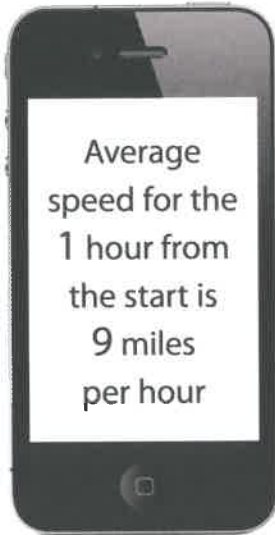


5 Rachel started her cycle ride at 2pm.

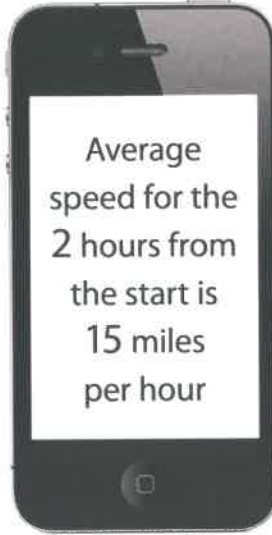


Here is what her phone showed at 3pm, 4pm and 5pm.

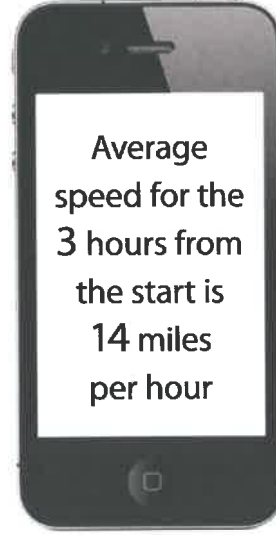
At 3pm



At 4pm



At 5pm



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



1m

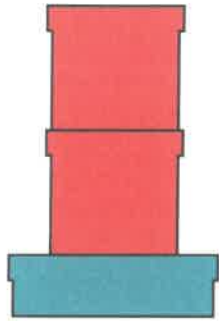
How many miles did Rachel cycle between 4pm and 5pm?



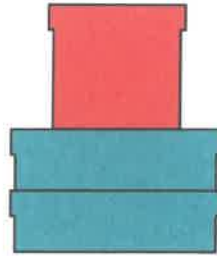
miles

2m

6 A shop sells soaps in blue and red boxes.




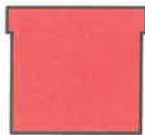

1 blue and 2 red boxes  
Total cost £58.25



2 blue and 1 red boxes  
Total cost £53.50

Calculate the cost of a blue box and a red box.



	£ <input type="text"/>
	£ <input type="text"/>

3m

TOTAL  
  
6m

