

1

Jack hires a weather station for a science experiment.

This formula is used to work out the total cost.

$$\text{Total cost} = \text{£}12 \text{ booking fee} + \text{£}2.50 \text{ a day}$$

What is the **total cost** of hiring the kit from the 6<sup>th</sup> June – 10<sup>th</sup> June?


Show  
your  
method

£

During weather week, there is a discount.

**DISCOUNT!**

75% off **booking fee** during  
weather week



Write the **new formula** for total cost during weather week:

$$\text{Total cost} = \text{£}..... \text{ booking fee} + \text{£}2.50 \text{ a day}$$



2

Jack is starting up a solar panel business. He is working out how much to charge for his services.

The roof installation costs £215. Customers can choose how many solar panels they want on their roof. Each solar panel costs £499.

**Write** a formula for jack to calculate the total cost he should charge his customers.

Total cost =

His first clients want to install **3 solar panels**. Use your formula to calculate the total cost of this.

Show  
your  
method

£

This table shows all the installations Jack does in his first month.

Customer	Number of solar panels installed
Mrs Smith	8
Dr Khan	4
Miss Brown	5
Mr Davies	7
Mr Patel	8

How many solar panels does Jack install in **total** in his first month?

panels

3

This formula is used to estimate the amount of snow that falls in a storm if it is cold enough.

$$\text{Depth of snow (mm)} = 2 \times (\text{hours of snowfall} + 5)$$

Storm Bert caused **4 hours** of snowfall in Keswick.

Use the formula to estimate the **depth** of snow.

 mm

The depth of snow that falls in Edinburgh is **16mm**.

Use the formula to estimate **how long** it was snowing in Edinburgh.

 hours

It is sunny the day after the snow in Edinburgh. The temperature started off at  $-4^{\circ}\text{C}$  and **increased by**  $13^{\circ}\text{C}$  by the end of the day.

What was the **temperature** at the end of the day in Edinburgh?

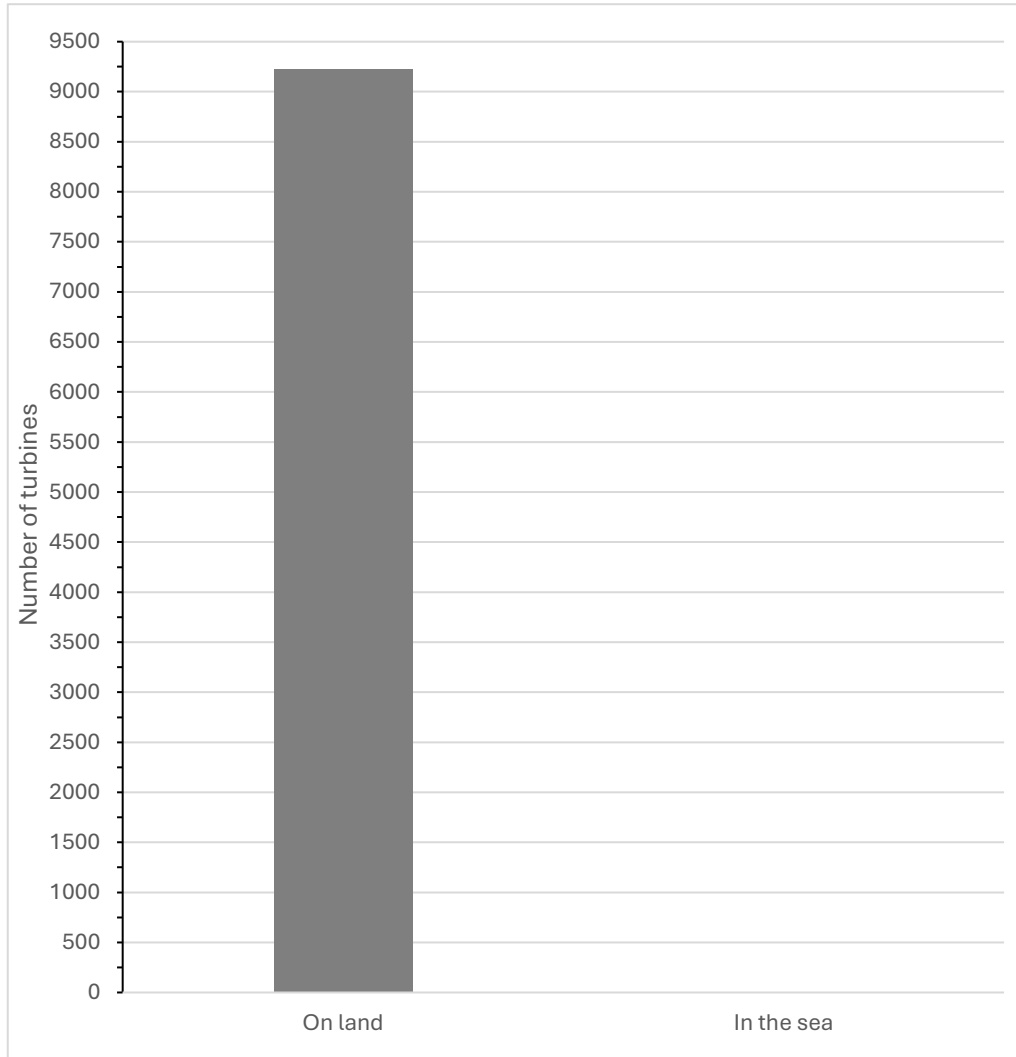
  $^{\circ}\text{C}$

4

There are currently 12100 wind turbines in the UK.

9,222 turbines are built **on land**. The rest are built into the sea.

Complete the graph below with the number of wind turbines.



This rough formula is used to work out how many houses a wind turbine can power.

$$\text{Number of houses} = 12 \times (\text{wind speed in metres per second} + 75)$$

How many **houses** does a wind turbine power if the wind speed is 15 metres per second?

houses

5

Sarah makes jewellery using a mixture of recycled and new beads.

She uses this rule to work out how many new beads she will need to buy.

$$\text{New bead} = (\text{recycled bead} \times 3) \div 4$$

Sarah has 12 old beads that she can use to make a bracelet.

How many **new beads** does she need to buy?

beads

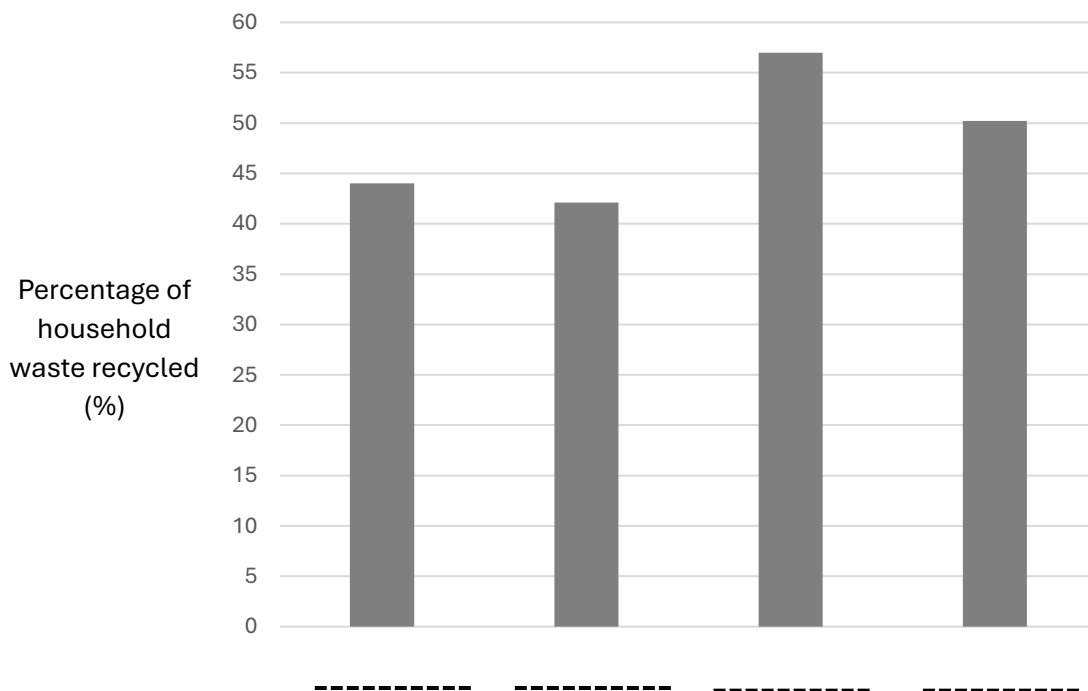
Sarah also wants to make a necklace. She buys **24 new beads** for the necklace.

How many **recycled beads** did Sarah have for the necklace?

beads

In the 2024, England recycled 44% of household waste, Northern Ireland recycled 50.2% Scotland recycled 42.1% and Wales recycled 57%.

**Write** the correct **country** under each of the bars on the chart



6

A town are planting a forest with oak trees and horse chestnut trees,  
The council use this rule to work out the ratio of each type of trees.

Horse chestnut tree = (Oak tree x 4) ÷ 5
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They buy **16 horse chestnut trees** to plant.

How many **oak trees did** the town have for the parks?

trees
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After making the purchase how many trees do they have in **total**?

trees
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In the summer the trees provide shade.

The trees change **reduce** the temperature by up to 20%.

What would be the **temperature** in the **shade** be if it was 30°C in the sunshine?

°C
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