

1

Ali is taking part in a bird watch.

Ali works out that  $\frac{1}{5}$  of the birds were robins

Ali works out that  $\frac{7}{15}$  of the birds are black birds.

The rest of the birds are blue tits.

What **fraction** of the birds were blue tits?

$\frac{\quad}{\quad}$
-----------------------

2

Ali recorded when it was sunny, cloudy or raining over a day.

She dropped her results which were recorded as fractions of the day and has lost one.

She only has  $\frac{1}{10}$  and  $\frac{3}{10}$  recorded.

She knows it was:

- It was raining for **longer** than it was cloudy.
- Sunny for the **shortest** time.

Complete the table with the fractions and work out what the missing fraction must be.

Weather	Fraction of the day
Sunny	
Cloudy	
Raining	

3

In 2024, this is where the UK's power came from:

28% of energy by burning fossil fuels

14% of energy was bought from other countries

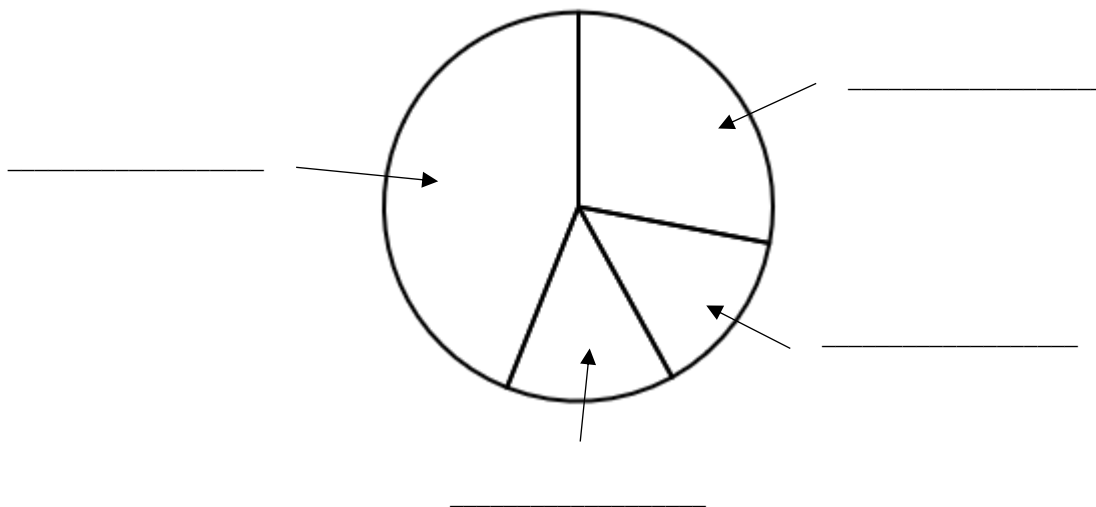
14% was produced by nuclear fuel

The rest was renewable energy.

What percentage was renewable energy?

%
---

Label the sections of the pie chart which shows the same information.



4

A farmer is selling his potatoes.



Buy one bag for £3.90.

Get the second bag half price.

Ali buys **two bags** of potatoes.

How much does he pay **in total**.

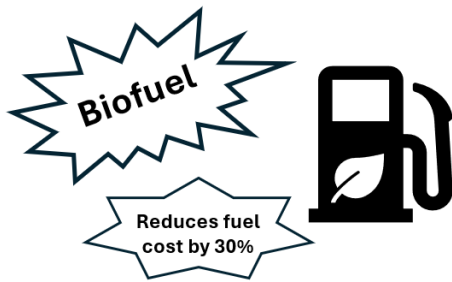
£

Next time, Ali spends £15.60. How many **bags** of potatoes is this?

bags

5

John fills his car with diesel. It costs him £35.



John would like to fill his car with biofuel which is made from animal and plant waste as it is better for the environment and reduces the cost by 30%.

What would it cost to fill his car up with **biofuel**?

Show your method

£
---

6

There are 8 classes in a school.

Each class has 30 pupils.

About 65% of all the pupils **know** that climate change will make our summers hotter and drier.

What percentage of pupils did **not know** this?

How many pupils did **not know**?

7

Olivia's school has two wind turbines.

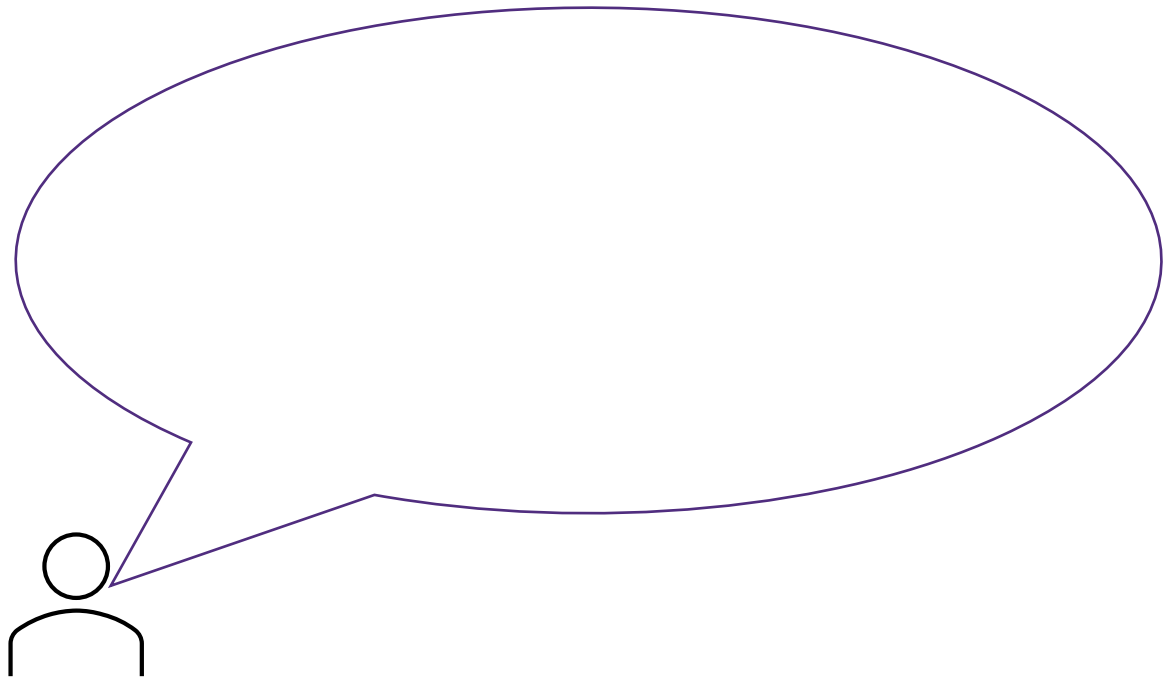
The amount of energy that Turbine A produced is double the energy turbine B produces.



Olivia says,

“25% of the energy produced by turbine A is the same as 50% of the energy produced by turbine B”

Is Olivia **correct**? Explain your answer. Can you draw a representation to show your thinking?



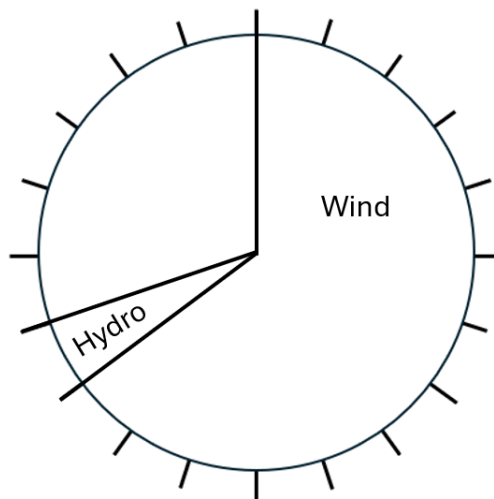
8

Look at the data in this table about how the UK generated its **renewable** energy last year.

Energy generation	Percentage of
Wind	65%
Solar	12.5%
Biomass	17.5%
Hydro	

Complete the table, with the percentage generated by **hydro**.

Using this data, draw **one** line and write **two** labels to complete the pie chart.



9

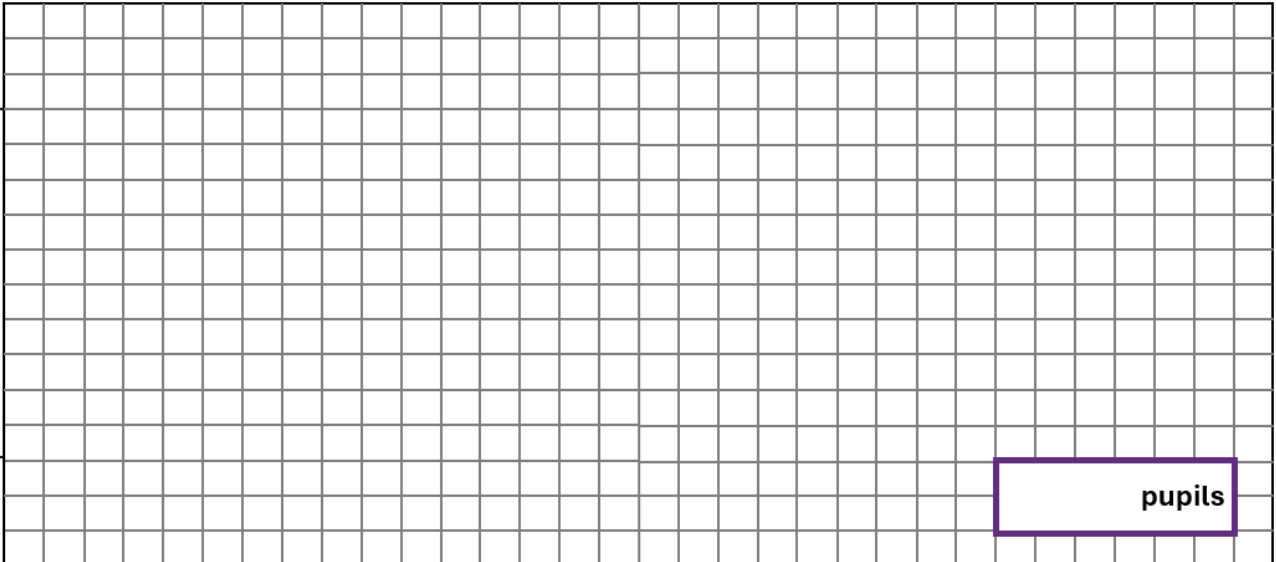
A class is asked whether they watch the weather forecast before they come to school,

Three fifths of the class say they **do watch** the weather forecast.

The remaining 8 pupils **do not watch** it before school.

How many pupils are in the **class**?

Show your method



pupils

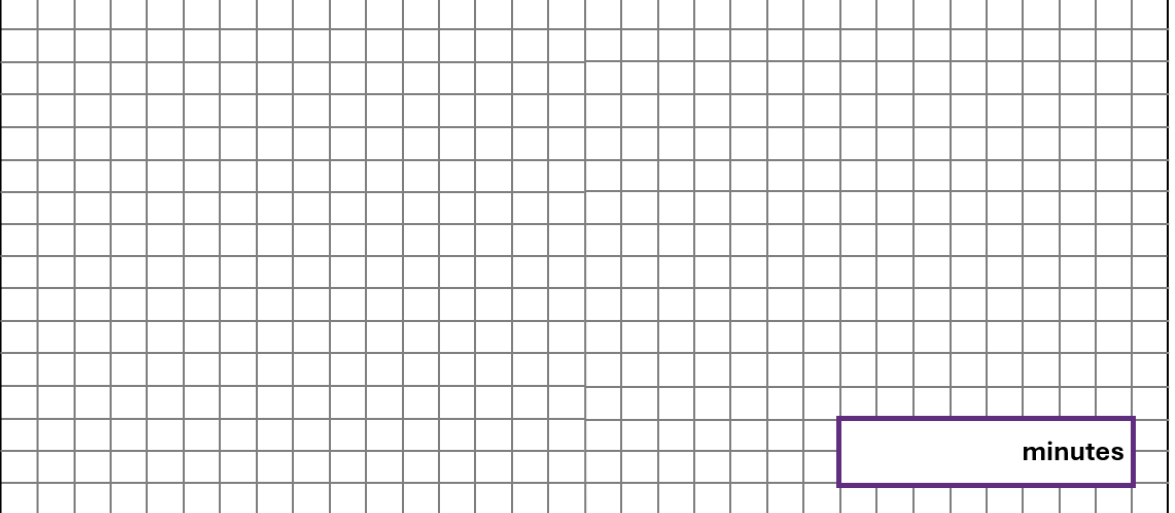
10

Charlie puts his electric car on to charge.

It takes **75 minutes** to charge the battery to 25%.

How much **longer** will it take to charge the battery to 100% in **minutes**?

Show your method



minutes