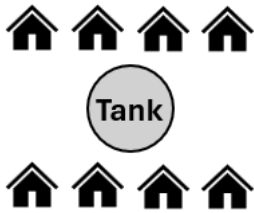


1

Due to a lack of rain there is a shortage of water.



One tank of water provides drinking water for 8 houses for a week.

How many **tanks** are needed for a town with **40 houses** for a week?

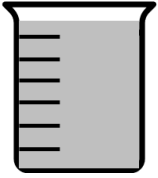
Another delivery of water tanks is sent to a small village with 24 houses.

15 tanks are sent to the village.

How many **weeks** will these tanks last in the village?

2

A cup is used to collect and measure rainwater.



The cup can measure up to 4 **millimetres** (mm) of water.

If 0.5mm water fell every day, how **many** days would it take to fill the cup?

days

The following table shows the rainfall that fell during each season in Belfast in 2024.

**Complete** the table with the rainfall and cups filled

Season	Rainfall (mm)	Number of cups filled
Winter	88	
Spring	60	
Summer		18
Autumn		24

3

One **kilogram** is 1000 **grams**.

A tree absorbs 25000 **grams** of carbon dioxide (CO<sub>2</sub>) a year.

A school plants 3 new trees in the playground.

How many **kilograms** of carbon dioxide will the 3 trees absorb in the **first year**?

Show  
your  
method

kilograms

The trees in the playground provide shade which cools the temperature.

On a summers day the temperate in the sunshine is 32 degrees Celsius.

In the shade, the temperature **reduces by**  $\frac{1}{4}$ .

What is the temperature in the **shade** in degrees Celsius?

degrees Celsius

4

Biofuel is fuel made from plant and animal waste. It is better for the environment than fossil fuels.



This 850 millilitre bottle of biofuel is made from 25 sugarcane plants.

How many **millilitres** of biofuel does **each plant** produce?

millilitres

A field the size of a football pitch can grow 20,000 sugar cane plants.

How many **millilitres** of biofuel could be made from the football pitch?

millilitres

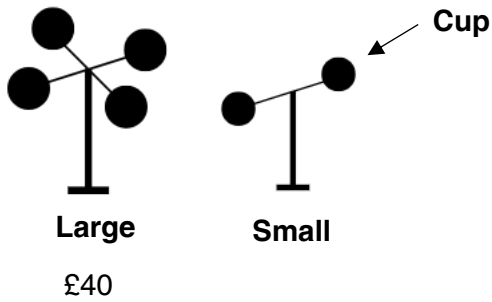
Ravi can travel 280 kilometres on a **full tank** of biofuel in his car.

The journey **to and from** work is 20 kilometres.

How many times can he commute to and from work on the full tank?

5

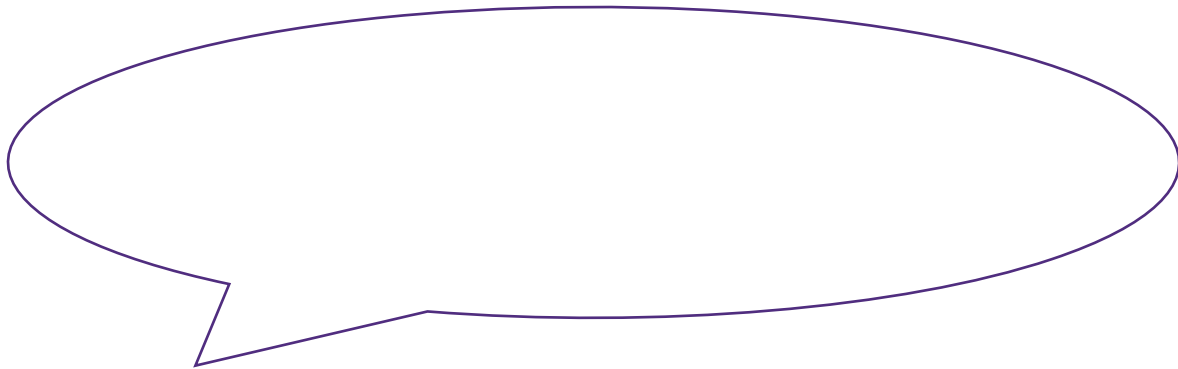
A shop has wind meters in the window.



Stefan counts **3 large** meters and **2 small** wind meters.

He counts 20 cups altogether.

Explain why Stefan **cannot** be correct.



Stefan is doing an experiment and needs to buy 1 large and 3 small wind metres.

It costs Stefan £115 in total.

How much does **one small** wind meter cost?

£	
---	--

6

A school orders 4 boxes of daffodil bulbs.

There are 50 bulbs in each box.

Each flower bed only has space for 6 bulbs.

What is the **greatest number** of flower beds that can be **filled**?

Show  
your  
method

beds

All bulbs were planted.

What **fraction** of the last flower bed is **not** filled?

7

A school have planted trees to create shade in the playground.

The trees should grow to **8 feet 10 inches** tall.

Conversion table	
One foot	30 centimetres
One inch	2.5 centimetres

Use this conversion table to calculate the height of the trees into **centimetres**.

centimetres
-------------

The tallest tree only grows to 232.5 centimetres.

How much more **should** it have grown in feet and inches?

foot	inches
------	--------

8

There are two recycling bins for coffee cups in a café.



The small bin fits 25 cups in.

The large bin fits 500 cups in.

How many **small bins** makes up a large bin?

The mass of the cups in a **full** large bin is 2.4 kilograms.

What is the mass of **one** coffee cup in **grams**?

9

This table shows the number of floods that happen during storms in Winter.

Complete the table to make it correct.

The first row has been done for you:

Country	Number of floods	Number of storms	No of floods per storm
England	12	4	3
Scotland	20		4
Wales		3	8

In Scotland, the total cost of repair from the floods was £2,400,000.

How much was the **mean** repair cost **per storm**?

£

The repair cost **per storm** is the same in **England**.

How much would total cost be for all storms in **England**?

£



11

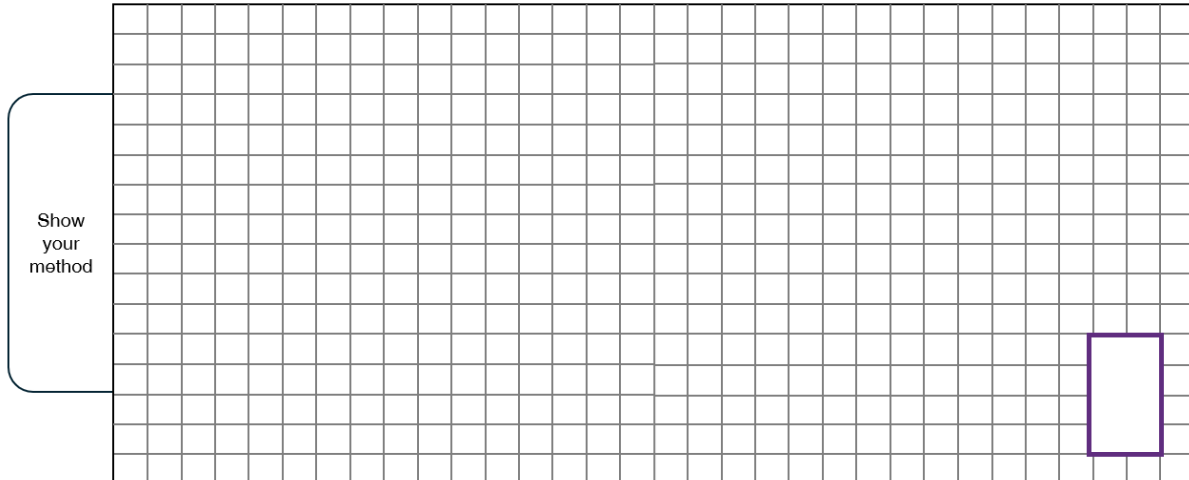
The government supply 1000 solar panels for new houses.

The houses can have 13 panels on the roof.

The last house does not get completely covered by solar panels.

What **fraction** of the last house is **filled**.

Show your method



It takes a day to install 8 panels.

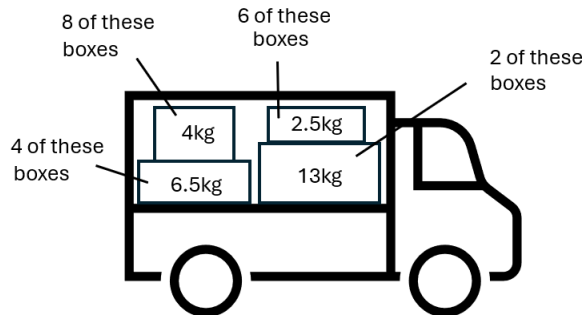
How **long** will it take to install all 1000 panels?

days

12

After Hurricane Deryl, 20 boxes of emergency food were delivered to town on a truck.

The boxes are in 4 different sizes.



What is the **total mass** of the 20 boxes on the truck?

Show  
your  
method

kilograms



14

A band holds a concert for a local climate charity.

The tickets cost £25 each.

They sell 600 tickets.

They pay £3000 to use the concert hall.

They give **two-thirds** of the remaining amount to charity.

How much money does the band give to climate charity?

Show  
your  
method

£

The climate charity donates the money to farmers who have lost their harvest due drought.

The money gets split equally between **5 farmers**.

How much does **each farmer** get?

£



16

Wind can be measure in different units: metres per second (m/s), kilometre per hour (km/h) or knots (kts).

One **metre per second** is equal to two **knots**.

One **metre per second** is equal to 3.6 **kilometre per hour**.

Use this to fill in the other wind speeds in all three units.

Metre per second (m/s)	Knots (kts)	Kilometre per hour (km/h)
1	2	3.6
2		
		36
	10	

The maximum wind speeds for a 5-day week are recorded.

Day	Maximum wind speeds (metres per second or m/s)
Monday	10
Tuesday	32
Wednesday	27
Thursday	12
Friday	9

What was the **mean** maximum wind speed for the week?

metres per second