

# Ratio and Proportion Challenge Cards

twinkl

Design a survey that you can ask your class, e.g. What is your favourite fruit? Design a data collection sheet, then enter your data into a spreadsheet. Create a pie chart with percentages. Devise questions about your pie chart for other children to answer.

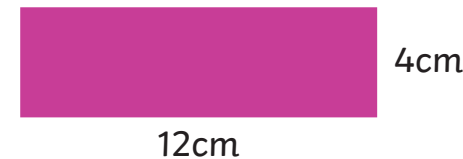


1. If 10% of a number is  $\frac{1}{5}$  of the product of the third and the fourth prime numbers, what is the number?

2. If 5% of a number is  $\frac{2}{5}$  of the sum of the 6th and the 7th square numbers, what is the number?

These shapes are similar. Work out the scale factor that the second one has been enlarged by and the perimeter and area of the larger shape:

**Scale Factor:**

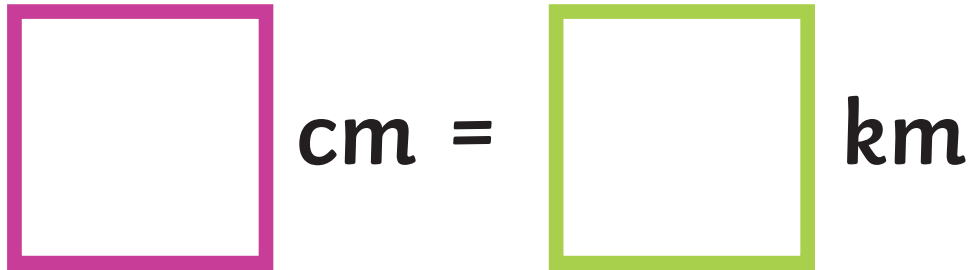


Perimeter of larger shape =

Area of larger shape =

At a park, guests must travel 4km to get from the entrance to the Visitors' Centre. On a map of the park, this distance is represented by 36cm. What is the map's scale?

Write your answer in its simplest form.

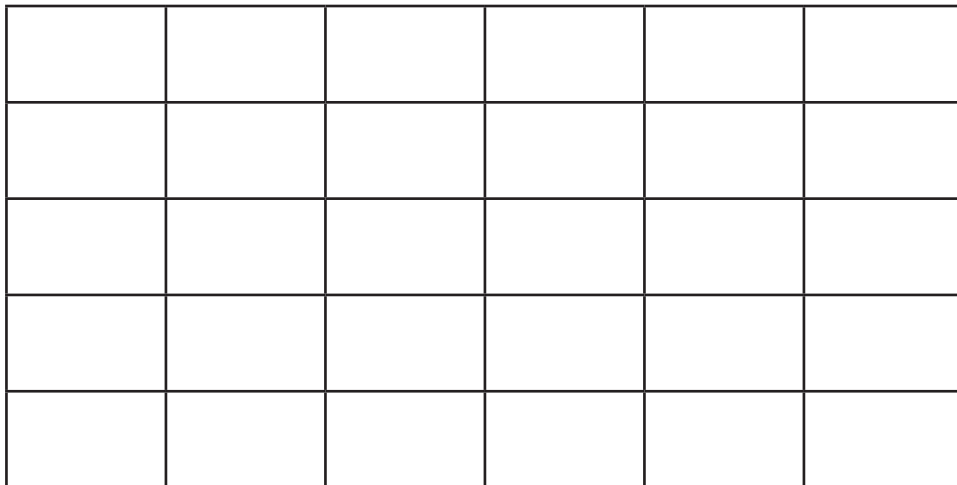


The Jones family are painting their house. They have decided that they want a shade of purple throughout the house. The shade they want is the ratio of:

**red:blue:white 4:3:1**

They need 40 tins of paint in total. Red paint cost £4.99 per tin, blue costs £3.50 per tin and white costs £2.99 per tin. How much will it cost them to buy all the paint they require?

Design a flag to the ratio of  
blue:yellow:red 2:3:5



Write the name of the person in each pair that has the most money.

Tamara has  $\frac{3}{5}$  of £1000. Jo has  $\frac{3}{4}$  of £700.

Susie has  $\frac{2}{9}$  of £36 000. Tim has  $\frac{1}{6}$  of £24 000.

Lubayna has  $\frac{4}{5}$  of £5500. Mohammed has  $\frac{3}{8}$  of £10 000.

Write the names of the children in order from the person who has the least money to the one who has the most.

Jasbir gets paid £7.50 an hour, but for weekend work (Saturday and Sunday) she receives  $1\frac{1}{2}$  of this rate. Here are the hours she worked this week:

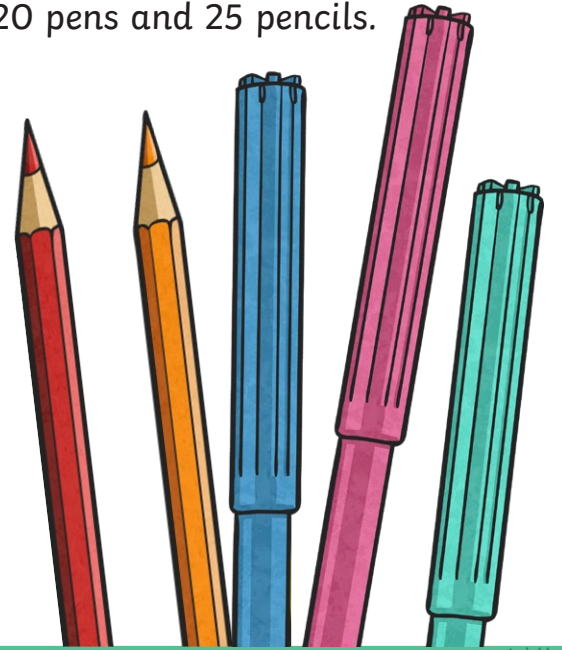
**Monday: 5 hours**  
**Tuesday:  $3\frac{1}{2}$  hours**  
**Wednesday: Day off**  
**Thursday: 6 hours**  
**Friday: 4 hours**  
**Saturday: 5 hours**  
**Sunday: 3 hours**

How much money has she earned in this week?

twinkl.com

In my pencil pot, I have 20 pens and 25 pencils.

**What is the ratio of pens to pencils?**



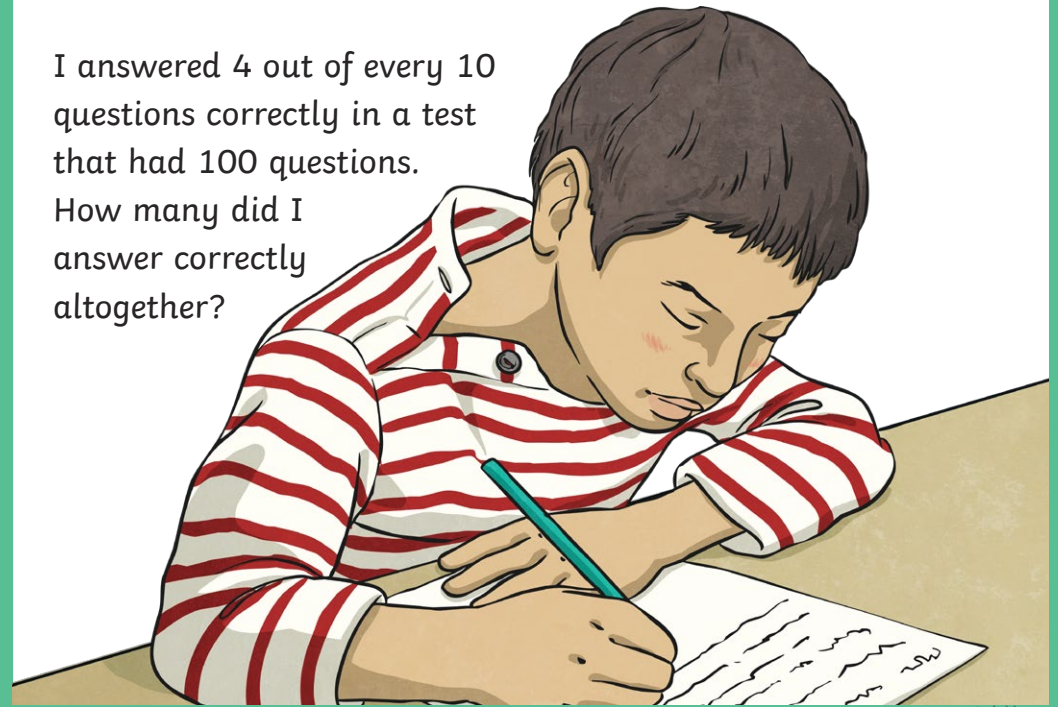
twinkl.com

On a map I am using, the scale is 1cm for every 10km. If I am mapping a 800km journey, how many cm is it on the map?



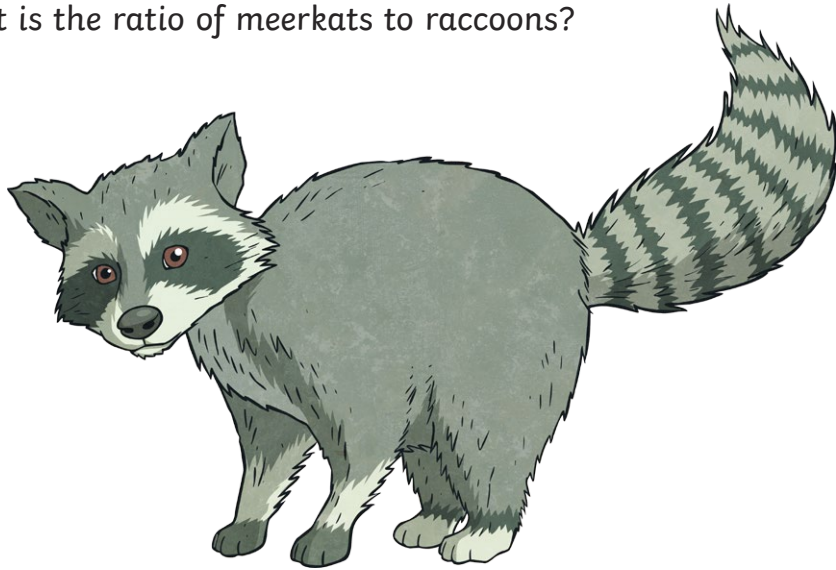
twinkl.com

I answered 4 out of every 10 questions correctly in a test that had 100 questions. How many did I answer correctly altogether?



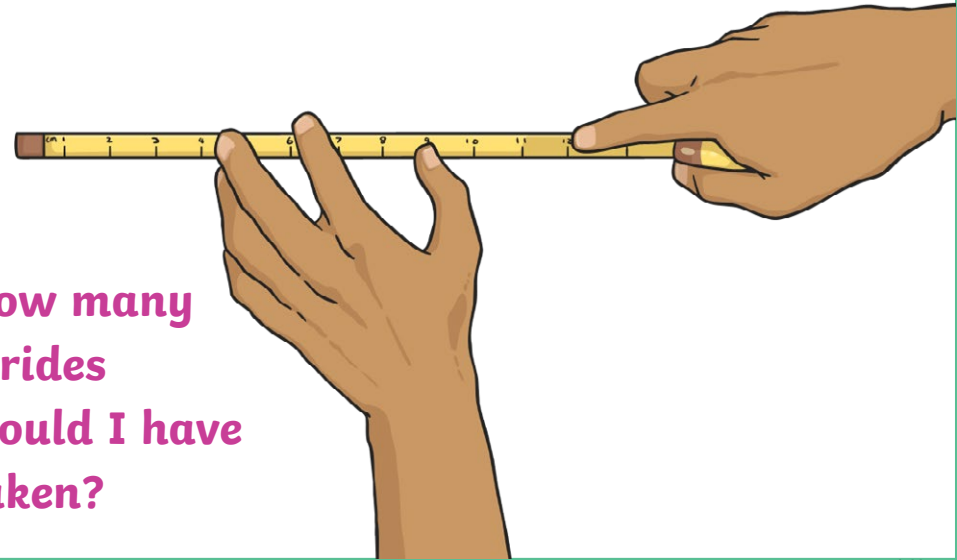
twinkl.com

In a zoo, there were **60 meerkats and 55 raccoons**.  
What is the ratio of meerkats to raccoons?



twinkl.com

I measured my stride when walking and found it to be 70cm.  
I then walked for 14m.



**How many  
strides  
would I have  
taken?**

twinkl.com

For every 2 blond-haired pupils, there were 4 black-haired.  
There were 8 blond-haired pupils.

**How many black-haired pupils?**



twinkl.com