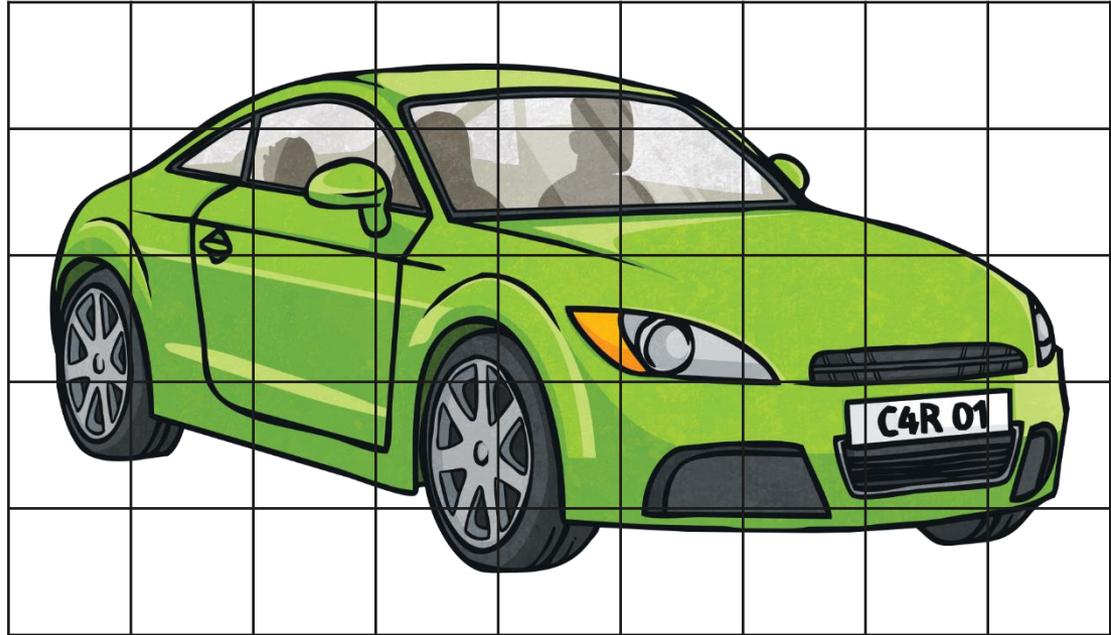
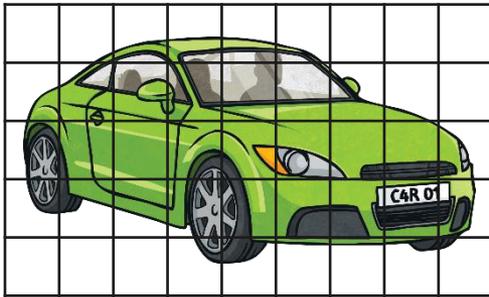


# Scale Factor



twinkl

# Enlargement

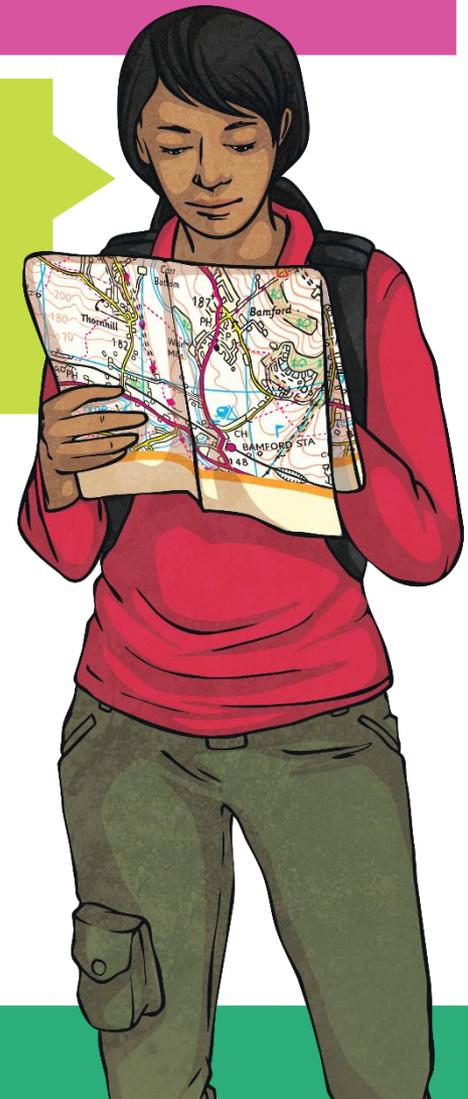


This car has been enlarged, keeping everything in proportion. On the enlargement sheet, enlarge the drawing. Use the squares to help you keep the drawing in proportion.

# Scale

Scale is a way of representing real things using ratio, for instance on a map you may have a ratio 1cm:100km, where every centimetre on the map represents 100km in real life.

We use scaling (reduction and enlargement) to represent simplified versions of objects and distances.

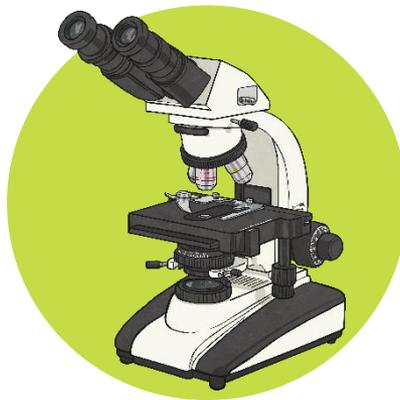


# Scale

Here are some examples of scale factors in use:



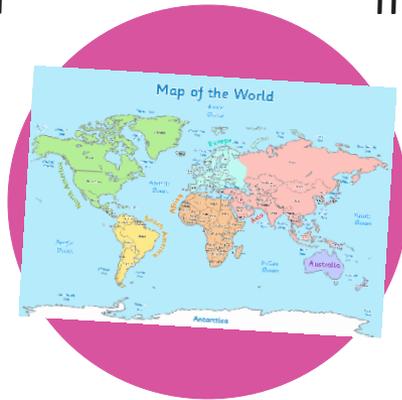
toy car



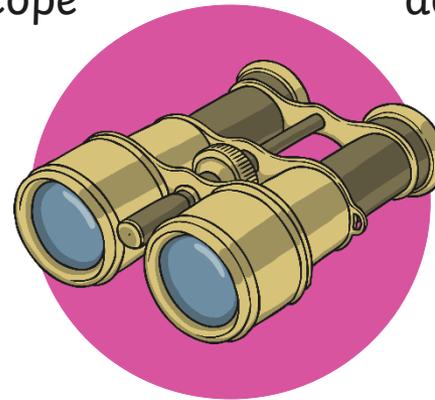
microscope



doll house

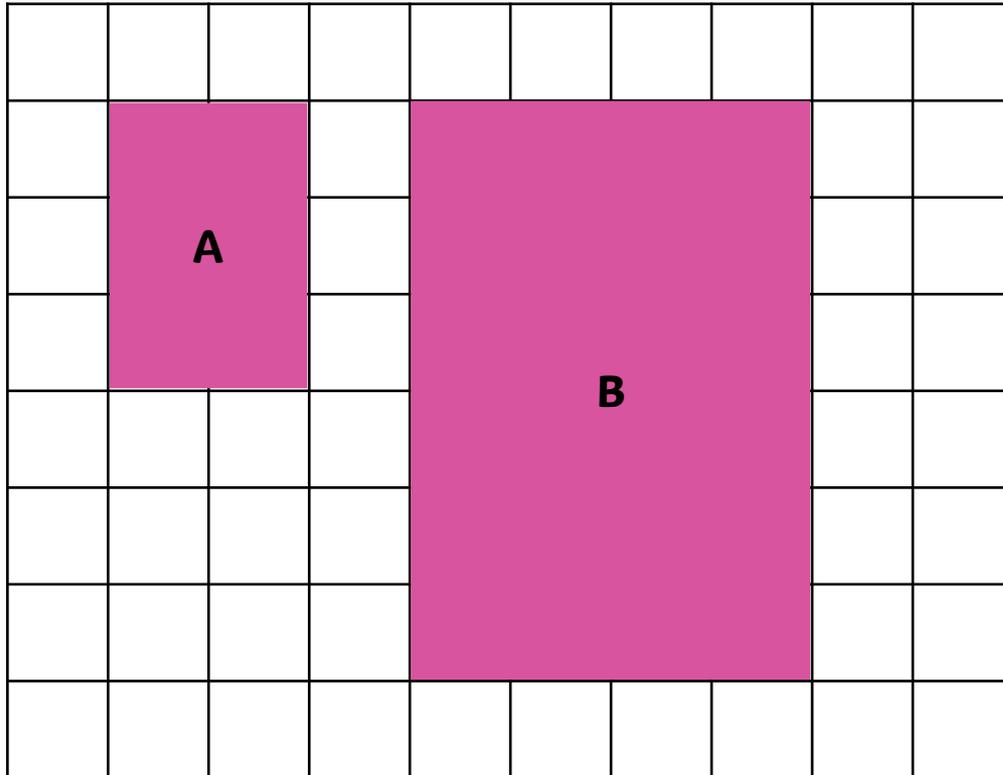


world map



binoculars

# Scale Factor

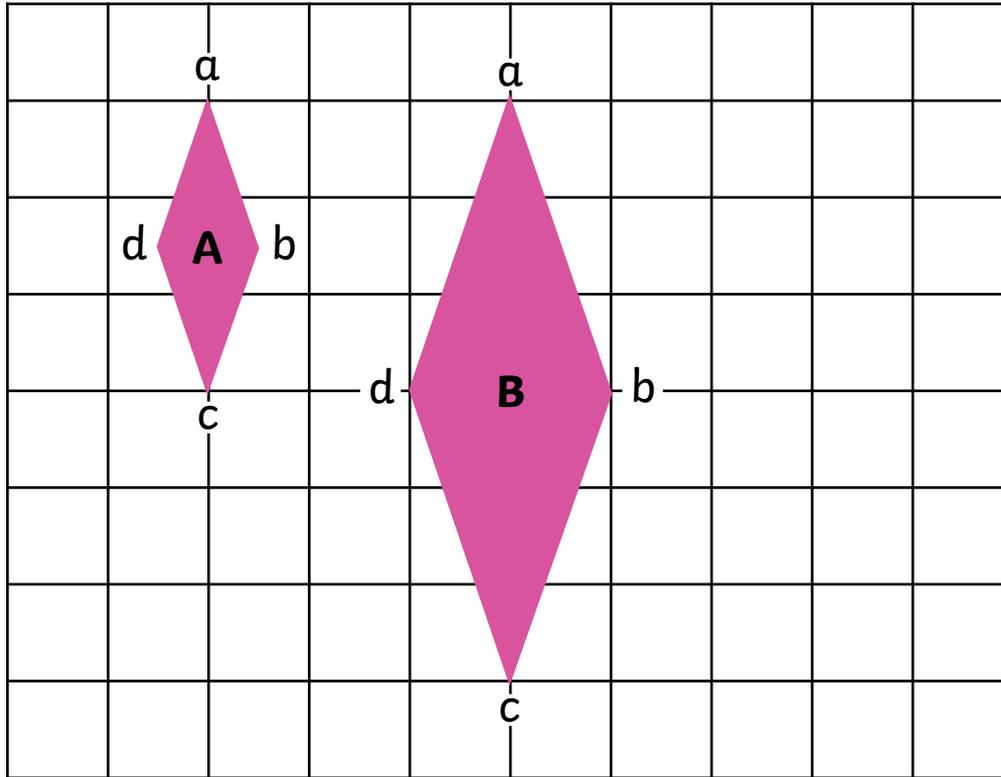


In rectangle A, the length is 3 squares and the width 2 squares.

In rectangle B, the length is 6 squares and the width 4 squares.

The width and length has doubled ( $\times 2$ ). We call this **scale factor 2**.

# Scale Factor

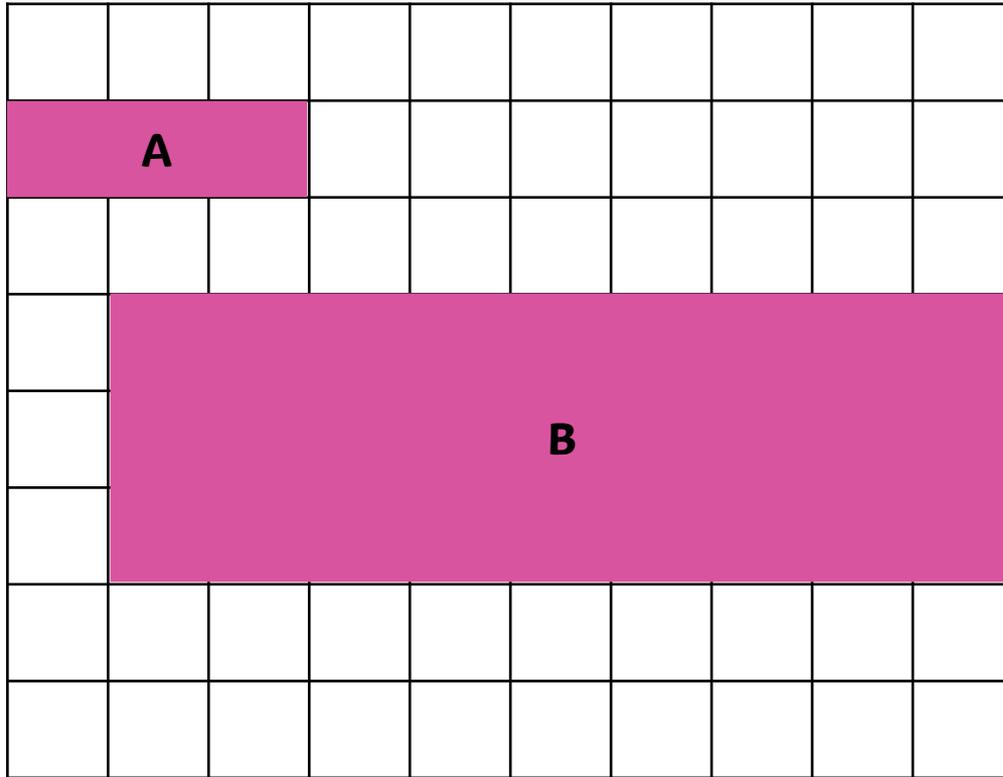


In rhombus A, the measurement **ac** is 3 squares and the measurement **bd** is 1 square.

In rhombus B, the measurement **ac** is 6 squares and the measurement **bd** is 2 squares.

Each measurement has doubled ( $\times 2$ ). This is also **scale factor 2**.

# Scale Factor – example question



What scale factor has rectangle A been enlarged by?

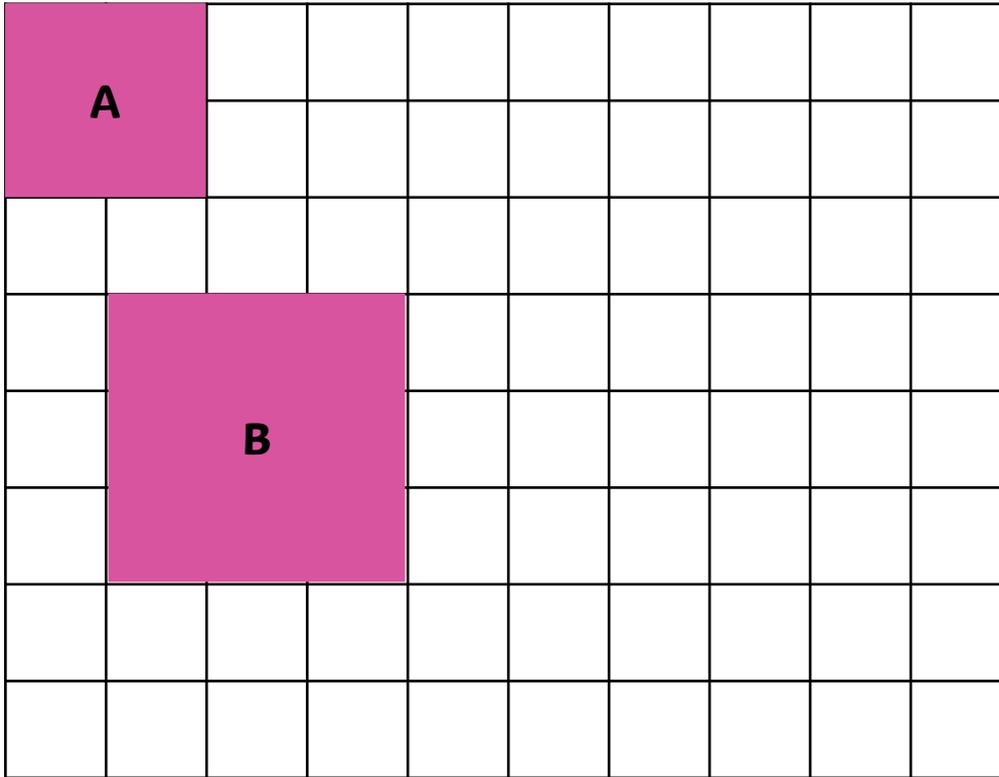


It has been enlarged by...

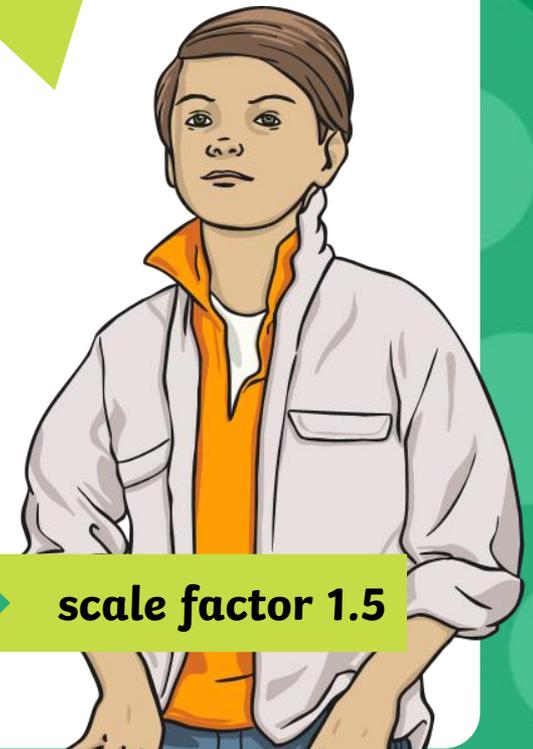
**scale factor 3**

We also say these shapes are 'similar'.

# Scale Factor – example question



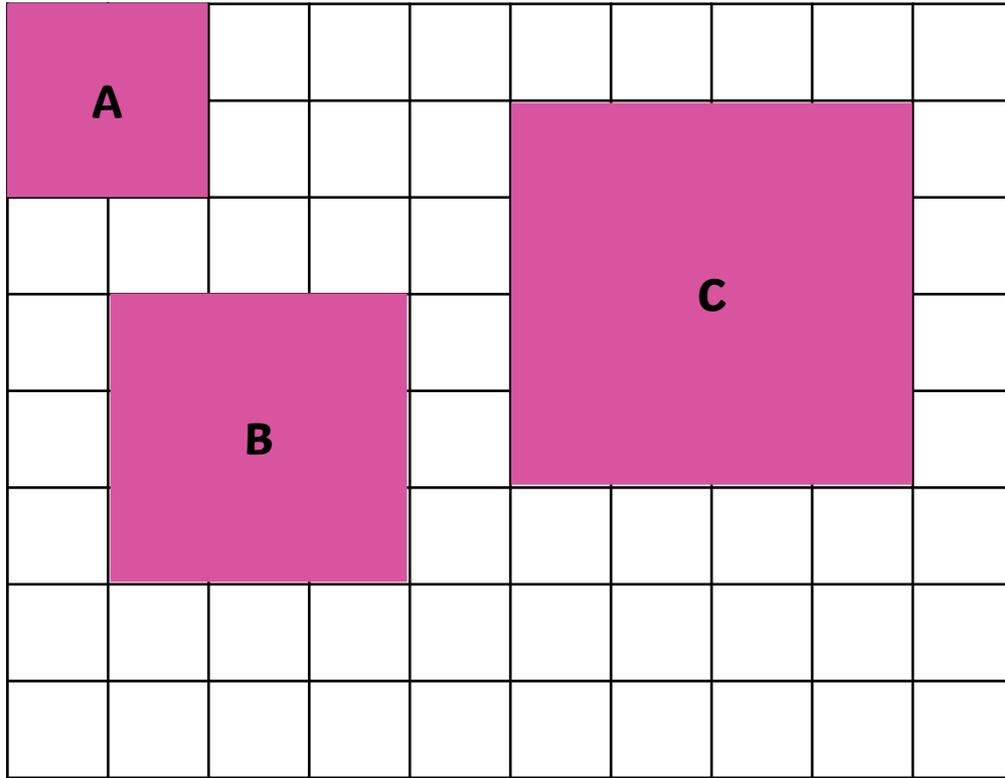
What is the enlargement scale factor from square A to square B?



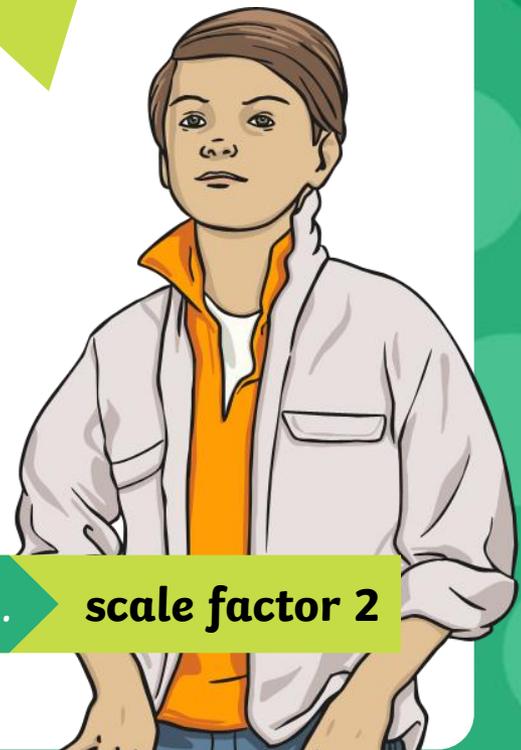
It has been enlarged by...

**scale factor 1.5**

# Scale Factor – example question



What is the enlargement scale factor from square A to square C?



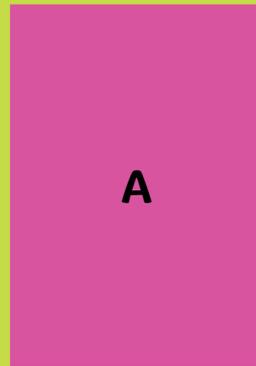
It has been enlarged by...

**scale factor 2**

# Scale Factor – example question

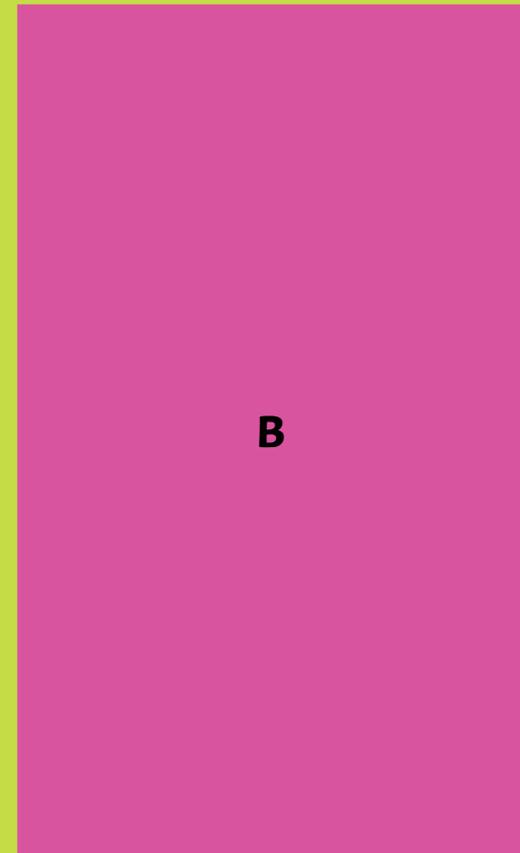


If shape A has been enlarged by scale factor 2, what would the length and width measurements be?



60cm

90cm

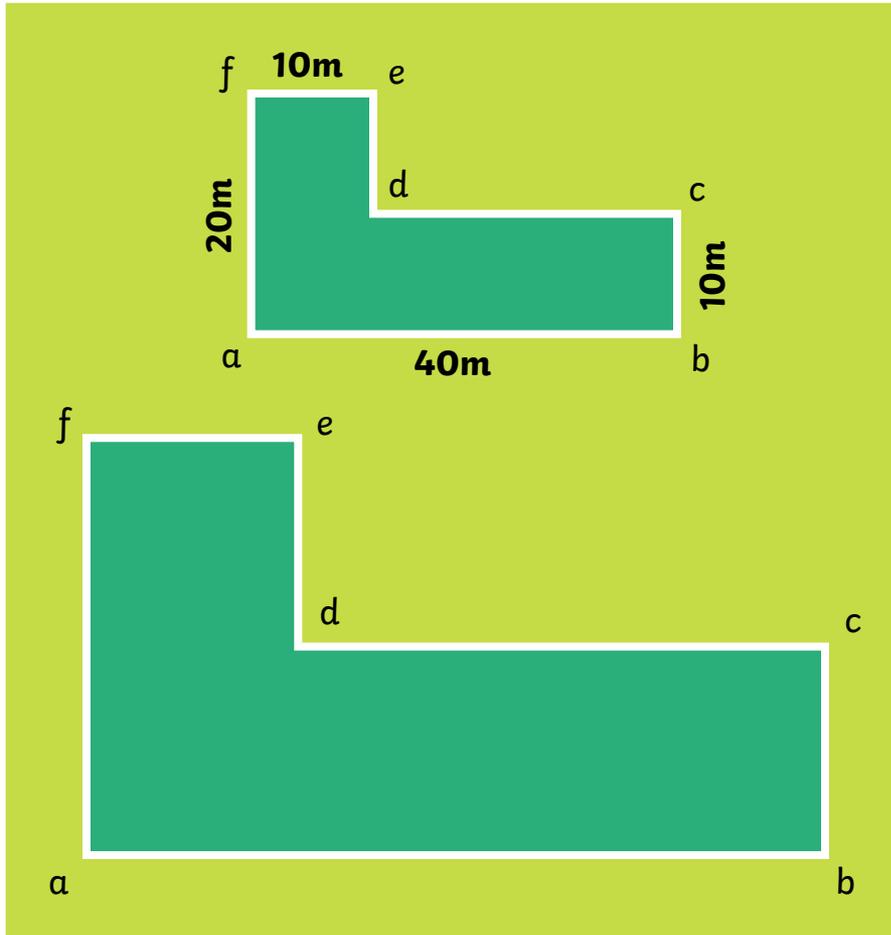


B

**Width: 120cm**

**Length: 180cm**

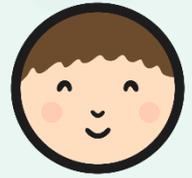
# Scale Factor – example question



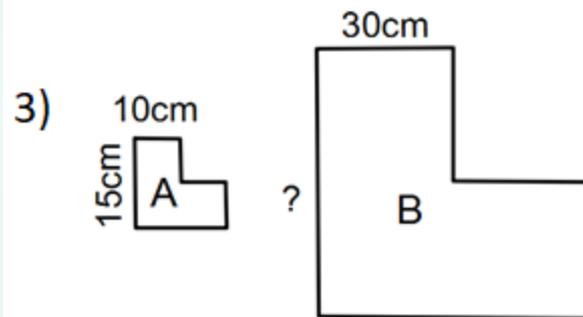
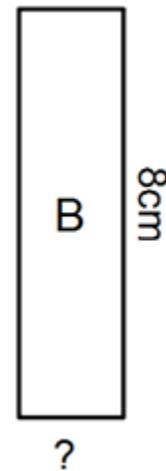
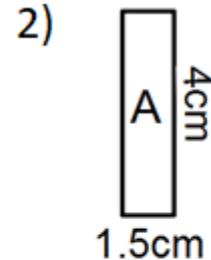
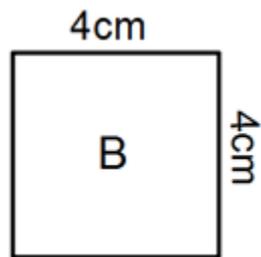
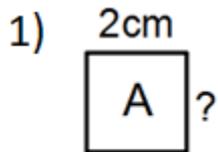
If the smaller shape has been enlarged by **scale factor 2**, what are the measurements of the sides of the enlarged shape?

- ab 80m
- bc 20m
- cd 60m
- de 20m
- ef 20m
- fa 40m

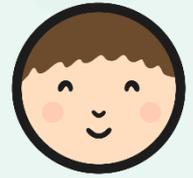
# Your task



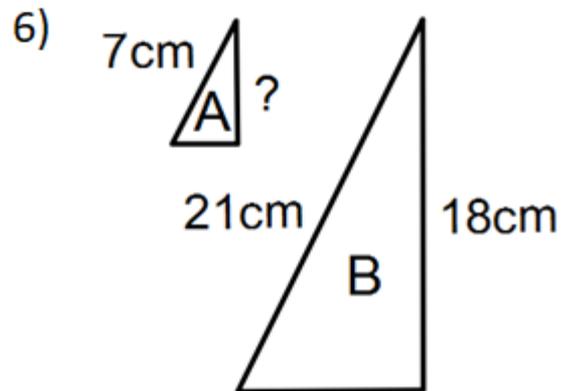
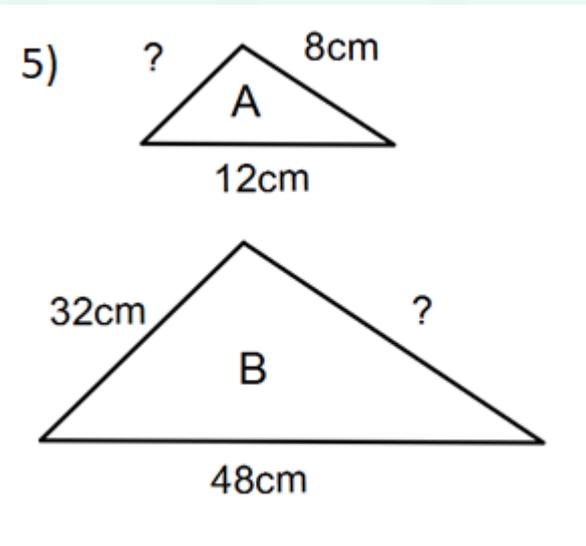
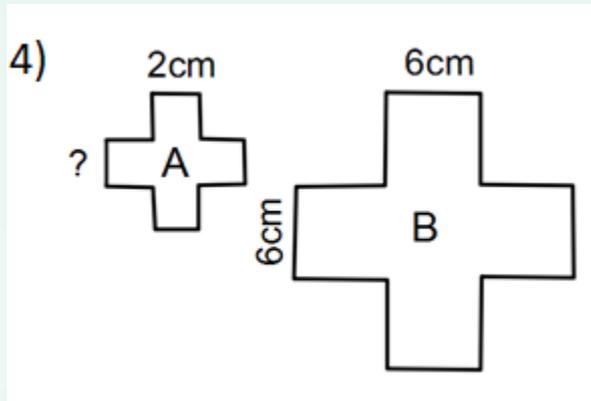
Each set of shapes in each question are similar. Work out what the scale factor is and then what the missing side is. Answer are at the bottom of the COL document.



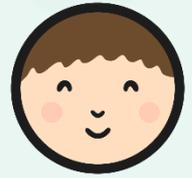
# Your task



A few more to try...if you haven't spent 20 minutes on your maths yet:



# Challenge



These two are a little trickier...

