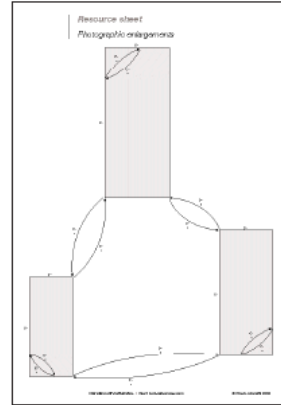


Photographic enlargements

Show the set of similar rectangles given on the resource sheet 'Photographic enlargements' (OHT, poster size or A3 sheets).



Explain that:

- This is a set of photographs which are enlargements of each other (i.e. it is a set of similar rectangles).
- There are 18 values missing from the diagram (on a poster you might like to have these values hidden by small sticky notes – ‘lift the flap’), but they cannot be found by measuring as the rectangles are not drawn accurately.

- Of the missing values:
 - six are dimensions – the width and length of each rectangle;
 - six are scalings between the three rectangles in both directions;
 - six are internal ratios written as scalings from the length to the width and vice versa.

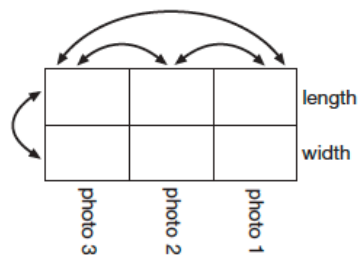
Pose the challenge:

I will give you some of the values. You have to ask for the *minimum* you need to work out all the other values. What values do you want me to give? (Which flaps would you choose to lift?)

The difficulty of this task is largely determined by the decision making required as to which numbers are revealed. More guidance on this choice could be given to support some groups of pupils.

Follow up:

- Pupils should explore alternative sets of given values and consider what is the least number they need.
- They might tabulate dimensions and the scalings between them as follows:



- Extension: What is the largest number of values you could be given and still be unable to find all 18 values?