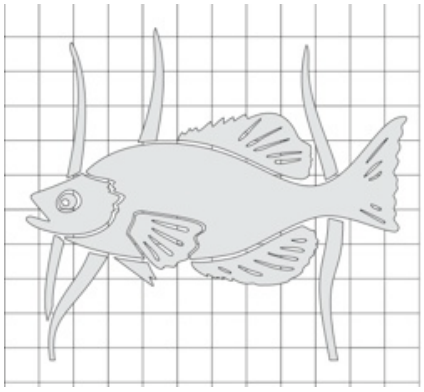
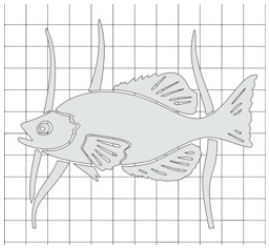


Scale Diagrams:



A diagram that is an enlargement or reduction of another diagram.

The measurements in each diagram are compared.

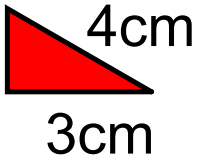
$$\text{Scale Factor} = \frac{\text{Length of Scale Diagram}}{\text{Length of Original Diagram}}$$

The scale factor can be written as a fraction or decimal.

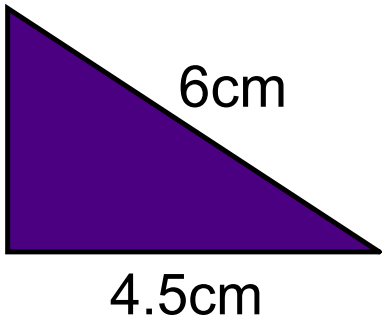
If the scale factor is less than one, the diagram is a reduction, larger than one indicates the diagram is an enlargement.

When pairs of corresponding lengths have the same scale factor, we say that the corresponding lengths are **proportional.**

original

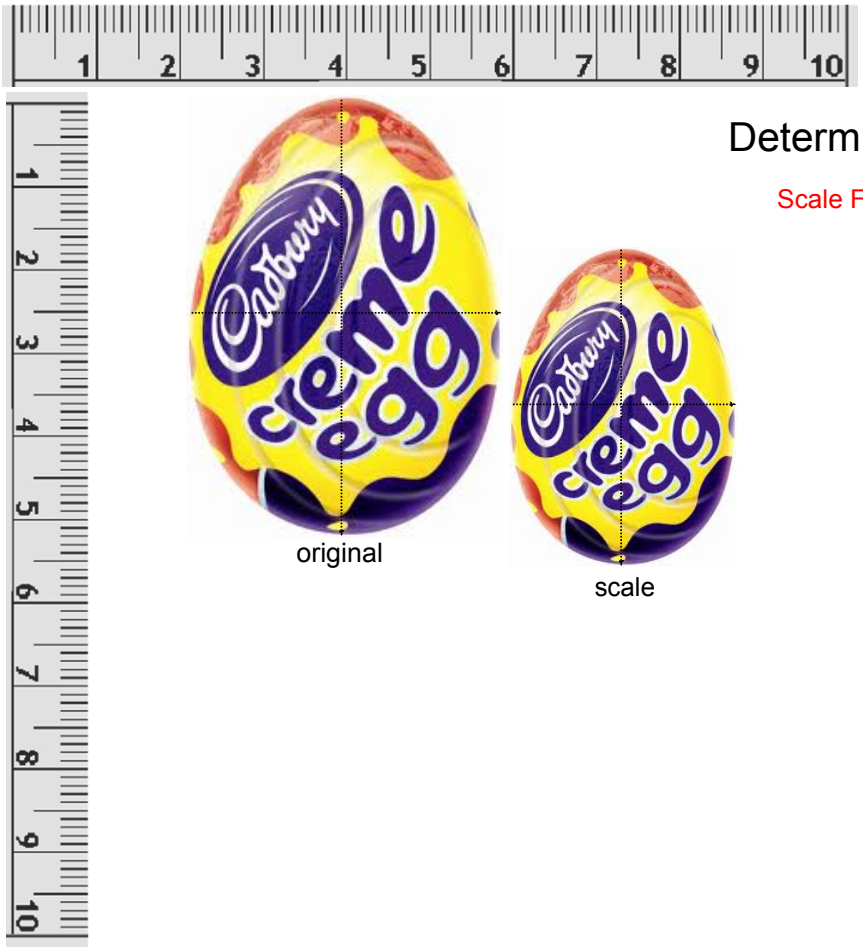


scale



$$\frac{\text{scale}}{\text{original}} = \frac{6}{4} = 1.5$$

$$\frac{\text{scale}}{\text{original}} = \frac{4.5}{3} = 1.5$$



original

scale

Determine the scale factor.

Scale Factor = $\frac{\textit{Scale Diagram}}{\textit{Original Diagram}}$

This photo of longhouses has dimensions 9 cm by 6 cm.

The photo is to be enlarged by a scale factor of $\frac{7}{2}$.

Calculate the dimensions of the enlargement.

original

scale

Sometimes you are only given the scale diagram....

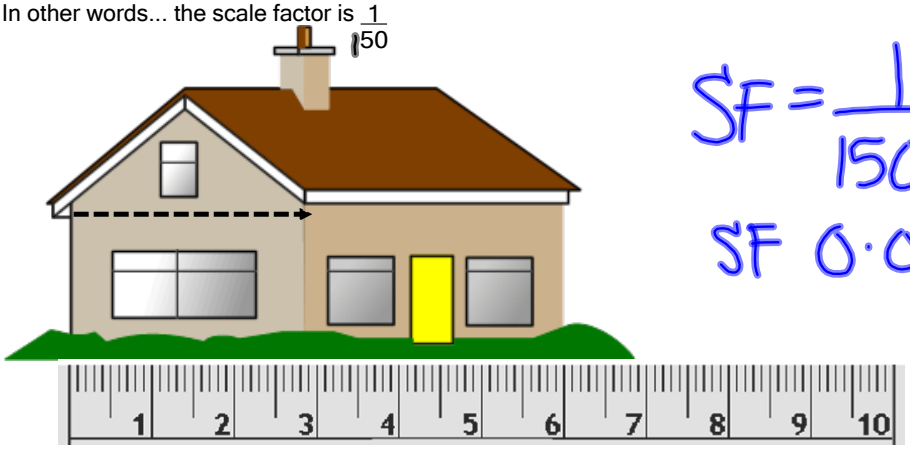
A scale may be given as a ratio.

The scale on this scale diagram of a house is 1:150.

This means that 1cm on the diagram represents 150 cm or 1.5m on the house.

In other words... the scale factor is $\frac{1}{150}$

How wide is the actual house??

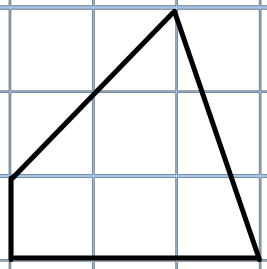


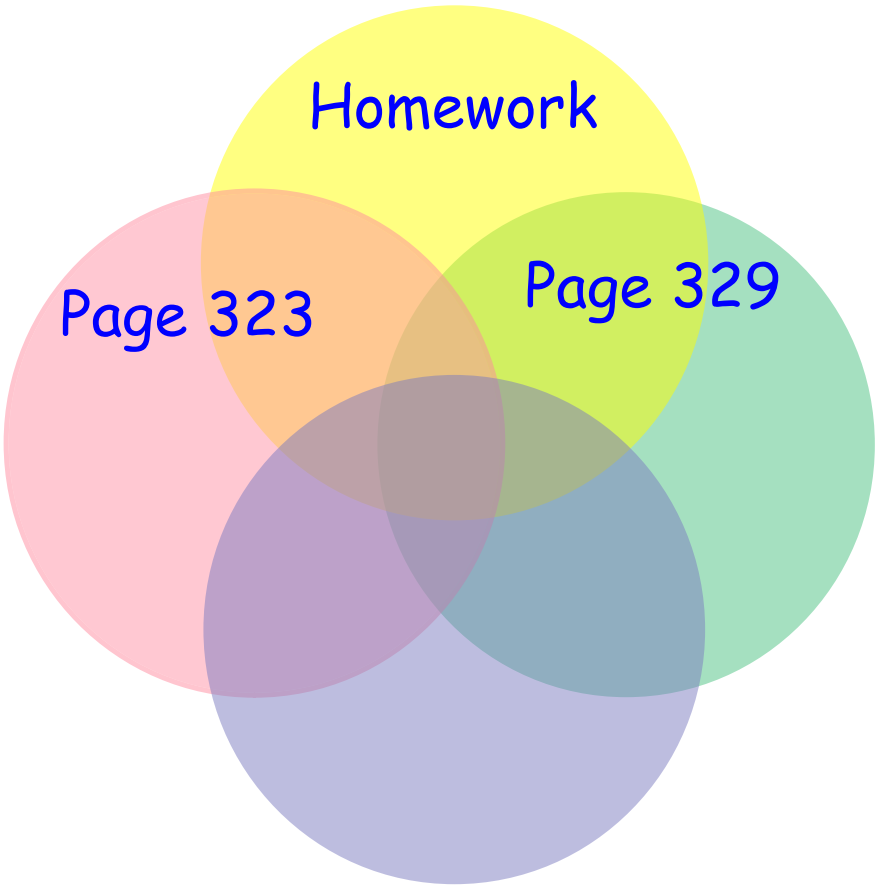
$SF = \frac{1}{150}$

SF $0.00\overline{6}$

$2.85cm \times 150 = 427.5cm$

Draw the scale diagram with scale of 2.




Homework
Page 323
Page 329