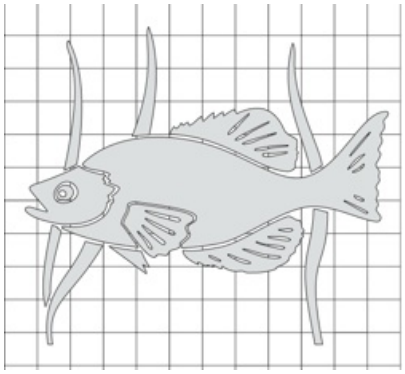
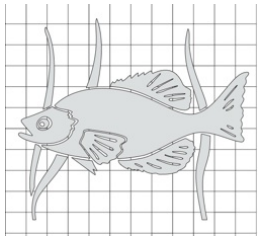
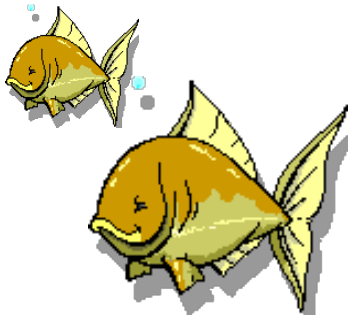


Scale Diagrams:





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

The measurements in each diagram are compared.

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

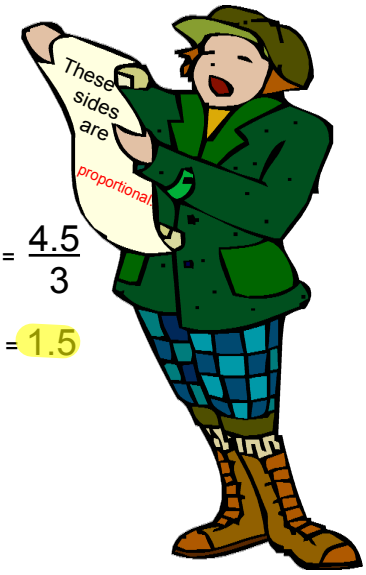
The scale factor can be written as a fraction or decimal.

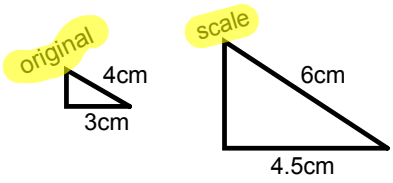
$S.F. = \frac{S}{O}$

If the **scale factor** is less than one, the diagram is a reduction,

A scale factor 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.





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

$= 1.5$

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

$= 1.5$

Determine the scale factor.

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

$S.F. = \frac{S}{O}$

$= \frac{2.6}{3.7}$

$= 0.\overline{702}$

$S.F. = \frac{S}{O}$

$= \frac{3.8}{5.25}$

$= 0.724$

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

6

9

6 x 3.5 → 21 cm

9 x 3.5 → 31.5cm

scale

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

A scale may be given as a ratio.

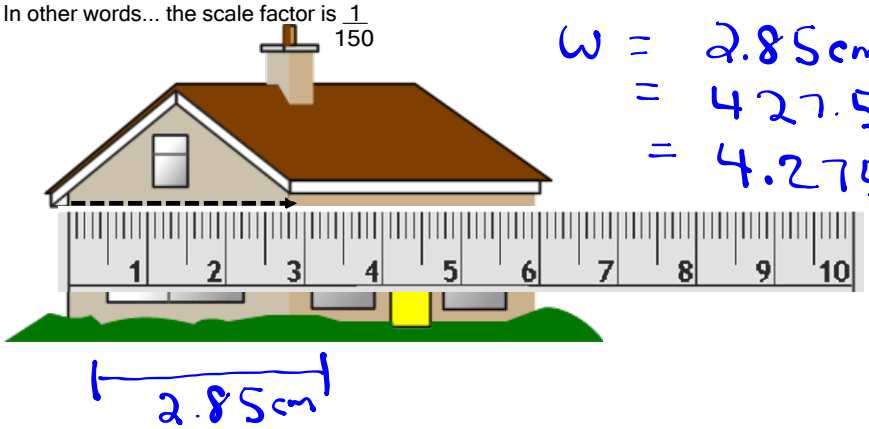
The scale on this scale diagram of a house is 1:150.

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

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

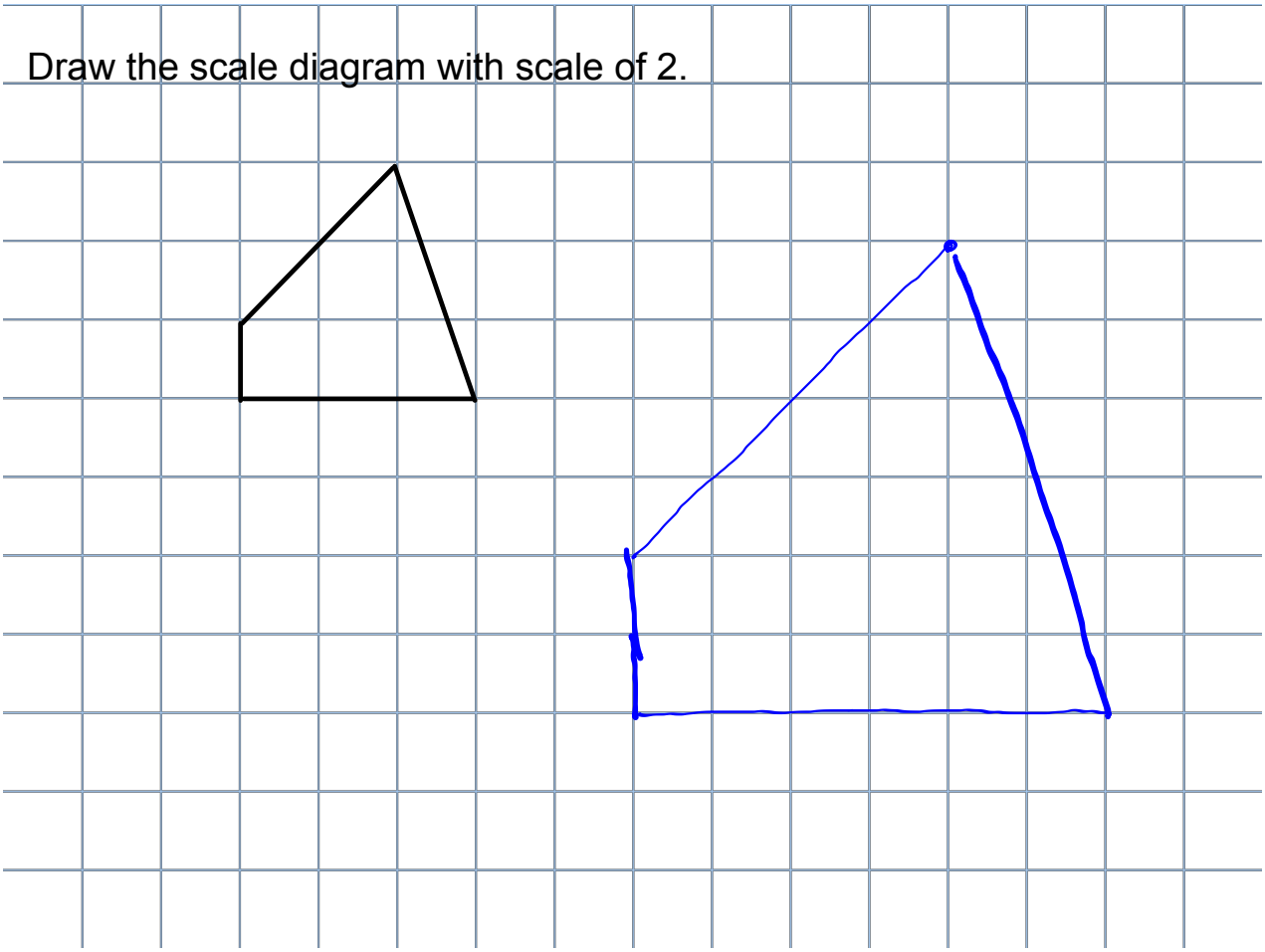
How wide is the actual house??

W = 2.85cm x 150
= 427.5cm
= 4.275m



2.85cm

Draw the scale diagram with scale of 2.



Homework

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4(ad)
#5
#6
#8
11(ace)
#12b
#14