1) a) Enlarged by a scale factor of 2.
b) Enlarged by a scale factor of 2.
2) Odion is correct.
$1.2 \times 3.5=4.2 \mathrm{~cm}$
$0.8 \times 3.5=2.8 \mathrm{~cm}$
3) $6.3 \div 1.8=3.5 \mathrm{~cm}$

The shape has been enlarged by a scale factor of 3.5.
To calculate the length of the base:
$2.4 \times 3.5=8.4 \mathrm{~cm}$
To calculate the missing height:
$1 \times 3.5=3.5 \mathrm{~cm}$


1) Smaller rectangle $=$ Shape $A($ Perimeter of 8 cm$)$


The perimeter has increased from 8 cm to 12 cm .
$12 \div 8=1.5 \mathrm{~cm}$. This means that Shape $A$ has been enlarged by a scale factor of 1.5 .
2) Michael is correct. Triangles $B$ and $C$ are both enlargements of triangle $A$.

Triangle $B$ is an enlargement of triangle $B$ by a scale factor of 1.5.
Triangle $C$ is an enlargement of triangle $C$ by a scale factor of 3.
3) Josie is correct. It is possible to calculate the length of the side of square $B$, knowing that the shape is an enlargement of square A by a scale factor of 7.
Square $A$ has a length of 7 cm so multiply this by 7 to find the length of the side.
$7 \times 7=49 \mathrm{~cm}$
Square C has a length of $\mathbf{3 5 c m}$. Use the inverse to calculate the scale factor.
$35 \div 7=5$ (scale factor of 5 )

| Square | Length of Side | Scale Factor |
| :---: | :---: | :---: |
| A | 7 cm | 1 |
| B | 49 cm | 7 |
| C | 35 cm | 5 |

1) 



The scale factor enlargement from rectangle $A$ to rectangle $B$ is 3 .
2) $3.6 \mathrm{~cm} \div 2.4 \mathrm{~cm}=1.5$

A scale factor enlargement of 1.5 has been applied.
If the scale factor enlargement of 1.5 was applied to shape $C, 3.6$ would need to be multiplied by 1.5 to find the correct length.
$3.6 \mathrm{~cm} \times 1.5=5.4 \mathrm{~cm}$
Raul is incorrect. Shape C would have a length of 5.4 cm (and a height of 4.5 cm ).
3) The rectangle must have sides 14 cm and 2 cm .
$35 \div 14=2.5$
The rectangle has been enlarged by a scale factor of $\mathbf{2 . 5}$.
14 cm

2 cm
4) Enlarging by fractional scale factors results in the dimensions of any shape becoming smaller, even though we still refer to this as an enlargement.
Examples of possible answers:
With a scale factor of 0.5 side lengths are 5 cm and 2.5 cm .
With a scale factor of 0.25 side lengths are
2.5 cm and 1.25 cm .

With a scale factor of 0.1 side lengths are
1 cm and 0.5 cm .
Also accept scale factors written in using the equivalent fractions and percentages:
$0.5=50 \%=\frac{1}{2}$
$0.25=25 \%=\frac{1}{4}$
$0.1-10 \%=\frac{1}{10}$

