

Find missing lengths in similar separate shapes

Maths

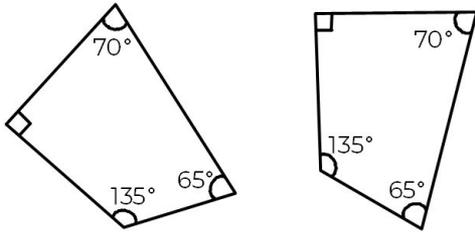
Mr Chan



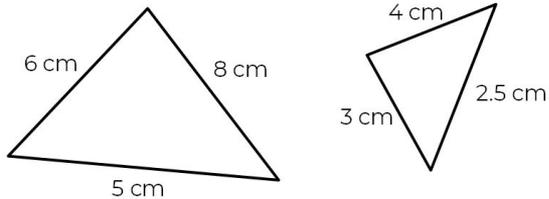
Find missing lengths in similar separate shapes

1. Explain why each pair of shapes are similar.

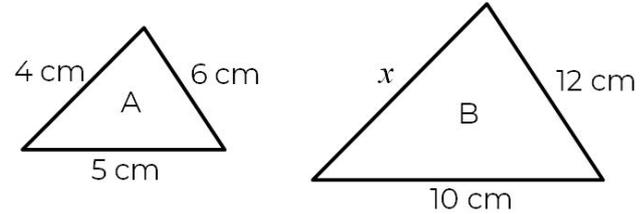
a)



b)



2. These triangles are similar.



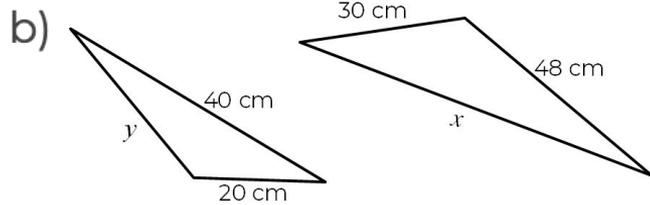
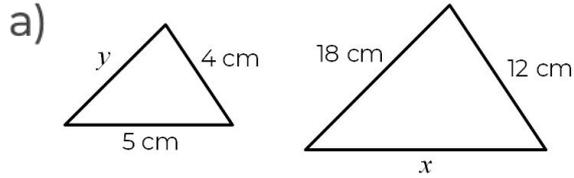
a) What scale factor has shape B been enlarged by?

b) Work out the side length marked x .

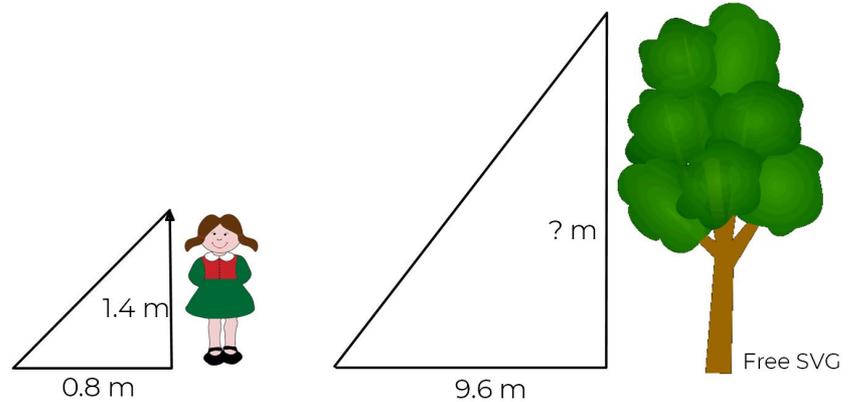


Find missing lengths in similar separate shapes

3. Work out the missing lengths marked x and y for each pair of similar shapes.



4. Mary is using her shadow to work out the height of a tree. The shadows form a pair of similar triangles.



Work out the height of the tree.



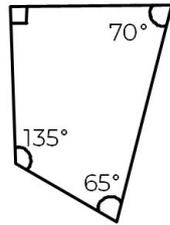
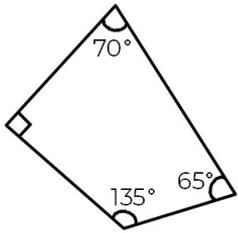
Answers



Find missing lengths in similar separate shapes

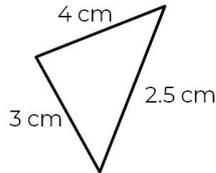
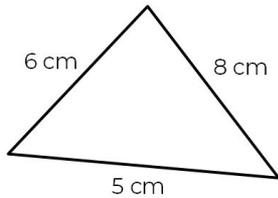
1. Explain why each pair of shapes are similar.

a)



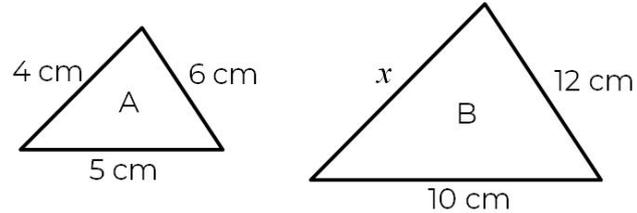
All angles are the same, the orientation of the shape does not matter.

b)



All the corresponding sides in the first triangle are twice those of the second triangle.
The orientation of the triangles does not matter.

2. These triangles are similar.



a) What scale factor has shape B been enlarged by?

$$\text{Scale factor} = 10 \div 5 = 2$$

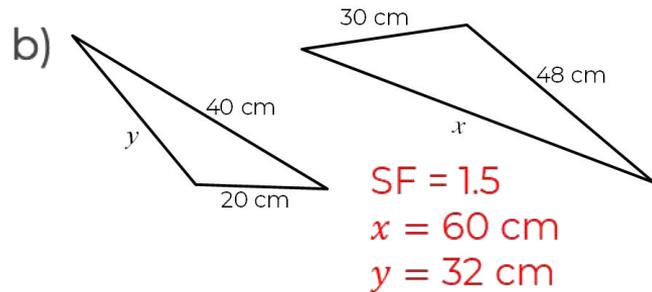
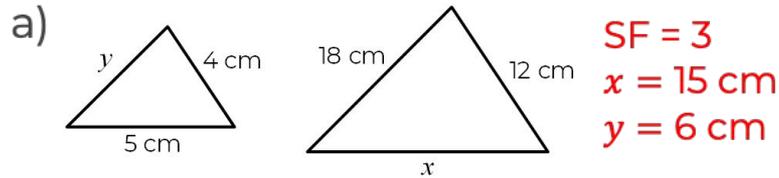
b) Work out the side length marked x .

$$x = 4 \times 2 = 8 \text{ cm}$$

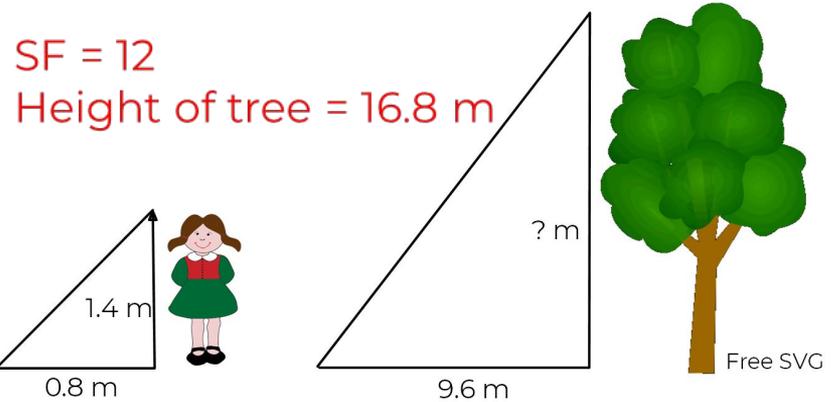


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