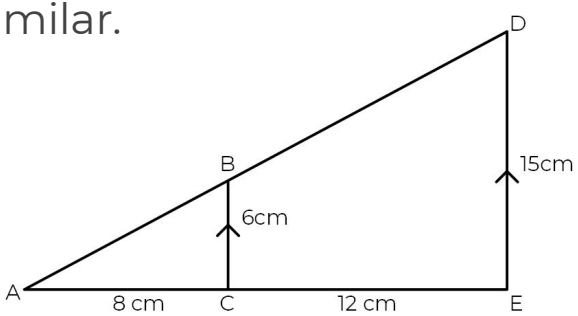
Find missing lengths in similar shapes which have sides overlapping

Maths

Mr Chan

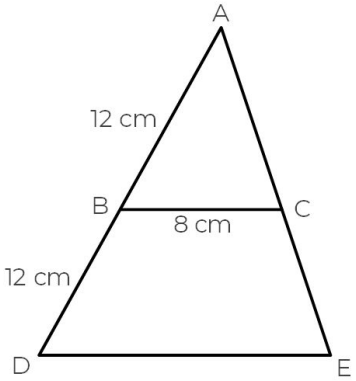
Find missing lengths in similar shapes which have sides overlapping

1. Explain why triangles ABC and ADE are similar.



It may help to draw the two separate triangles.

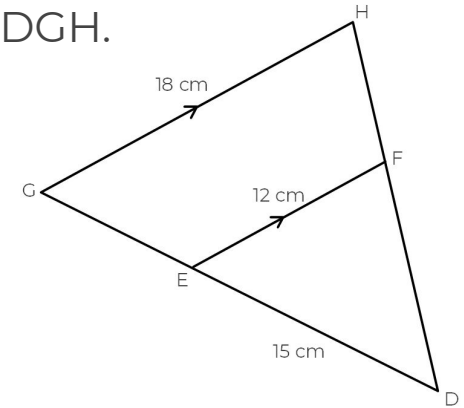
2. Triangle ABC is similar to triangle ADE.



Work out side length DE.

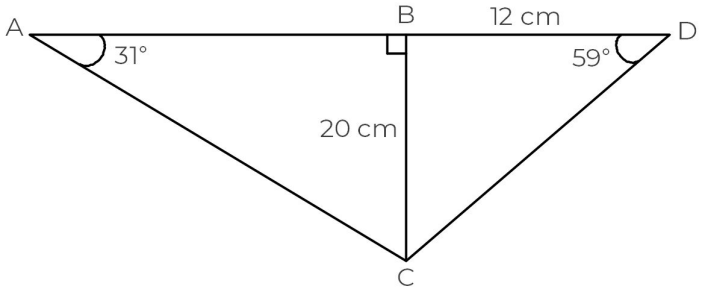
Find missing lengths in similar shapes which have sides overlapping

3. Triangle DEF is similar to triangle DGH.



Work out the length of side EG.

4. Triangles ABC and BCD are similar.

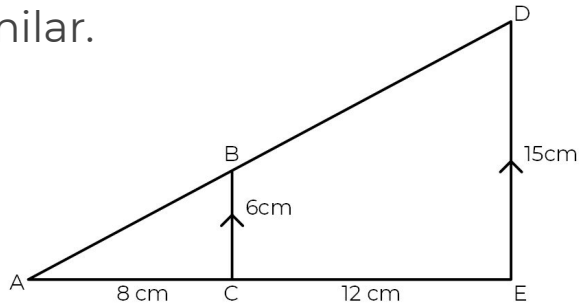


Calculate the length of side AB correct to 1 decimal place.

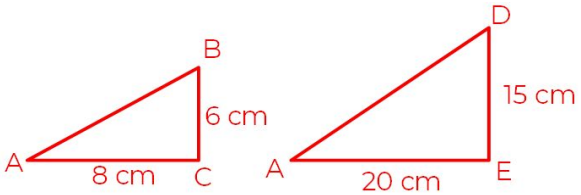
Answers

Find missing lengths in similar shapes which have sides overlapping

1. Explain why triangles ABC and ADE are similar.

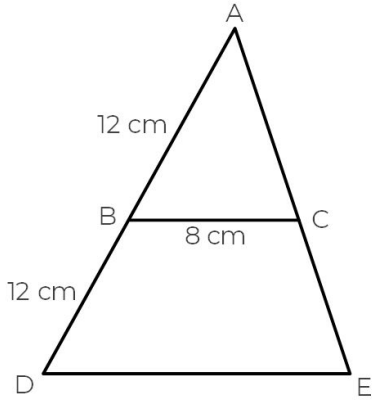


It may help to draw the two separate triangles.

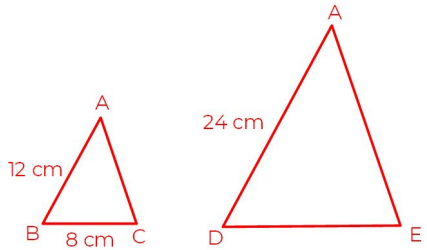


The two triangles have three pairs of equal angles and also corresponding sides that have been enlarged by a scale factor of 2.5

2. Triangle ABC is similar to triangle ADE.



Work out side length DE.



DE = 16 cm

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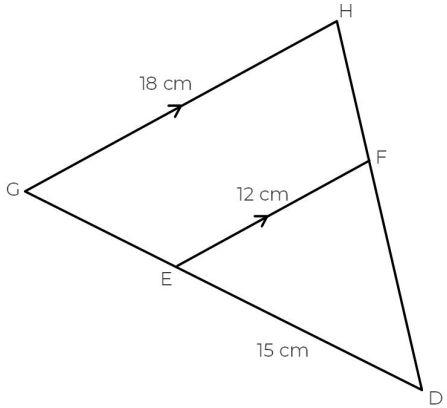
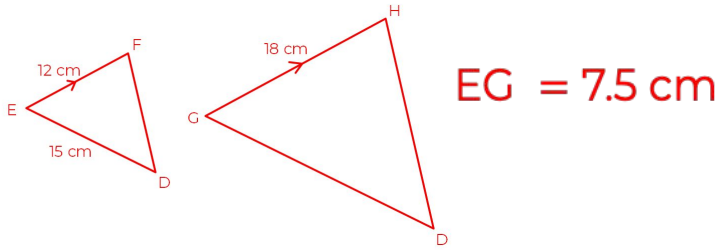
3. Triangle DEF is similar to triangle DGH.

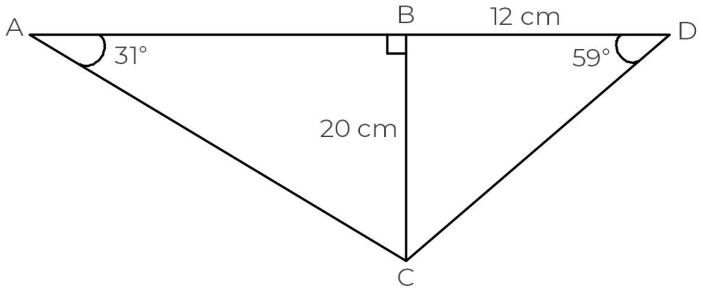


Work out the length of side EG.

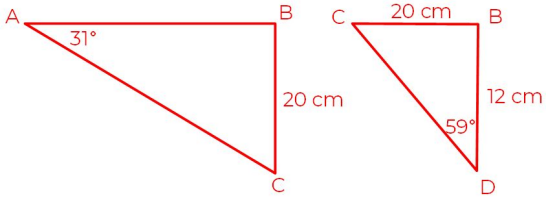


EG = 7.5 cm

4. Triangles ABC and BCD are similar.



Calculate the length of side AB correct to 1 decimal place.



AB = 33.3 cm