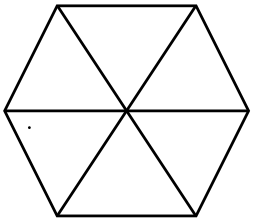
Area of a Triangle 3

1. Clunky the clown is trying to work out the amount of fabric needed in order to replace the top of a tent that was destroyed by Storm Menace.

He says,



The top of the tent was a composite shape made up of 6 triangles with the same area; each triangle had a base between 2m and 8m, and a height between 5m and 12m. I've bought 180m^2 of fabric but am not sure if I have enough…



not to scale



Explore whether Clunky the clown has enough fabric. Draw a diagram to help explain your reasoning.

DP

2. Vladimir the Vampire wants to design a new contemporary sculpture for his castle using the triangles below.

He says,



I want my new sculpture to be a composite shape, made up of at least 6 triangles. The total area of the sculpture must be at least 120cm^2, but not exceed 200cm^2.

Triangle	Base	Height
1	12cm	6cm
2	60mm	4cm
3	9cm	70mm
4	9cm	5cm
5	50mm	90mm
6	120mm	2cm
7	40mm	8cm
8	7cm	70mm

Investigate the different designs that could be created using the triangles above. You can use each triangle no more than twice.

DP

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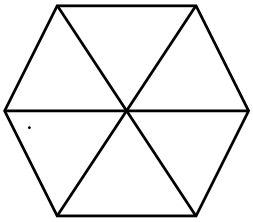
Area of a Triangle 3

1. Clunky the clown is trying to work out the amount of fabric needed in order to replace the top of a tent that was destroyed by Storm Menace.

He says,



> **The top of the tent was a composite shape made up of 6 triangles with the same area; each triangle had a base between 2m and 8m, and a height between 5m and 12m. I've bought 180m² of fabric but am not sure if I have enough…**

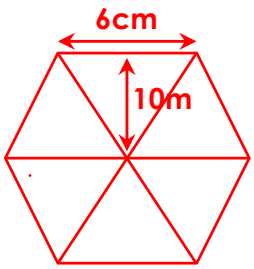


not to scale



Explore whether Clunky the clown has enough fabric. Draw a diagram to help explain your reasoning.

Various answers, for example:
Yes because if each triangle had the a base of 6m and a height of 10m (as shown), then the total area would be exactly 180m²; this can be proven using the following calculation: 6 x 10 = 60 x 6 = 180. However, if the triangles were any larger, then he would not have enough.



not to scale

DP

2. Vladimir the Vampire wants to design a new contemporary sculpture for his castle using the triangles below.

He says,



> **I want my new sculpture to be a composite shape, made up of at least 6 triangles. The total area of the sculpture must be at least 120cm², but not exceed 200cm².**

Triangle	Base	Height
1	12cm	6cm
2	60mm	4cm
3	9cm	70mm
4	9cm	5cm
5	50mm	90mm
6	120mm	2cm
7	40mm	8cm
8	7cm	70mm

Investigate the different designs that could be created using the triangles above. You can use each triangle no more than twice.

Various answers, for example:
1x Triangle 1 (36cm²), 2x Triangle 3 (63cm²), 1x Triangle 4 (22.5cm²), 1x Triangle 7 (16cm²), 2x Triangle 8 (49cm²) = 186.5cm².

DP

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