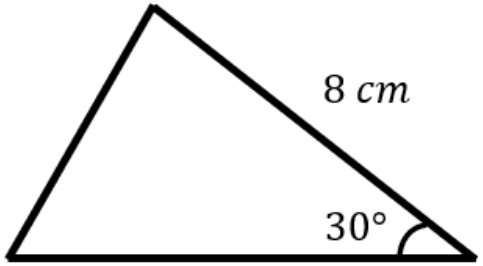
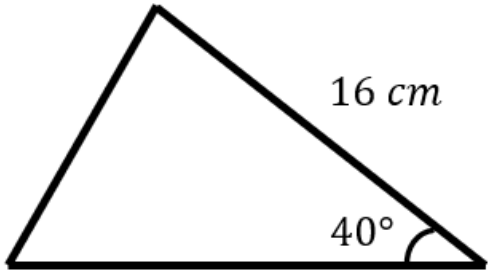
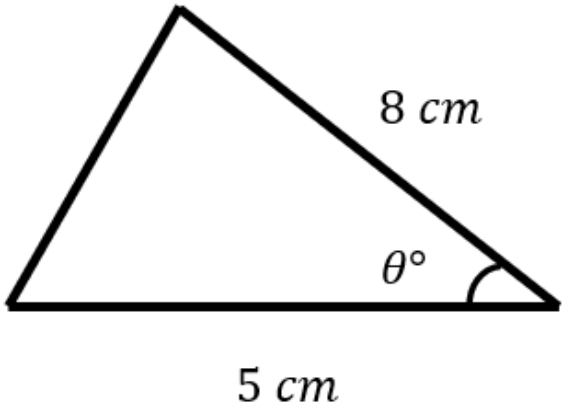
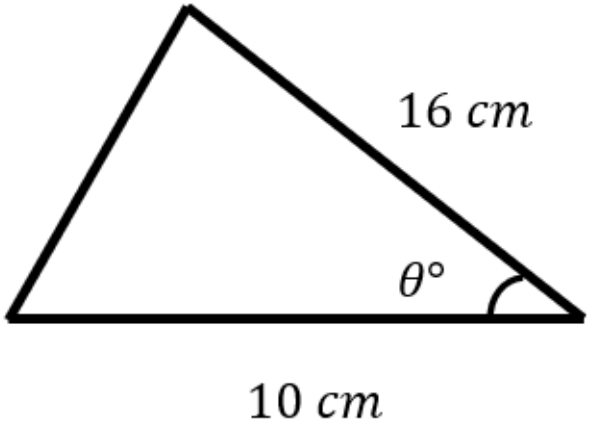
9.3) Areas of triangles

Worked example	Your turn
Calculate the area of the triangle:	Calculate the area of the triangle:



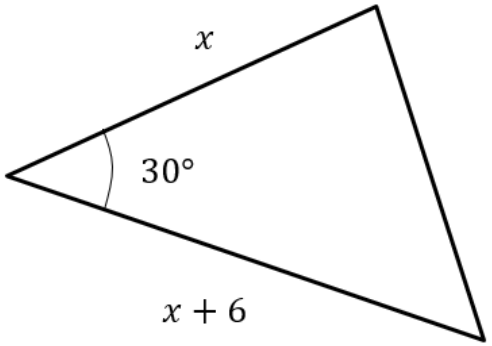


$51.42\ cm^2$ (2 dp)

Worked example	Your turn
The area is $10\ cm^2$. Angle θ is acute. Calculate θ  	The area is $51.42\ cm^2$. Angle θ is acute. Calculate θ  $\theta = 40.0$ (3 sf)

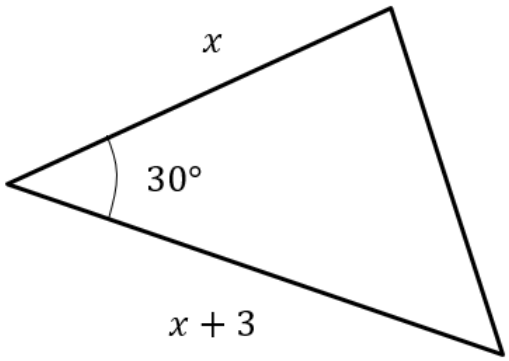
Worked example

The area is 40. Determine x



Your turn

The area is 10. Determine x



$x = 5$

Worked example	Your turn
A triangle has sides $5.1\ cm$, $3.4\ cm$ and $2.85\ cm$. Work out the area of the triangle	A triangle has sides $10.2\ cm$, $6.8\ cm$ and $5.7\ cm$. Work out the area of the triangle $18.3\ cm^2$ (1 dp)

Worked example

In $\triangle ABC, AB = 2.5cm, BC = 3\ cm$ and $\angle ABC = x$.

Given that the area of $\triangle ABC$ is $3\ cm^2$ and that AC is the longest side, find the value of x

Your turn

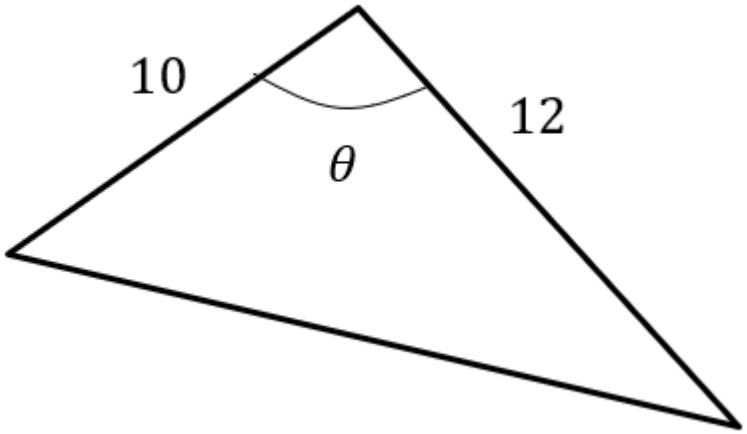
In $\triangle ABC, AB = 5cm, BC = 6\ cm$ and $\angle ABC = x$.

Given that the area of $\triangle ABC$ is $12\ cm^2$ and that AC is the longest side, find the value of x

$x = 127°$ (3 sf)

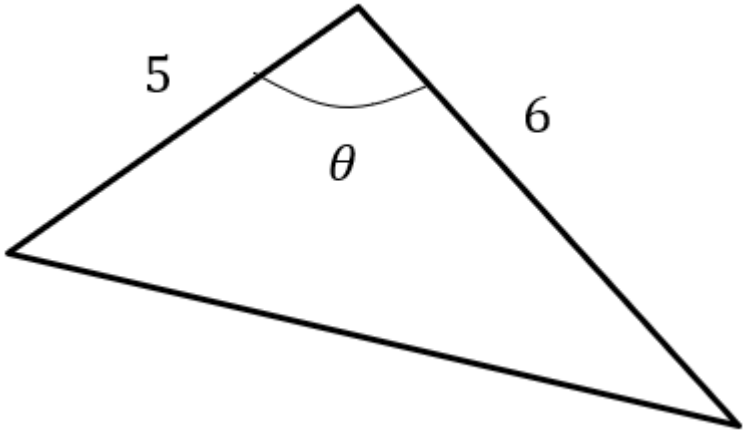
Worked example

The area of this triangle is 40.
If θ is obtuse, determine θ.



Your turn

The area of this triangle is 10.
If θ is obtuse, determine θ.



$\theta = 138°$ (3 sf)