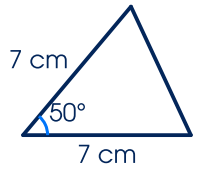
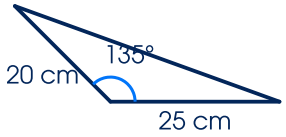
GCSE HIGHER · REVISION MAT 5

Area of a triangle using ½ab sin C

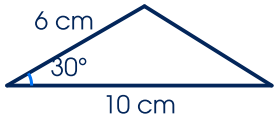
1 Find the area of this triangle.



2 Find the area of this triangle.

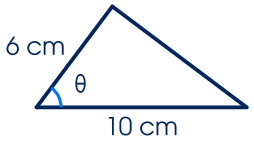


3 Show that the area of this triangle is 15 cm².

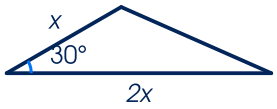


4 A triangle has sides 6 cm and 10 cm and area 24 cm².

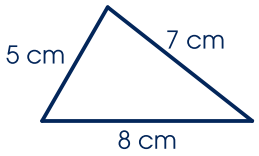
Find both possible values of θ.



5 Show that the area of this triangle is $\frac{x^2}{2}$.

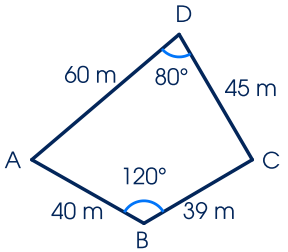


6 Find the area of this triangle.



7 Explain why $\frac{1}{2}ab \sin C$ still works when C is obtuse.

8 Find the area of field ABCD.



ANSWERS · REVISION MAT 5

Area of a triangle using ½ab sin C

1 $24.5 \sin 50°$

18.8 cm²

2 $250 \sin 135°$

176.8 cm²

3 30×0.5

= 15

4 $\sin C = \frac{48}{60} = 0.8$

53.1° or 126.9°

5 $\frac{1}{2} \times 2x^2 \times 0.5$

$= \frac{x^2}{2}$

6 Angle opposite 7:

$\cos \theta = \frac{25 + 64 - 49}{80} = 0.5, \theta = 60°$

20 sin 60° = 17.3 cm²

7 **sin C is positive for 90° < C < 180°, and it still gives the height.**

8 $\frac{1}{2} \times 40 \times 39 \times \sin 120° = 675.5$

$\frac{1}{2} \times 60 \times 45 \times \sin 80° = 1329.5$

2005 m²

Mr&Mrs MATHS