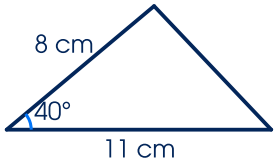
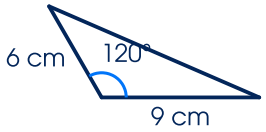
GCSE HIGHER · REVISION MAT 1

Area of a triangle using ½ab sin C

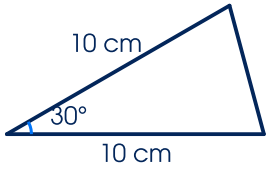
1 Find the area of this triangle.



2 Find the area of this triangle.

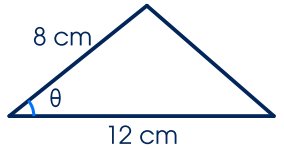


3 Show that the area of this triangle is 25 cm².

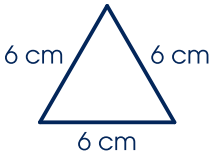


4 The area of this triangle is 30 cm².

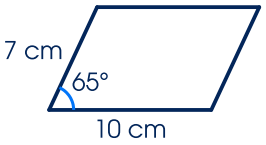
Find the acute angle θ.



5 Show that the area of this equilateral triangle is $9\sqrt{3}$ cm².



6 Find the area of this parallelogram.



7 Explain why $\frac{1}{2}ab \sin C$ gives the same area as $\frac{1}{2}$ × base × height.

8 Find the exact area of this regular hexagon.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Area of a triangle using ½ab sin C

1 $\frac{1}{2} \times 8 \times 11 \times \sin 40°$

28.3 cm²

2 $\frac{1}{2} \times 6 \times 9 \times \sin 120°$

23.4 cm²

3 $\frac{1}{2} \times 10 \times 10 \times \sin 30° = 50 \times 0.5$

= 25 cm²

4 $48 \sin C = 30$

$\sin C = 0.625$

C = 38.7°

5 $\frac{1}{2} \times 36 \times \sin 60° = 18 \times \frac{\sqrt{3}}{2}$

= $9\sqrt{3}$

6 Two triangles:

$2 \times \frac{1}{2} \times 7 \times 10 \times \sin 65°$

63.4 cm²

7 ***b* sin C is the perpendicular height when *a* is the base.**

8 6 equilateral triangles

$6 \times \frac{1}{2} \times 16 \times \sin 60°$

$24\sqrt{3}$ cm² (41.6 cm²)

Mr&Mrs MATHS