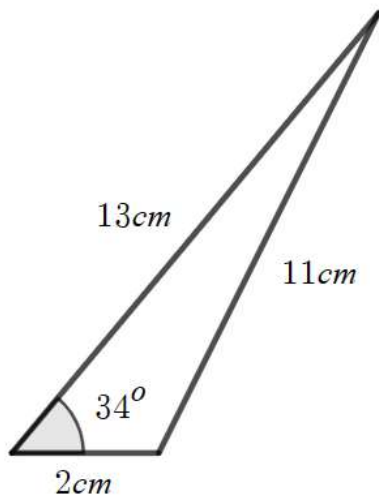


(47) Area of a Triangles

WORKING AT D/E

(1) Find the area of the triangle to 1 decimal place.



(2) A triangle has side lengths of 6cm, 7cm and 8cm.

- Find the size of any angle in the triangle
- Hence find the area of the triangle to 3SF.

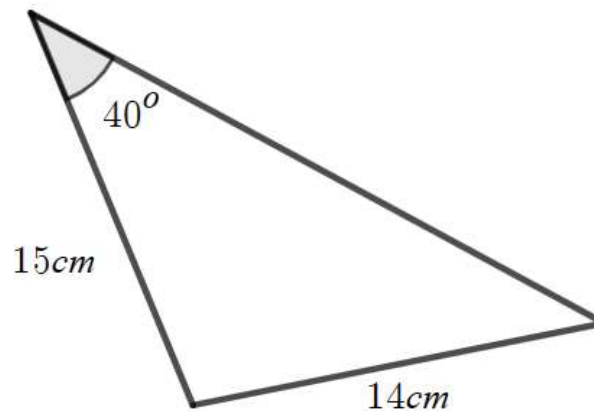
(3) An isosceles triangle has two side lengths of 7cm and two angles of 40° . Show that the area of the triangle is 24.1cm^2 to one decimal place.

WORKING AT B/C

(1) In $\triangle ABC$, $AB = 4$, $BC = 3$ and $\sin(\angle ABC) = \frac{1}{8}$

Without a calculator, show that the area of $\triangle ABC = \frac{3}{4}$

(2) Find the area of the triangle shown giving your answer to 3 significant figures.



(3) Beryl is fencing off a piece of land from her home. She walks 280m from her home on a bearing of 058° and fences a straight line off. She then stops. She walks directly north for 132m fencing along a straight line. To complete the fenced off piece of land she walks directly home on a straight line and fences along the straight line. Find the total area of the fenced off piece of land giving your answer to 1 decimal place.

WORKING AT A*/A

(1) In the triangle ABC , $AB = 2x$, $BC = (3x - 1)$ and $\sin(\angle ABC) = 0.4$ where $\angle ABC$ is acute.

- Given that the area of the triangle is 0.8 units, show, without a calculator that $(3x + 2)(x - 1) = 0$
- Explain why the triangle is isosceles.

(2) An equilateral triangle has area $3\sqrt{3}$. Without a calculator show that the perimeter can be written in the form $a\sqrt{b}$ where a and b are integers to be found.

(3) In $\triangle ABC$, $AB = (1 + \sqrt{2})$, $BC = (1 + 2\sqrt{2})$ and $\angle ABC = \theta$. Given that the area of the triangle is $\frac{1}{2}$, show without a calculator, that $\sin(\theta)$ can be written as $\frac{5-3\sqrt{2}}{7}$.