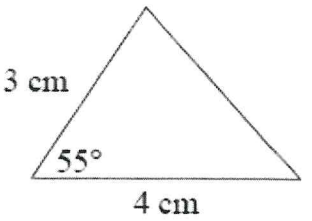
Q. 1

Calculate the area of the triangle shown.

Give your answer correct to one decimal place.



$\frac{1}{2}ab\sin C$

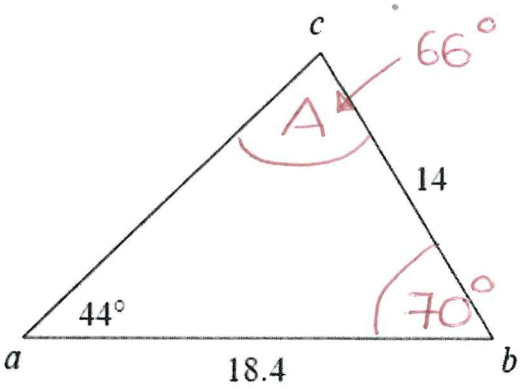
$= \frac{1}{2}(3)(4)\sin 55^\circ = 4.9\ cm^2.$

Q. 2

In the triangle abc,
$|ab| = 18.4$, $|bc| = 14$ and $|\angle cab| = 44^\circ$.

(i) Find $|\angle bca|$, correct to the nearest degree.

(ii) Find the area of the triangle abc, correct to the nearest whole number.



(i) $\frac{a}{\sin A} = \frac{b}{\sin B}$

$\Rightarrow \frac{18.4}{\sin A} = \frac{14}{\sin 44^\circ}$

$\Rightarrow \frac{18.4}{\sin A} \times \frac{14}{0.6947}$

$\Rightarrow 14\sin A = (18.4)(0.6947)$

$\Rightarrow 14\sin A = 12.7817$

$\Rightarrow \sin A = \frac{12.7817}{14}$

$\Rightarrow \sin A = 0.91297796$

$\Rightarrow A = \sin^{-1}(0.91297796)$

$\Rightarrow A = 65.9$

$\Rightarrow A = 66^\circ$

(ii) $180^\circ - 66^\circ - 44^\circ$
$= 70^\circ$.

Area of $\triangle$
$\frac{1}{2}ab\sin C$

$\Rightarrow \frac{1}{2}(14)(18.4)\sin 70$

$\Rightarrow 121.03$

$\Rightarrow 121\ cm^2$