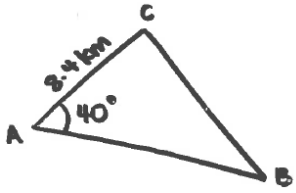


1. The area of triangle ABC is 100m^2 .
The length of side AC is 8.4 km and \hat{CAB} is 40° .
Find the length of BC (to 3 s.f)

(3)

Solutions

1.



$\text{Area} = \frac{1}{2} ab \sin c$ $100 = \frac{1}{2} \times 8.4 \times a \times \sin 40$ $a = \frac{100}{0.5 \times 8.4 \times \sin 40} = 37.04$	M1
$a^2 = b^2 + c^2 - 2bc \cos A$ $BC^2 = 8.4^2 + 37.04^2 - (2 \times 8.4 \times 37.04 \times \cos 40)$	M1
$= 31.07 \dots$ $= 31.1 \text{ km}$	M1