

5.

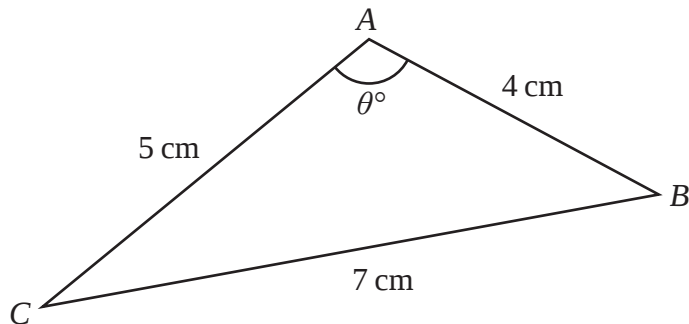


Figure 1

**In this question you must show all stages of your working.
Solutions relying on calculator technology are not acceptable.**

Figure 1 is a sketch of a triangle ABC with $AB = 4$ cm, $BC = 7$ cm and $AC = 5$ cm.

Given that angle $BAC = \theta^\circ$

(a) show that $\cos \theta^\circ = -\frac{1}{5}$ (2)

(b) Hence find the area of triangle ABC , giving your answer in cm^2 as a fully simplified surd. (4)