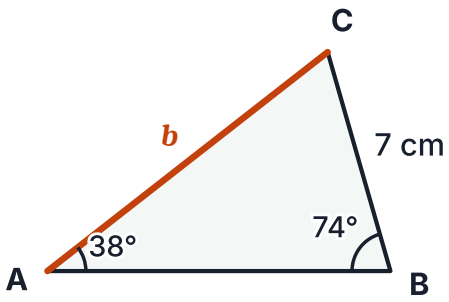
The Sine Rule

Specification: AQA 7357: E1 · Edexcel 9MA0: 5.1

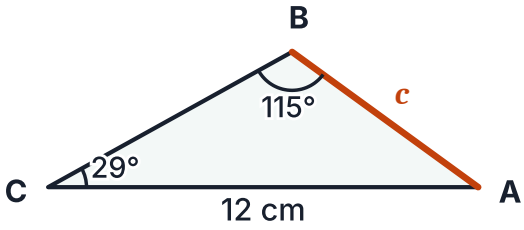
INDEPENDENT **You do**

A · Find the missing side

1 Find b.



2 Find c.



3 In triangle ABC, $A = 44°$, $C = 63°$ and $b = 9$ cm. Find a.

4 In triangle PQR, angle $P = 81°$, angle $Q = 42°$ and $PQ = 15$ cm. Find PR.

B · Find the missing angle

5 In triangle ABC, $a = 12$ cm, $b = 9$ cm and $A = 68°$. Find B.

6 In triangle ABC, $b = 6.5$ cm, $c = 5$ cm and $B = 104°$. Find C.

7 In triangle ABC, $a = 14$ cm, $c = 10$ cm and $A = 57°$. Find C and B.

8 In triangle PQR, $PQ = 8$ cm, $QR = 11$ cm and angle $P = 63°$. Find angle R.

C · Reasoning No calculator for this section.

9 In triangle ABC, $A = 30°$, $B = 45°$ and $a = 4$ cm. Show that $b = 4\sqrt{2}$ cm.

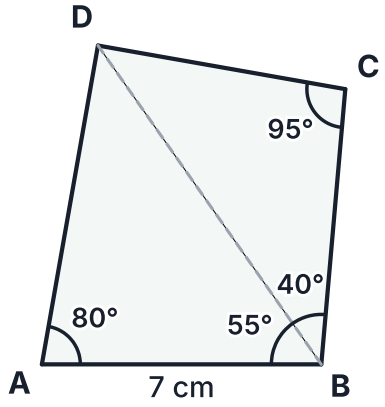
10 Which rule would you use first? Do not solve.
(a) $a = 5$, $b = 8$, $C = 70°$: find c.
(b) $A = 40°$, $B = 75°$, $c = 9$: find a.
(c) sides 4, 6, 7: find the largest angle.
(d) $a = 10$, $A = 50°$, $b = 8$: find B.

11 In triangle ABC, $a = 9$ cm, $b = 7$ cm and $A = 72°$. Explain why angle B must be acute.

D · Multi-step and algebra

12 In triangle ABC, angle $A = 30°$, angle $B = 45°$, $BC = x$ cm and $AC = (x + 2)$ cm. Find the exact value of x.

13 In quadrilateral $ABCD$, $AB = 7$ cm, angle $BAD = 80°$, angle $ABD = 55°$, angle $DBC = 40°$ and angle $BCD = 95°$.
(a) Find BD.
(b) Find CD.



E · Exam-style question Use the mark scheme to self-assess.

14 Points A and B are 80 m apart on a straight river bank. A tree T is on the opposite bank. Angle $TAB = 62°$ and angle $TBA = 47°$.
(a) Find the distance AT. [3 marks]
(b) Find the width of the river. [2 marks]