

# The Sine and Cosine Rules *fluency*



Use the sine rule to find the side. Give your answer to 1 dp.

Lengths are in cm.

1  $A = 40^\circ, B = 65^\circ, a = 8, b = ?$

2  $A = 52^\circ, C = 70^\circ, a = 12, c = ?$

3  $B = 38^\circ, C = 81^\circ, c = 15, b = ?$

4  $A = 75^\circ, B = 30^\circ, b = 6, a = ?$

5  $B = 110^\circ, C = 25^\circ, b = 20, c = ?$

6  $A = 33^\circ, C = 47^\circ, c = 9.5, a = ?$



Use the sine rule to find the angle. It is acute. Give your answer to 1 dp.

7  $a = 7, b = 9, A = 40^\circ, B = ?$

8  $b = 12, c = 10, B = 70^\circ, C = ?$

9  $a = 15, c = 11, A = 80^\circ, C = ?$

10  $b = 6.5, a = 8, B = 35^\circ, A = ?$

11  $c = 20, b = 14, C = 100^\circ, B = ?$

12  $a = 9, b = 7, A = 63^\circ, B = ?$



Use the cosine rule to find the side. Give your answer to 1 dp.

Lengths are in cm.

13  $b = 5, c = 7, A = 60^\circ, a = ?$

14  $a = 8, c = 6, B = 45^\circ, b = ?$

15  $a = 10, b = 12, C = 110^\circ, c = ?$

16  $b = 4.5, c = 9, A = 32^\circ, a = ?$

17  $a = 14, c = 11, B = 75^\circ, b = ?$

18  $a = 6, b = 6, C = 130^\circ, c = ?$



Use the cosine rule to find the angle. Give your answer to 1 dp.

19  $a = 7, b = 5, c = 6, A = ?$

20  $a = 9, b = 12, c = 10, B = ?$

21  $a = 4, b = 6, c = 8, C = ?$

22  $a = 13, b = 8, c = 7, A = ?$

23  $a = 5.5, b = 7, c = 3.5, B = ?$

24  $a = 10, b = 10, c = 15, C = ?$



Find the side or angle marked ? to 1 dp. Decide which rule to use.

Lengths are in cm.

25  $A = 50^\circ, B = 60^\circ, a = 10, b = ?$

26  $a = 6, b = 8, c = 11, C = ?$

27  $b = 9, c = 13, A = 58^\circ, a = ?$

28  $a = 15, b = 12, A = 44^\circ, B = ?$

29  $a = 20, c = 16, B = 120^\circ, b = ?$

30  $B = 28^\circ, C = 95^\circ, c = 7, b = ?$