

Key

Practice

The Law of Cosines

Solve each triangle. Round to the nearest tenth.

1. $a = 20, b = 12, c = 28$

$A = 38.2^\circ$

$B = 21.8^\circ$

$C = 120^\circ$

2. $a = 10, c = 8, B = 100^\circ$

$b = 13.8$

$A = 45.5^\circ$

$C = 34.5^\circ$

3. $c = 49, b = 40, A = 53^\circ$

$a = 40.5$

$B = 52.0^\circ$

$C = 75.0^\circ$

4. $a = 5, b = 7, c = 10$

$A = 27.7^\circ$

$B = 40.5^\circ$

$C = 111.8^\circ$

Find the area of each triangle. Round to the nearest tenth.

5. $a = 5, b = 12, c = 13$

30.0 in^2

6. $a = 11, b = 13, c = 16$

71.0 in^2

7. $a = 14, b = 9, c = 8$

33.7 in^2

8. $a = 8, b = 7, c = 3$

10.4 in^2

9. The sides of a triangle measure 13.4 centimeters, 18.7 centimeters, and 26.5 centimeters. Find the measure of the angle with the least measure.

$\text{about } 28.3^\circ$

10. **Orienteering** During an orienteering hike, two hikers start at point A and head in a direction 30° west of south to point B . They hike 6 miles from point A to point B . From point B , they hike to point C and then from point C back to point A , which is 8 miles directly north of point C . How many miles did they hike from point B to point C ?

4.1 miles

