

Law of Cosines Sides and Angles (LAWCOSINESSIDEANGLE1)

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Find each measurement indicated. Round your answers to the nearest tenth.

1) $m\angle C = 99.1^\circ$, $b = 22.2$ yd, $a = 21.3$ yd
Find c

2) $m\angle C = 126^\circ$, $a = 24$ yd, $b = 20$ yd
Find c

3) $b = 12$ mi, $c = 28$ mi, $m\angle A = 26^\circ$
Find a

4) $b = 29.7$ m, $m\angle A = 89.3^\circ$, $c = 26$ m
Find a

5) $m\angle C = 118^\circ$, $b = 14$ cm, $a = 24$ cm
Find c

6) $b = 28$ m, $m\angle C = 109^\circ$, $a = 26$ m
Find c

7) $c = 22.8$ km, $a = 24.8$ km, $m\angle B = 111.4^\circ$
Find b

8) $m\angle C = 89.8^\circ$, $a = 10.9$ yd, $b = 10.5$ yd
Find c

9) $a = 18$ cm, $b = 29$ cm, $m\angle C = 63^\circ$
Find c

10) $m\angle C = 122.9^\circ$, $b = 20.5$ in, $a = 10.7$ in
Find c

11) $m\angle C = 92^\circ$, $a = 26$ m, $b = 11$ m
Find c

12) $b = 10$ mi, $c = 20$ mi, $m\angle A = 112^\circ$
Find a

13) $m\angle C = 132^\circ$, $a = 24$ in, $b = 18$ in
Find c

14) $a = 17$ m, $c = 30$ m, $m\angle B = 92^\circ$
Find b

15) $a = 30$ ft, $m\angle B = 88^\circ$, $c = 29$ ft
Find b

16) $c = 28$ km, $m\angle A = 54^\circ$, $b = 27$ km
Find a

17) $m\angle C = 127^\circ$, $a = 30$ m, $b = 18$ m
Find c

18) $c = 12$ cm, $m\angle B = 58^\circ$, $a = 10$ cm
Find b

19) $b = 23$ mi, $c = 15$ mi, $m\angle A = 18^\circ$
Find a

20) $b = 18$ yd, $m\angle C = 132.7^\circ$, $a = 21.2$ yd
Find c

21) $b = 12.7$ ft, $m\angle C = 142.2^\circ$, $a = 15.7$ ft
Find $m\angle A$

22) $a = 30$ ft, $m\angle B = 123^\circ$, $c = 21$ ft
Find $m\angle C$

23) $m\angle A = 100^\circ$, $c = 30$ ft, $b = 17$ ft
Find $m\angle B$

24) $c = 14.6$ in, $m\angle A = 43.2^\circ$, $b = 24.4$ in
Find $m\angle B$

25) $m\angle C = 117^\circ$, $b = 8$ yd, $a = 14$ yd
Find $m\angle A$

26) $b = 12.1$ in, $c = 29.6$ in, $m\angle A = 122.1^\circ$
Find $m\angle B$

27) $a = 17.9$ mi, $m\angle B = 113.9^\circ$, $c = 11.9$ mi
Find $m\angle C$

28) $b = 25$ cm, $a = 19$ cm, $m\angle C = 109^\circ$
Find $m\angle A$

29) $a = 13$ in, $b = 25$ in, $m\angle C = 92^\circ$
Find $m\angle A$

30) $c = 17$ in, $a = 29$ in, $m\angle B = 100^\circ$
Find $m\angle C$

31) $m\angle B = 65^\circ$, $c = 27$ km, $a = 25$ km
Find $m\angle C$

32) $c = 30$ m, $m\angle B = 92^\circ$, $a = 17$ m
Find $m\angle C$

33) $m\angle A = 132.1^\circ$, $c = 14.6$ yd, $b = 25.9$ yd
Find $m\angle B$

34) $c = 9$ ft, $m\angle A = 137^\circ$, $b = 6$ ft
Find $m\angle B$

35) $m\angle B = 57^\circ$, $c = 14$ ft, $a = 21$ ft
Find $m\angle C$

36) $m\angle B = 98^\circ$, $a = 23$ m, $c = 26$ m
Find $m\angle C$

37) $m\angle C = 22.7^\circ$, $b = 18.8$ mi, $a = 26.4$ mi
Find $m\angle A$

38) $b = 7$ cm, $a = 14$ cm, $m\angle C = 20^\circ$
Find $m\angle A$

39) $c = 19$ cm, $a = 18$ cm, $m\angle B = 114^\circ$
Find $m\angle C$

40) $c = 19$ in, $m\angle A = 95^\circ$, $b = 6$ in
Find $m\angle B$

Solve each triangle. Round your answers to the nearest tenth.

41) $b = 25$ in, $a = 28$ in, $m\angle C = 116^\circ$

42) $a = 12$ in, $m\angle C = 132^\circ$, $b = 15$ in

43) $b = 23$ in, $a = 24$ in, $m\angle C = 102^\circ$

44) $m\angle A = 113^\circ$, $c = 10$ ft, $b = 24$ ft

45) $b = 28$ ft, $m\angle A = 89^\circ$, $c = 8$ ft

46) $a = 30$ km, $m\angle B = 32^\circ$, $c = 17$ km

47) $m\angle B = 118^\circ$, $a = 24$ km, $c = 14$ km

48) $a = 19$ in, $b = 25$ in, $m\angle C = 122^\circ$

49) $m\angle A = 130^\circ$, $b = 24$ in, $c = 30$ in

50) $m\angle B = 105.8^\circ$, $c = 13.5$ yd, $a = 7$ yd

51) $c = 8$ in, $b = 13$ in, $m\angle A = 117^\circ$

52) $a = 19$ in, $m\angle B = 115^\circ$, $c = 14$ in

53) $c = 13$ m, $a = 16$ m, $m\angle B = 106^\circ$

54) $a = 18$ m, $c = 20$ m, $m\angle B = 127^\circ$

55) $a = 26.7$ m, $m\angle B = 31.5^\circ$, $c = 10.9$ m

56) $m\angle B = 111.5^\circ$, $c = 25.9$ mi, $a = 28.6$ mi

57) $c = 15$ in, $m\angle A = 126^\circ$, $b = 17$ in

58) $m\angle B = 63^\circ$, $a = 16$ km, $c = 29$ km

59) $b = 30$ cm, $c = 29$ cm, $m\angle A = 73^\circ$

60) $m\angle A = 101^\circ$, $b = 9$ mi, $c = 17$ mi

Answers to Law of Cosines Sides and Angles (LAWCOSINESSIDEANGLE1)

- 1) 33.1 yd
- 5) 33 cm
- 9) 26.3 cm
- 13) 38.4 in
- 17) 43.3 m
- 21) 21°
- 25) 41°
- 29) 27.1°
- 33) 31°
- 37) 118.6°
- 41) $m\angle A = 34^\circ$, $m\angle B = 30^\circ$, $c = 45$ in
- 43) $m\angle A = 39.9^\circ$, $m\angle B = 38.1^\circ$, $c = 36.5$ in
- 45) $m\angle B = 75^\circ$, $m\angle C = 16^\circ$, $a = 29$ ft
- 47) $m\angle C = 22^\circ$, $m\angle A = 40^\circ$, $b = 33$ km
- 49) $m\angle B = 22^\circ$, $m\angle C = 28^\circ$, $a = 49$ in
- 51) $m\angle B = 39.8^\circ$, $m\angle C = 23.2^\circ$, $a = 18.1$ in
- 53) $m\angle C = 32.5^\circ$, $m\angle A = 41.5^\circ$, $b = 23.2$ m
- 55) $m\angle C = 18.2^\circ$, $m\angle A = 130.3^\circ$, $b = 18.3$ m
- 57) $m\angle B = 28.8^\circ$, $m\angle C = 25.2^\circ$, $a = 28.5$ in
- 59) $m\angle B = 54.8^\circ$, $m\angle C = 52.2^\circ$, $a = 35.1$ cm
- 3) 18 mi
- 7) 39.3 km
- 11) 28.6 m
- 15) 41 ft
- 19) 9.9 mi
- 23) 27°
- 27) 25.6°
- 31) 61°
- 35) 41.3°
- 39) 34°