

Law of Cosines Sides and Angles (LAWCOSINESSIDEANGLE2)

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

1) $m\angle B = 17^\circ$, $c = 14$ ft, $a = 9$ ft
Find b

2) $m\angle A = 113^\circ$, $b = 15$ yd, $c = 14$ yd
Find a

3) $m\angle B = 24^\circ$, $c = 12$ m, $a = 23$ m
Find b

4) $a = 16$ m, $b = 20$ m, $m\angle C = 110^\circ$
Find c

5) $m\angle A = 91^\circ$, $b = 28$ km, $c = 17$ km
Find a

6) $a = 24$ in, $m\angle B = 118^\circ$, $c = 14$ in
Find b

7) $a = 21$ mi, $c = 23.9$ mi, $m\angle B = 35.6^\circ$
Find b

8) $m\angle B = 79^\circ$, $a = 22$ yd, $c = 25$ yd
Find b

9) $b = 19$ cm, $a = 21$ cm, $m\angle C = 145^\circ$
Find c

10) $a = 12$ m, $c = 29$ m, $m\angle B = 89^\circ$
Find b

11) $c = 12$ km, $m\angle A = 137^\circ$, $b = 18$ km
Find a

12) $b = 27$ cm, $m\angle C = 96^\circ$, $a = 24$ cm
Find c

13) $b = 28$ km, $a = 17$ km, $m\angle C = 108^\circ$
Find c

14) $a = 24.2$ ft, $m\angle C = 124.5^\circ$, $b = 21.4$ ft
Find c

15) $b = 25$ cm, $m\angle A = 127^\circ$, $c = 12$ cm
Find a

16) $c = 30$ yd, $m\angle A = 59^\circ$, $b = 23$ yd
Find a

17) $c = 18$ ft, $m\angle B = 105^\circ$, $a = 28$ ft
Find b

18) $m\angle B = 134^\circ$, $a = 17$ m, $c = 16$ m
Find b

19) $a = 26$ yd, $b = 27$ yd, $m\angle C = 118^\circ$
Find c

20) $b = 7.9$ mi, $c = 29$ mi, $m\angle A = 91.9^\circ$
Find a

21) $c = 21$ yd, $b = 28$ yd, $m\angle A = 133^\circ$
Find $m\angle B$

22) $a = 27$ in, $b = 28$ in, $m\angle C = 54^\circ$
Find $m\angle A$

23) $a = 12$ m, $b = 28$ m, $m\angle C = 26^\circ$
Find $m\angle A$

24) $c = 23$ km, $m\angle B = 79^\circ$, $a = 16$ km
Find $m\angle C$

25) $c = 14$ in, $m\angle B = 17^\circ$, $a = 9$ in
Find $m\angle C$

26) $m\angle B = 89^\circ$, $a = 14$ m, $c = 8$ m
Find $m\angle C$

- 27) $c = 30$ m, $m\angle B = 96^\circ$, $a = 20$ m
Find $m\angle C$
- 28) $a = 18$ mi, $m\angle C = 114^\circ$, $b = 19$ mi
Find $m\angle A$
- 29) $m\angle C = 112^\circ$, $a = 23$ yd, $b = 21$ yd
Find $m\angle A$
- 30) $a = 13$ m, $m\angle C = 37^\circ$, $b = 22$ m
Find $m\angle A$
- 31) $b = 19$ ft, $c = 25.3$ ft, $m\angle A = 115.9^\circ$
Find $m\angle B$
- 32) $m\angle B = 111^\circ$, $c = 27$ cm, $a = 10$ cm
Find $m\angle C$
- 33) $b = 15.6$ yd, $a = 24.1$ yd, $m\angle C = 116.8^\circ$
Find $m\angle A$
- 34) $c = 27$ ft, $b = 19$ ft, $m\angle A = 131^\circ$
Find $m\angle B$
- 35) $m\angle C = 24.2^\circ$, $a = 21.1$ km, $b = 15.3$ km
Find $m\angle A$
- 36) $m\angle A = 126^\circ$, $b = 11$ yd, $c = 22$ yd
Find $m\angle B$
- 37) $b = 8$ ft, $m\angle A = 122^\circ$, $c = 19$ ft
Find $m\angle B$
- 38) $c = 8$ cm, $m\angle A = 117^\circ$, $b = 14$ cm
Find $m\angle B$
- 39) $b = 18$ yd, $a = 8$ yd, $m\angle C = 90^\circ$
Find $m\angle A$
- 40) $c = 10$ in, $b = 22$ in, $m\angle A = 90^\circ$
Find $m\angle B$

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

- 41) $a = 19$ in, $b = 30$ in, $m\angle C = 83^\circ$
- 42) $m\angle A = 127.5^\circ$, $c = 15.9$ m, $b = 28.4$ m
- 43) $c = 14.5$ m, $b = 28.1$ m, $m\angle A = 111.1^\circ$
- 44) $b = 27$ cm, $m\angle C = 113^\circ$, $a = 29$ cm
- 45) $c = 29$ yd, $m\angle B = 92^\circ$, $a = 28$ yd
- 46) $c = 26.9$ mi, $a = 26.5$ mi, $m\angle B = 32.4^\circ$
- 47) $b = 17$ ft, $m\angle C = 100^\circ$, $a = 10$ ft
- 48) $b = 9.2$ in, $m\angle A = 97.1^\circ$, $c = 18.2$ in
- 49) $c = 11$ ft, $b = 7$ ft, $m\angle A = 104^\circ$
- 50) $b = 13$ cm, $a = 20$ cm, $m\angle C = 102^\circ$
- 51) $b = 10$ in, $m\angle A = 106^\circ$, $c = 17$ in
- 52) $c = 23$ ft, $a = 10$ ft, $m\angle B = 99^\circ$
- 53) $m\angle A = 53^\circ$, $b = 14$ mi, $c = 30$ mi
- 54) $b = 22$ cm, $m\angle C = 37^\circ$, $a = 13$ cm
- 55) $a = 17.4$ yd, $m\angle C = 73.6^\circ$, $b = 16.3$ yd
- 56) $a = 27$ ft, $c = 23$ ft, $m\angle B = 114^\circ$
- 57) $m\angle C = 101^\circ$, $a = 30$ km, $b = 27$ km
- 58) $a = 12$ km, $m\angle C = 26^\circ$, $b = 28$ km
- 59) $b = 17$ cm, $m\angle C = 96^\circ$, $a = 20$ cm
- 60) $m\angle C = 82.6^\circ$, $b = 19.9$ yd, $a = 20.5$ yd

Answers to Law of Cosines Sides and Angles (LAWCOSINESSIDEANGLE2)

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|---|---|-------------------|------------------|
| 1) 6 ft | 2) 24.2 yd | 3) 13 m | 4) 29.6 m |
| 5) 33 km | 6) 33 in | 7) 14 mi | 8) 30 yd |
| 9) 38.2 cm | 10) 31.2 m | 11) 28 km | 12) 38 cm |
| 13) 37 km | 14) 40.4 ft | 15) 33.6 cm | 16) 26.8 yd |
| 17) 37 ft | 18) 30.4 m | 19) 45.4 yd | 20) 30.3 mi |
| 21) 27° | 22) 61° | 23) 17° | 24) 62.8° |
| 25) 137° | 26) 30° | 27) 52.3° | 28) 32° |
| 29) 35.8° | 30) 34° | 31) 27° | 32) 52° |
| 33) 39.1° | 34) 20° | 35) 114.5° | 36) 17.3° |
| 37) 16.3° | 38) 41° | 39) 24° | 40) 65.6° |
| 41) $m\angle A = 34.3^\circ, m\angle B = 62.7^\circ, c = 33.5$ in | 42) $m\angle B = 34.2^\circ, m\angle C = 18.3^\circ, a = 40.1$ m | | |
| 43) $m\angle B = 46.8^\circ, m\angle C = 22.1^\circ, a = 36$ m | 44) $m\angle A = 34.8^\circ, m\angle B = 32.2^\circ, c = 46.7$ cm | | |
| 45) $m\angle C = 45^\circ, m\angle A = 43^\circ, b = 41$ yd | 46) $m\angle C = 75.2^\circ, m\angle A = 72.4^\circ, b = 14.9$ mi | | |
| 47) $m\angle A = 27.8^\circ, m\angle B = 52.2^\circ, c = 21.2$ ft | 48) $m\angle B = 25.3^\circ, m\angle C = 57.6^\circ, a = 21.4$ in | | |
| 49) $m\angle B = 28.2^\circ, m\angle C = 47.8^\circ, a = 14.4$ ft | 50) $m\angle A = 48.7^\circ, m\angle B = 29.3^\circ, c = 26$ cm | | |
| 51) $m\angle B = 26^\circ, m\angle C = 48^\circ, a = 22$ in | 52) $m\angle C = 59.1^\circ, m\angle A = 21.9^\circ, b = 26.5$ ft | | |
| 53) $m\angle B = 27.4^\circ, m\angle C = 99.6^\circ, a = 24.3$ mi | 54) $m\angle A = 34^\circ, m\angle B = 109^\circ, c = 14$ cm | | |
| 55) $m\angle A = 55.7^\circ, m\angle B = 50.7^\circ, c = 20.2$ yd | 56) $m\angle C = 30^\circ, m\angle A = 36^\circ, b = 42$ ft | | |
| 57) $m\angle A = 42^\circ, m\angle B = 37^\circ, c = 44$ km | 58) $m\angle A = 17^\circ, m\angle B = 137^\circ, c = 18$ km | | |
| 59) $m\angle A = 46.2^\circ, m\angle B = 37.8^\circ, c = 27.6$ cm | 60) $m\angle A = 49.7^\circ, m\angle B = 47.7^\circ, c = 26.7$ yd | | |