1. Solve the triangle. Round to two decimal places.

    B = 21.6°
    C = 111.2°
    b = 29.62

    ○A. A = 47.2°, a = 59.04, c = 75.02

    ○B. A = 45.2°, a = 77.02, c = 61.04

    ○C. A = 45.2°, a = 75.02, c = 59.04

    ○D. A = 47.2°, a = 61.04, c = 77.02

2. Solve the triangle. Round to one decimal places.
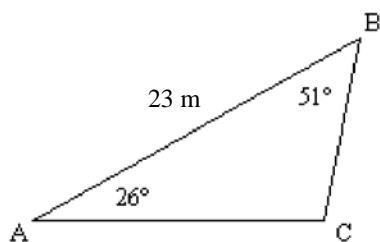
    ○A. C = 97°, a = 10.2 m, b = 18.0 m

    ○B. C = 103°, a = 18.3 m, b = 10.3 m

    ○C. C = 103°, a = 51.1 m, b = 28.8 m

    ○D. C = 103°, a = 10.3 m, b = 18.3 m

3. Find the missing parts of the triangle. Round to one decimal place.
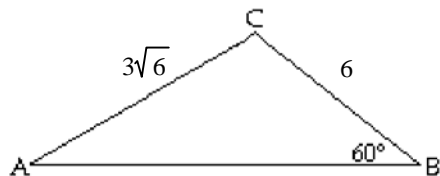
    B = 40.1°
    b = 24.1 in.
    c = 19.4 in.

    ○A. A = 98.7°, C = 41.2°, a = 35.4 in.

    ○B. A = 31.2°, C = 108.7°, a = 35.4 in.

    ○C. No such triangle exists.

    ○D. A = 108.7°, C = 31.2°, a = 35.4 in.

4. Find the missing parts of the triangle.

- ○A. $A = 45°, C = 75°, c = 3\sqrt{3}$
- ○B. No such triangle exists.
- ○C. $A = 75°, C = 45°, c = 3\sqrt{3} + 3$
- ○D. $A = 45°, C = 75°, c = 3\sqrt{3} + 3$

5. Find the missing parts of the triangle. Round to two decimal places.

$B = 38°20'$
$b = 14.56$
$a = 33.71$

- ○A. $A = 34°10', C = 107°30', c = 45.27$
- ○B. $A = 37°10', C = 106°30', c = 49.77$
- ○C. $A = 36°10', C = 105°30', c = 48.27$
- ○D. No such triangle exists.

6. Find the length of side a.
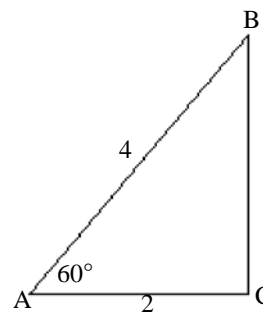
- ○A. $4\sqrt{3}$
- ○B. 4
- ○C. $2\sqrt{3}$
- ○D. $2\sqrt{7}$

7. Find the missing parts of the triangle. (Find angles to the nearest hundredth of a degree.)

    a = 7.8 in.
    b = 13 in.
    c = 16.7 in.

    ○A. A = 24.95°, B = 49.06°, C = 105.99°

    ○B. A = 26.95°, B = 49.06°, C = 103.99°

    ○C. No triangle satisfies the given conditions.

    ○D. A = 28.95°, B = 47.06°, C = 103.99°

8. To find the distance AB across a river, a distance BC = 1171 m is laid off on one side of the river. It is found that B = 108.6° and C = 13.3°. Find AB. Round to the nearest meter.

    ○A. 320 m

    ○B. 271 m

    ○C. 317 m

    ○D. 268 m

9. Lookout station B is located 12 mi due east of station A. The bearing of a fire from A is S12°10'W and the bearing from B is S39°20'W. Determine the distance from the fire to B (to the nearest tenth of a mile).

    ○A. 14.85 mi

    ○B. 25.7 mi

    ○C. 12.85 mi

    ○D. 27.7 mi

10. A guy wire to a tower makes a 65° angle with level ground. At a point 39 ft farther from the tower than the wire but on the same side of the base as the wire, the angle of elevation to the top of the pole is 38°. Find the wire length (to the nearest foot).

    ○A. 58 ft

    ○B. 106 ft

    ○C. 111 ft

    ○D. 53 ft