Examples 1–2   Find x. Round angle measures to the nearest degree and side measures to the nearest tenth.

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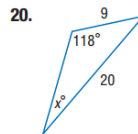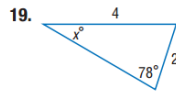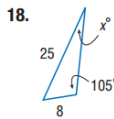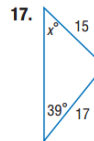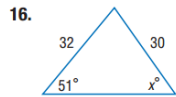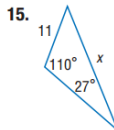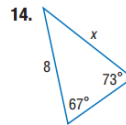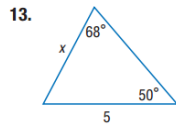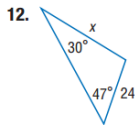
21. ASTRONOMY Angelina is looking at the Big Dipper through a telescope. From her view, the cup of the constellation forms a triangle that has measurements shown on the diagram at the right. Use the Law of Sines to determine distance between A and C.

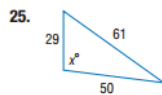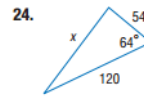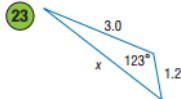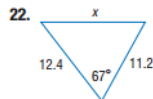**Examples 3–4**   Find x. Round angle measures to the nearest degree and side measures to the nearest tenth.

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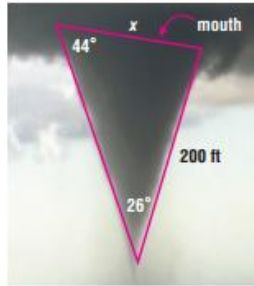

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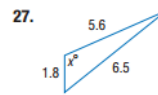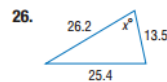
28. HIKING A group of friends who are camping decide to go on a hike. According to the map shown at the right, what is the measure of the angle between Trail 1 and Trail 2?
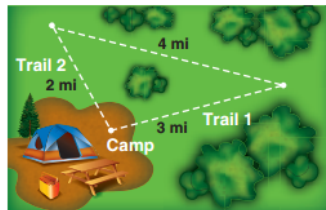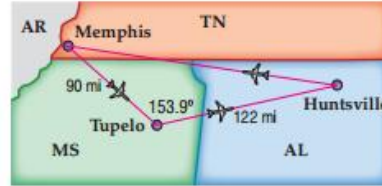
Example 5

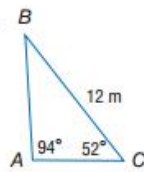**29. TORNADOES** Find the width of the mouth of the tornado shown below.

30. TRAVEL A pilot flies 90 miles from Memphis, Tennessee, to Tupelo, Mississippi, to Huntsville, Alabama, and finally back to Memphis. How far is Memphis from Huntsville?
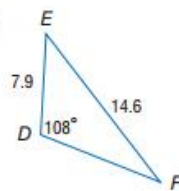

Example 6

Solve each triangle. Round angle measures to the nearest degree and side measures to the nearest tenth.
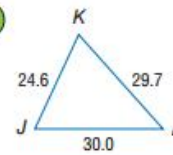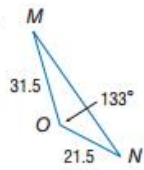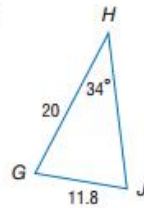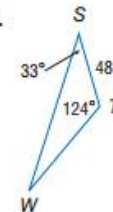
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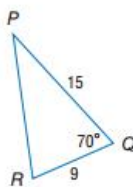
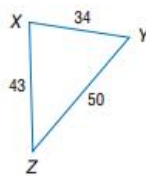**33**
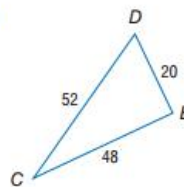

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40. Solve $\triangle JKL$ if $JK = 33$, $KL = 56$, $LJ = 65$.

41. Solve $\triangle ABC$ if $m\angle B = 119$, $m\angle C = 26$, $CA = 15$.

42. Solve $\triangle XYZ$ if $XY = 190$, $YZ = 184$, $ZX = 75$.

43. GARDENING Crystal has an organic vegetable garden. She wants to add another triangular section so that she can start growing tomatoes. If the garden and neighboring space have the dimensions shown, find the perimeter of the new garden.