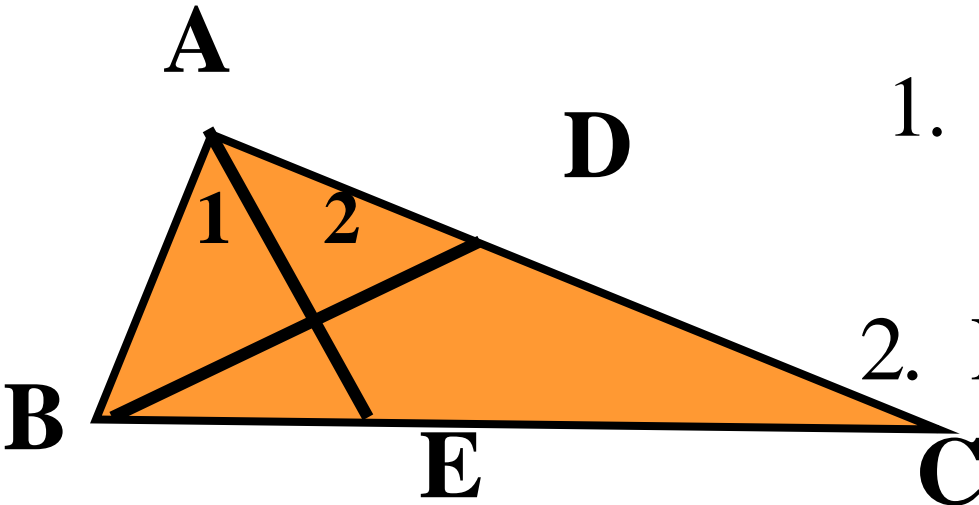


QUIZ TODAY.

In $\triangle ABC$, \overline{BD} bisects $\angle ABC$, and \overline{AE} bisects $\angle BAC$.



1. If $m\angle 2 = 40$, what is $m\angle 1$.

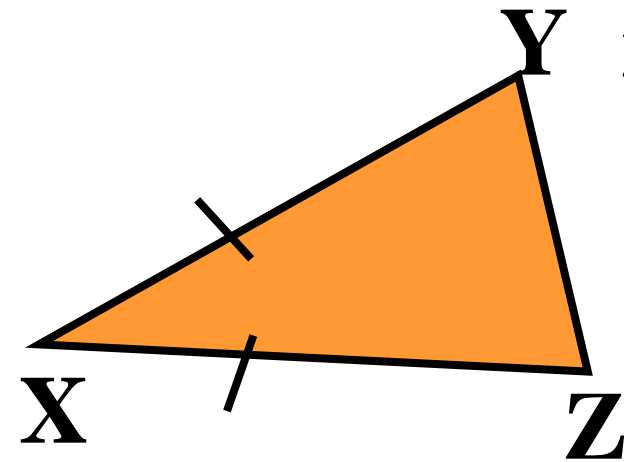
40

2. Find $m\angle BAC$ if $m\angle 2 = 27$.

54

3. Which angles in $\triangle XYZ$ are congruent

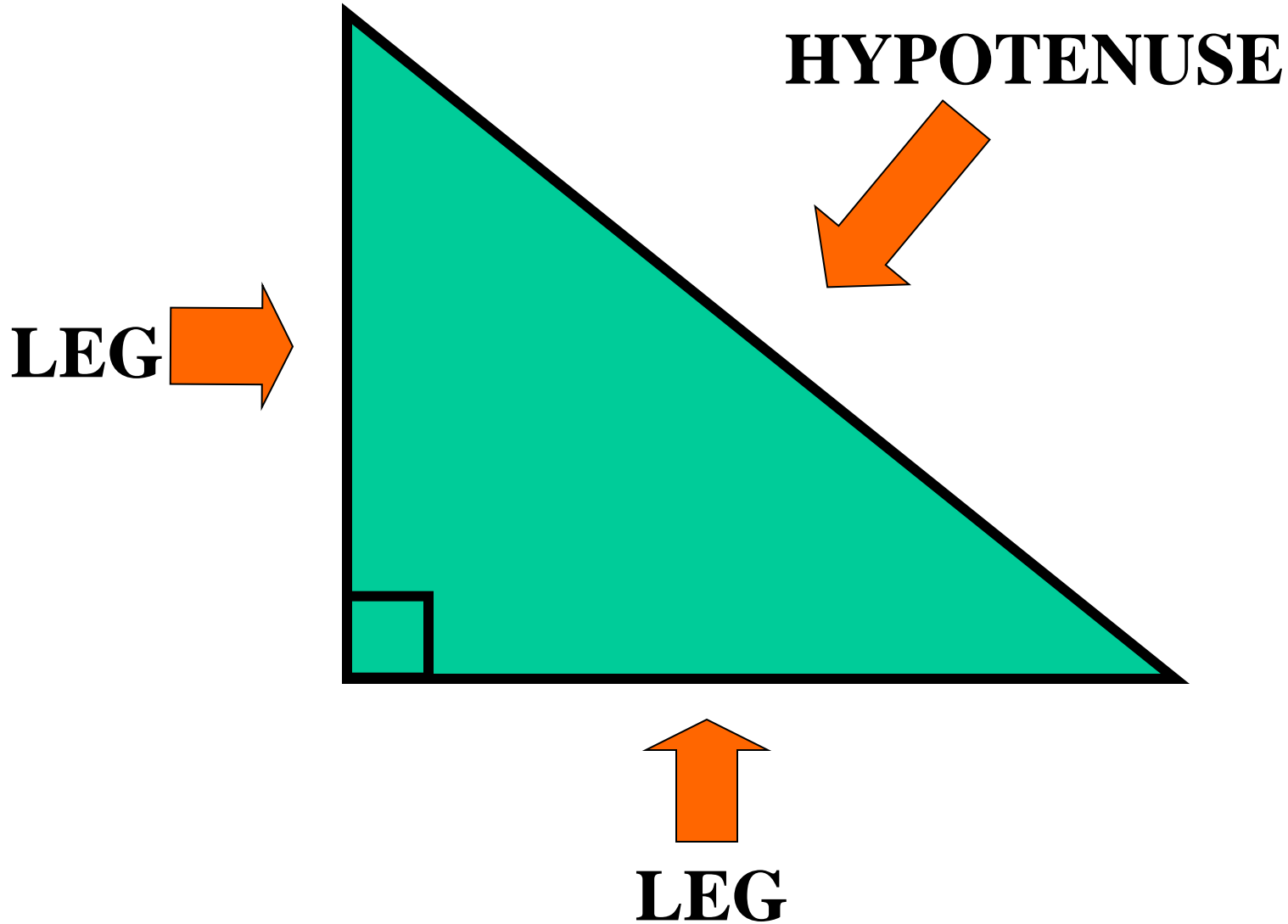
Y and Z



4. If $m\angle Y = 8x - 15$ and
 $m\angle Z = 5x + 18$, find $m\angle Y$.

73

Right Triangles



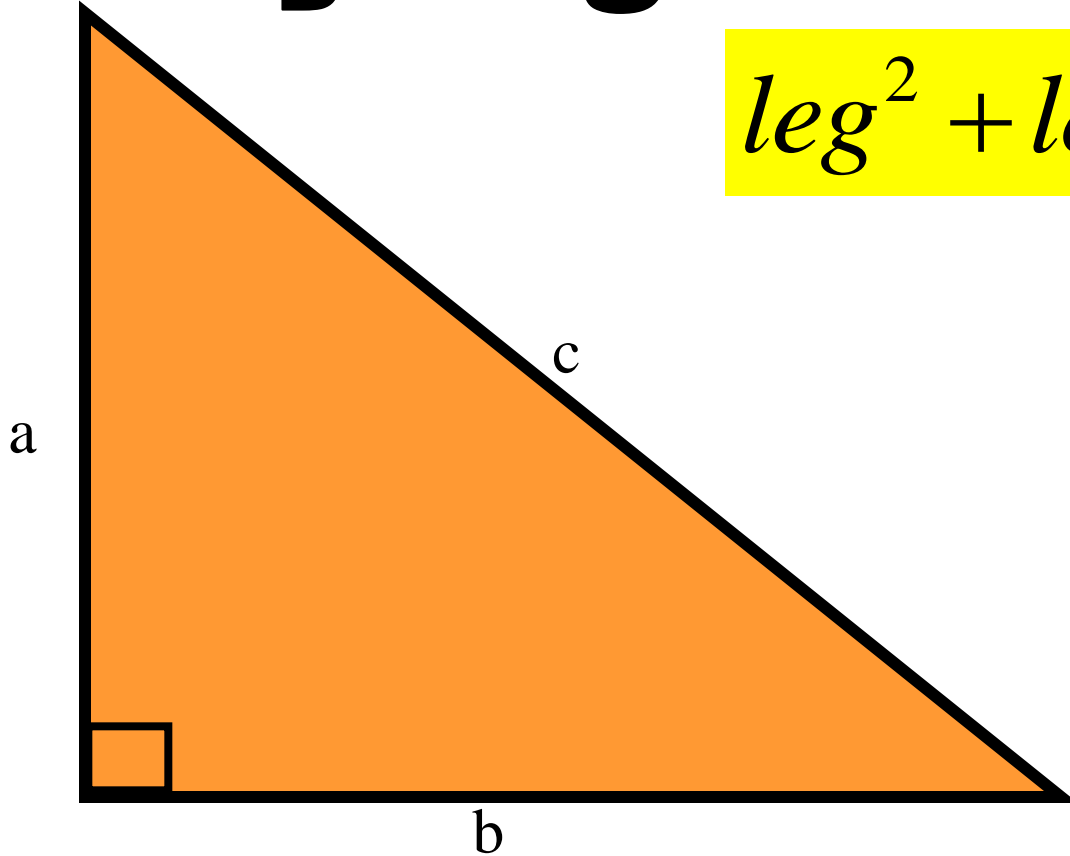
The background of the image is a dense, repeating pattern of spider webs. The webs are drawn in a dark grey or black color on a light, off-white or pale yellow background. Several small, black spiders are scattered throughout the webs, some positioned near the centers of the webs and others near the edges. The overall effect is a textured, slightly grainy appearance typical of a printed or scanned image.

PYTHA-GORE-AN

THEOREM

Pythagorean Theorem

$$\textit{leg}^2 + \textit{leg}^2 = \textit{hypotenuse}^2$$



The square of the hypotenuse is equal to the sum of the square of the other two sides.

ONLY FOR RIGHT TRIANGLES

6-6 Pythagorean Theorem

$$16^2 + 12^2 = \textit{hypotenuse}^2$$

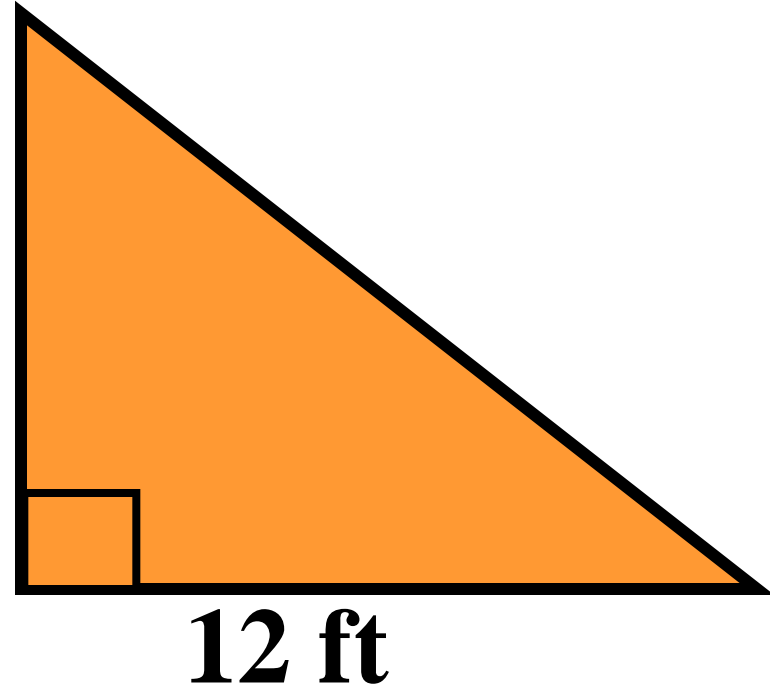
$$256 + 144 = \textit{hypotenuse}^2$$

16 ft

$$400 = \textit{hypotenuse}^2$$

$$\sqrt{400} = \sqrt{\textit{hypotenuse}^2}$$

$$20 \textit{ ft} = \textit{hypotenuse}$$



Round to the nearest tenth

$$3^2 + \text{leg}^2 = 4^2$$

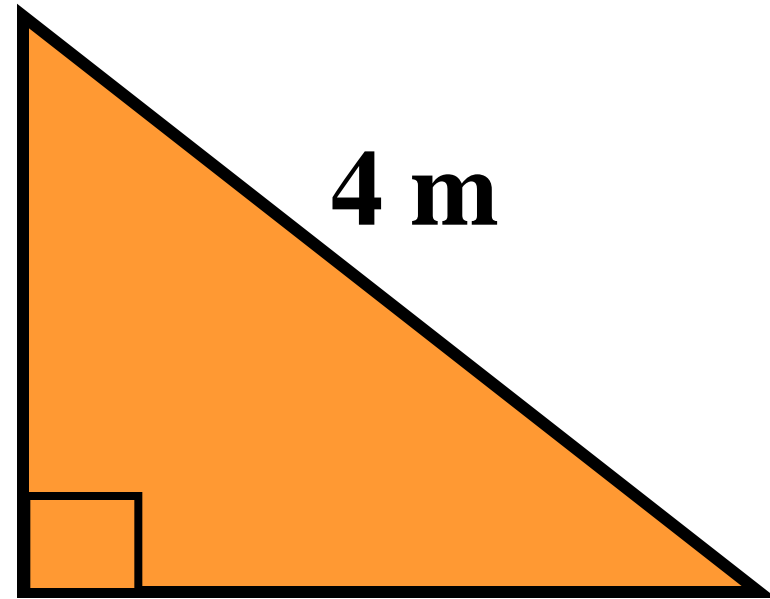
$$9 + \text{leg}^2 = 16$$

$$\text{leg}^2 = 7$$

$$\sqrt{\text{leg}^2} = \sqrt{7}$$

$$\text{leg} = 2.6 \text{ m}$$

3m



If c is the measure of the hypotenuse, find each missing measure. Round to the nearest tenth, if necessary.

1. $a = 7, b = ?, c = 25$

$$7^2 + b^2 = 25^2$$

$$b^2 = 25^2 - 7^2$$

$$b = \sqrt{(25^2 - 7^2)}$$

$$b = 24$$

2. $a = ?, b = 10, c = 20$

$$a^2 + 10^2 = 20^2$$

$$a^2 = 20^2 - 10^2$$

$$a = \sqrt{(20^2 - 10^2)}$$

$$a = 17.3$$

**The measures of 3 sides for a triangle are given.
Determine whether each triangle is a right triangle.**

1. 20, 21, 28

$$20^2 + 21^2 \stackrel{?}{=} 28^2$$

2. 10, 24, 26

$$10^2 + 24^2 \stackrel{?}{=} 26^2$$

Check for $a^2 + b^2 = c^2$

no

**The legs are always
the 2 smaller sides.**

yes