

Warm-Up

Pick up a handout from the back.

- **Work with your partner.**
- **Try to recall past information about triangles.**

Essential Skill 2: Congruent Triangles

LT 2.1 Classifying Triangles

A decorative graphic consisting of several horizontal lines of varying lengths and colors (teal, light blue, white) extending from the right side of the slide.

Why?

Radio transmission towers are designed to support antennas for broadcasting radio or television signals. The structure of the tower shown reveals a pattern of triangular braces.

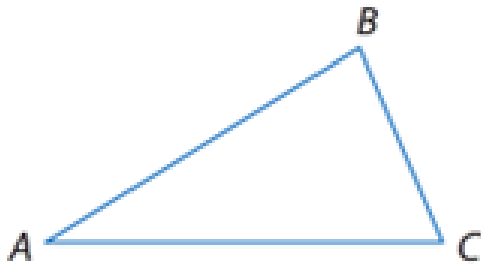
Triangles are the strongest shape to use on bridges.

Learning Objective

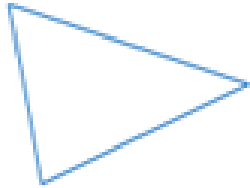
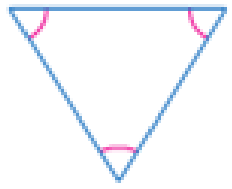
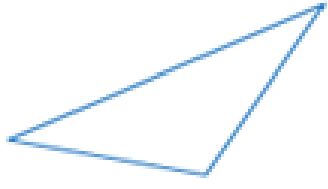
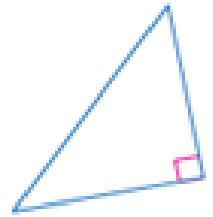
I will be able to . . .

- * Identify and classify triangles by angle measures.
(Examples 1 & 2)
- * Identify and classify triangles by side measures.
(Examples 3 & 4)

Glossary Review

Vocabulary Term	Definition/Description/Example	Drawing
Triangle $\triangle ABC$	<ul style="list-style-type: none">* The sum of their angle measures equals 180°.* Two acute angles.* 3 vertices and 3 sides.	
* Vertices	A, B, and C	
* Sides	AB, BC, CA	
* Angles		

Glossary: Classify by angles

Vocabulary Term	Definition/Description/Example	Drawing
Acute Triangle	3 acute angles. * <u>Acute angle</u> : Angle that measures less than 90°	
Equiangular Triangle	3 congruent acute angles.	
Obtuse Triangle	1 obtuse angle * <u>Obtuse angle</u> : Angle that measures more than 90° but less than 180° .	
Right Triangle	1 right angle * <u>Right angle</u> : Angle that measures 90° .	

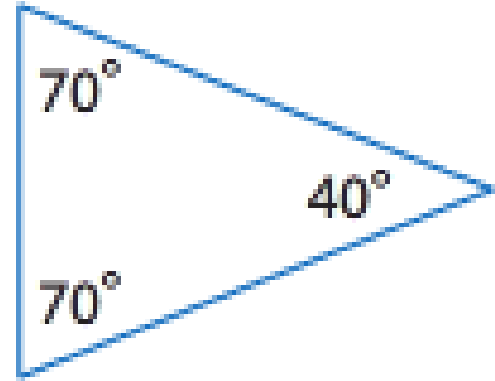
Example 1a

Use the best description to classify each triangle: *acute*, *equiangular*, *obtuse*, or *right*.

Justify your answer.

Answer:

Acute triangle because it has three acute angles that are not all equal.



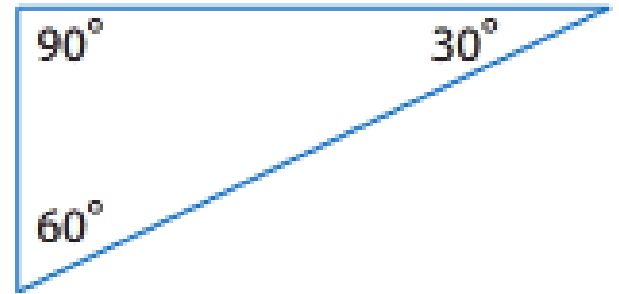
Example 1b

Use the best description to classify each triangle: *acute*, *equiangular*, *obtuse*, or *right*.

Justify your answer.

Answer:

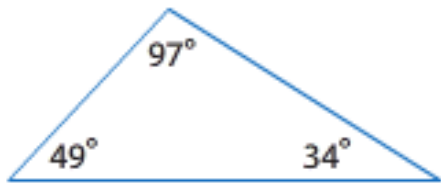
Right triangle because one angle of the triangle measures 90 degrees, which is a right angle.



Use the best description to classify each triangle:
acute, equiangular, obtuse, or right.

Justify your answer.

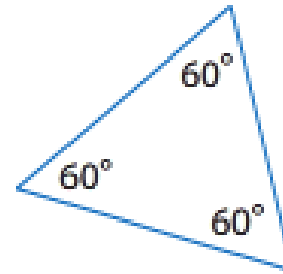
Example 1c



Answer:

Obtuse triangle because it has 1 obtuse angle.

Example 1d

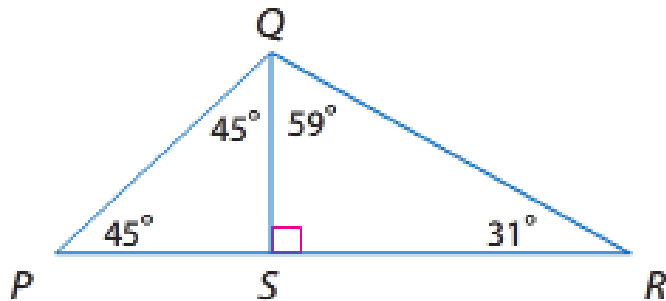


Answer:

Equiangular because all three angles are acute and equal.

Example 2a

Classify $\triangle PQR$ as *acute*, *equiangular*, *obtuse*, or *right*. Justify your answer.

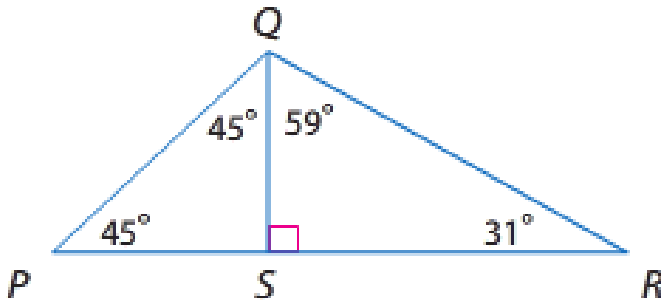


Answer:

Obtuse triangle because it has 1 obtuse angle.

Example 2b

Classify $\triangle PQS$ as *acute*, *equiangular*, *obtuse*, or *right*. Justify your answer.



Answer:

Right triangle because it has 1 right angle.