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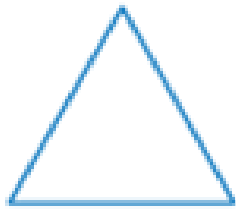
A **triangle** is a figure with three sides and three angles. The symbol for triangle is Δ . *Sum of angles is 180°*

Every triangle has at least two acute angles. One way you can classify a triangle is by using the third angle. Another way to classify triangles is by their sides. Sides with the same length are **congruent segments**.

Congruent Segments

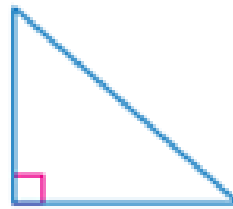
The tick marks on the sides of the triangle indicate that those sides are congruent.

Classify Triangles



all acute angles

acute triangle



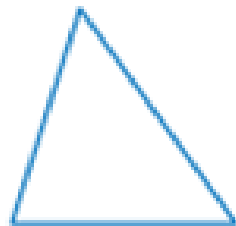
1 right angle

right triangle



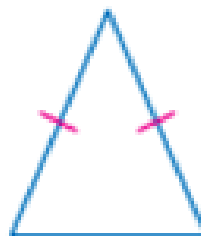
1 obtuse angle

obtuse triangle



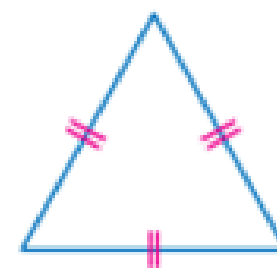
no congruent sides

scalene triangle



at least 2 congruent sides

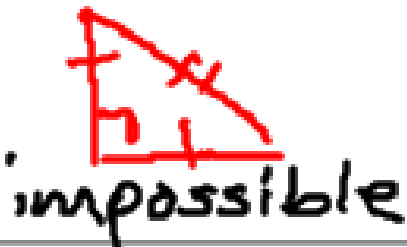
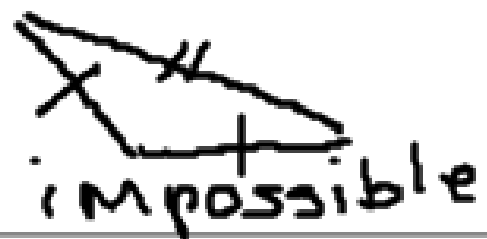
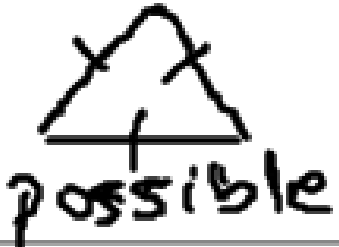
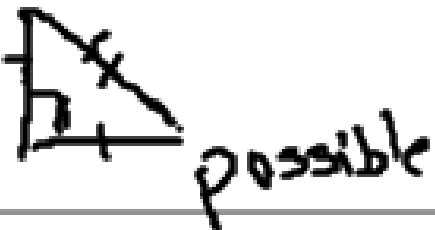
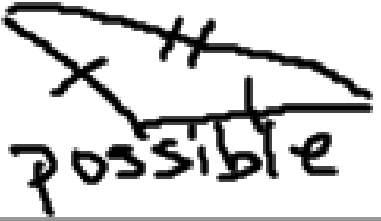

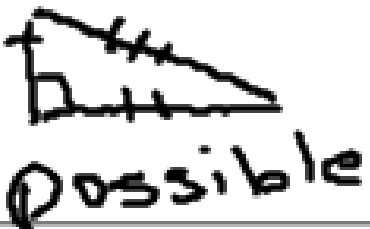
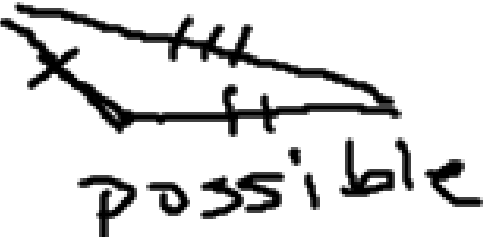
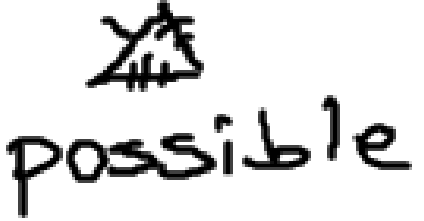
isosceles triangle



3 congruent sides

equilateral triangle

Do you know your triangles?

	Right: 1 90° angle	Obtuse: 1 angle $> 90^\circ$, $< 180^\circ$	Acute: All angles less than 90°
Equilateral: all 3 sides 	 impossible	 impossible	 possible
Isosceles: at least 2 sides 	 possible	 possible	 possible
Scalene: no sides 	 possible	 possible	 possible

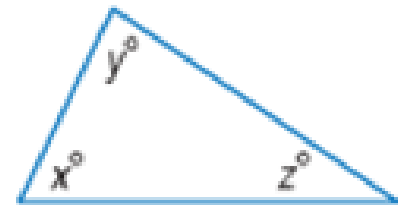
Now that you have completed this worksheet, write the definitions and symbols for the types of triangles in your Vocabulary Packet.

Angles of a Triangle

Words The sum of the measures of the angles of a triangle is 180° .

Algebra $x + y + z = 180$

Model

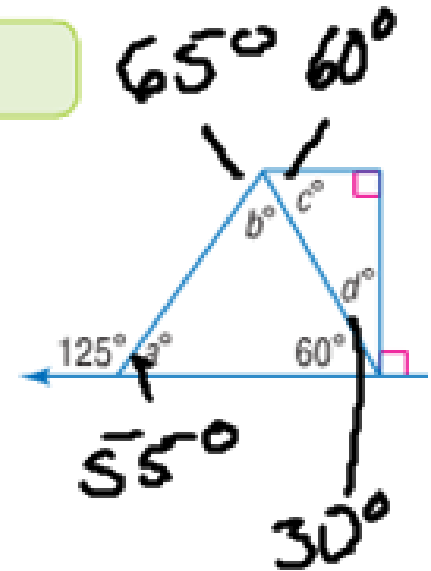


Add to definition
of a triangle



H.O.T. Problems Higher Order Thinking

11. **CCSS Persevere with Problems** Apply what you know about triangles to find the missing angle measures in the figure.



$$m\angle a \quad 180 - 125 = 55^\circ$$

$$m\angle b \quad 180 - 60 - 55 = 65^\circ$$

$$m\angle c \quad 90 + 30 + m\angle c = 180^\circ$$

$$m\angle d \quad 60 + m\angle d = 90$$

$$90 - 60 = 30^\circ$$

$$\begin{array}{r} 180 \\ - 120 \\ \hline 60 \end{array}$$