

Key Geometry Information

ANGLE MEASURES OF A TRIANGLE A **line segment** is part of a line containing two endpoints and all of the points between them. A **triangle** is a figure formed by three line segments that intersect only at their endpoints.



Reading Math

Line Segment
The symbol for line segment \overline{XY} is \overline{XY} .

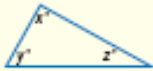
Triangles are named by the letters at their vertices. Triangle XYZ , written $\triangle XYZ$, is shown.



The activity above suggests the following relationship about the angles of any triangle.

Key Concept

Angles of a Triangle

- **Words** The sum of the measures of the angles of a triangle is 180° .
- **Model** 
- **Symbols** $x + y + z = 180$

CLASSIFY TRIANGLES Triangles can be classified by their angles. All triangles have at least two acute angles. The third angle is either acute, obtuse, or right.

Study Tip

Equiangular
In an equiangular triangle, all angles have the same measure, 60° .

Key Concept

Classify Triangles by their Angles

Acute Triangle



all acute angles

Obtuse Triangle



one obtuse angle

Right Triangle



one right angle

Triangles can also be classified by their sides. **Congruent** sides have the same length.

Study Tip

Reading Math
Tick marks on the sides of a triangle indicate that those sides are congruent.

Key Concept

Classify Triangles by their Sides

Scalene Triangle



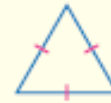
no congruent sides

Isosceles Triangle



at least two sides congruent

Equilateral Triangle



all sides congruent