Examples
Introduction to Polygons

Based on power point presentations by Pearson Education, Inc.
Revised by Ingrid Stewart, Ph.D.

Learning Objectives

1. Name certain polygons according to the number of sides and find the sum of their angles.
2. Recognize the characteristics of triangles and name certain triangles.
3. Recognize the characteristics of quadrilaterals and name certain quadrilaterals.

Example 1: Find the Sum of the Angles of a a Polygon

Find the sum of the interior angles of an octagon.

The sum of the interior angles of a polygon with n sides is given by $180^o(n - 2)$.

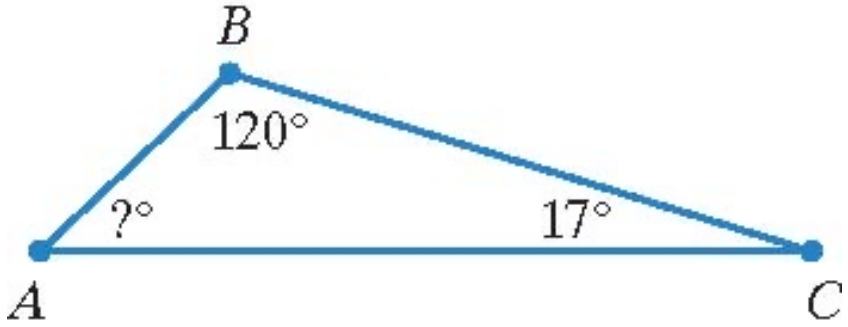
We know that an octagon has 8 sides. Using this formula with $n = 8$, we get the following:

$180^o(8 - 2) = 180^o(6) = 1080^o$

The sum of the interior angles of an octagon is 1080^o.

Example 2: Use Angle Relationships in Triangles

Find the measure of $\angle A$ for the triangle ABC.



We know that $m\angle A + m\angle B + m\angle C = 180^o$

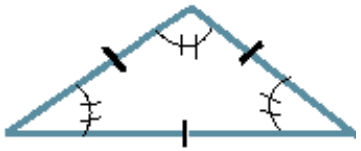
Given $m\angle B = 120^o$ and $m\angle C = 17^o$

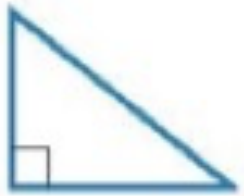
then $m\angle A = 180^o - 120^o - 17^o = 43^o$

Example 3: Name Triangles

Name the following triangles. Identical hashmarks mean equal sides and angles!

a. 

b. 

c. 

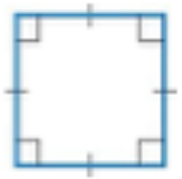
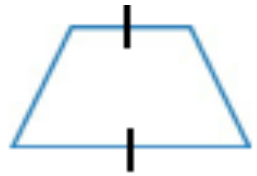
a. isosceles triangle

b. equilateral triangle

c. right triangle

Example 4: Name Quadrilaterals

Name the following quadrilaterals. Identical hashmarks mean equal sides and angles!

a.  b.  c.  d.  e. 

a. rectangle

b. square

c. parallelogram

d. rhombus

e. trapezoid