5-2

Name _____ Date _____

Classifying Triangles (Pages 196–199)

A **polygon** is a simple closed figure in a plane formed by three or more line segments. A polygon formed by three line segments is a **triangle**. Triangles can be classified by their angles and their sides.

Triangles Classified by Angle	• **Acute** triangles have three acute angles. • **Right** triangles have one right angle. • **Obtuse** triangles have one obtuse angle.
Triangles Classified by Sides	• **Scalene** triangles have no two sides that are congruent. • **Isosceles** triangles have at least two sides congruent. • **Equilateral** triangles have three sides congruent.

EXAMPLES

Classify each triangle.

A $\triangle ABC$ has one angle that measures 136°, and no sides that are the same length.

Because the angle is greater than 90°, this is an obtuse triangle. Because none of the sides are the same length, it is also a scalene triangle. $\triangle ABC$ is an obtuse, scalene triangle.

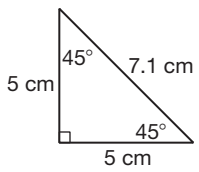
B $\triangle EFG$ has one angle that measures 90°.

Since it has one right angle, you know that $\triangle EFG$ is a right triangle. You cannot determine whether it is scalene or isosceles without knowing the lengths of the sides of the triangle.

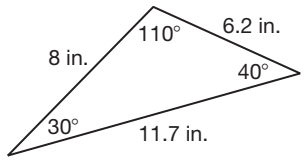
PRACTICE

Classify each triangle by its angles and by its sides.

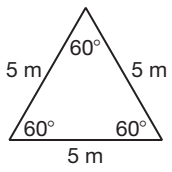
1.



2.



3.



4. Gift Wrapping Classify the triangles used in the pattern on the wrapping paper shown at the right.

5. **Standardized Test Practice** How would you classify a triangle that has one right angle and two congruent sides?

A right, isosceles
B acute, scalene
C obtuse, isosceles
D right, equilateral

Answers: **1.** right, isosceles **2.** obtuse, scalene **3.** acute, equilateral **4.** acute, equilateral **5.** A

© Glencoe/McGraw-Hill