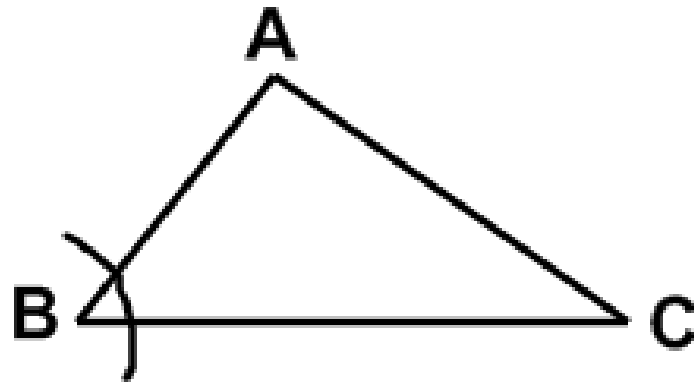


**4 - 1**

# **Classifying Triangles**

## Parts of a Triangle



$\triangle ABC$

$\triangle CAB$

$\triangle CBA$

$\triangle BCA$ , etc.

**Sides:**  $\overline{BC}$ ,  $\overline{AC}$ ,  $\overline{AB}$

**Angles:**  $\angle B$ ,  $\angle ABC$ , or  $\angle CBA$

## Classify by Angle

acute triangle: all 3  $\angle$ s acute

obtuse triangle: one angle is obtuse

right triangle: one angle is right

equiangular triangle:



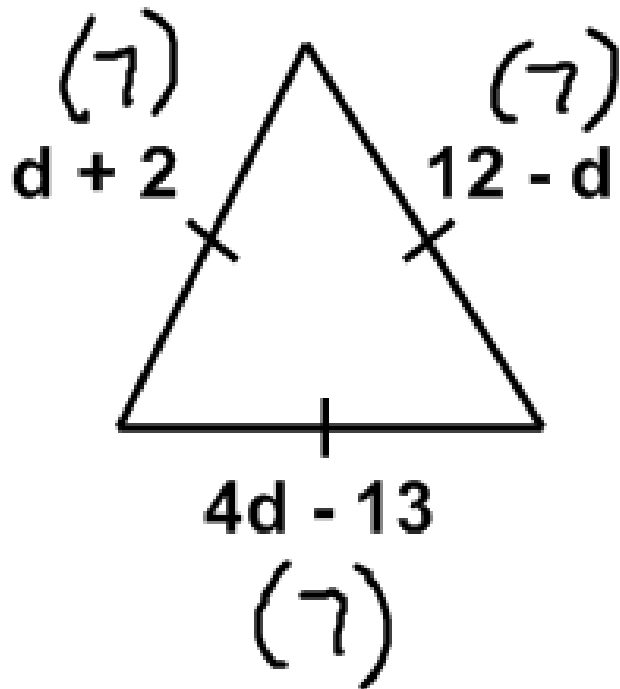
## Classify by Side

scalene triangle: all 3 sides different

isosceles triangle: 2 sides  $\cong$

equilateral triangle: 3 sides  $\cong$

**Ex: Find  $d$  and the length of each side for the given triangle.**



$$4d - 13 = 12 - d$$

$+d$                        $+d$

$$5d - 13 = 12$$

$+13$                        $+13$

$$\frac{5d}{5} = \frac{25}{5}$$

$$d = 5$$

**Ex: Determine if a triangle with the following vertices is scalene, isosceles, or equilateral.**

$$C(2, 2) \quad D(3, 9) \quad E(-5, 3)$$

$$CD : \sqrt{(2-3)^2 + (2-9)^2} = \sqrt{1+49} = \sqrt{50} \quad *$$

$$DE : \sqrt{(3-5)^2 + (9-3)^2} = \sqrt{64+36} = \sqrt{100} = 10$$

$$EC : \sqrt{(2-5)^2 + (2-3)^2} = \sqrt{49+1} = \sqrt{50} \quad *$$

isosceles



Homework:

p.180 #3 - 11, 26, 27