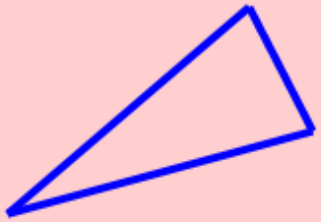
Lesson 4-1
Classifying Triangles

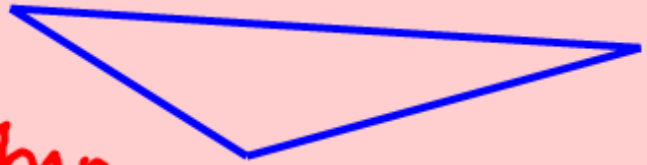
You will identify and classify triangles by their angle and side measures

Classifying by angles:

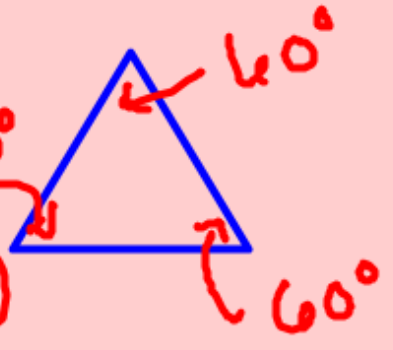
Acute all ∠'s are less than 90°



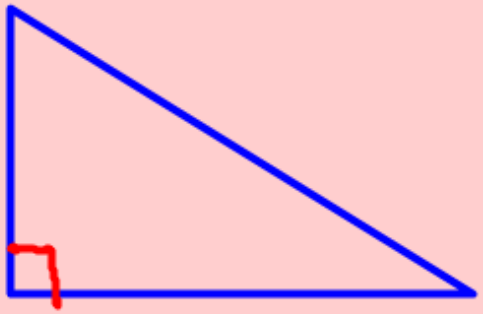
Obtuse one ∠ greater than 90°



Equiangular all 3 ∠'s are ≅ (60)



Right one 90° angle

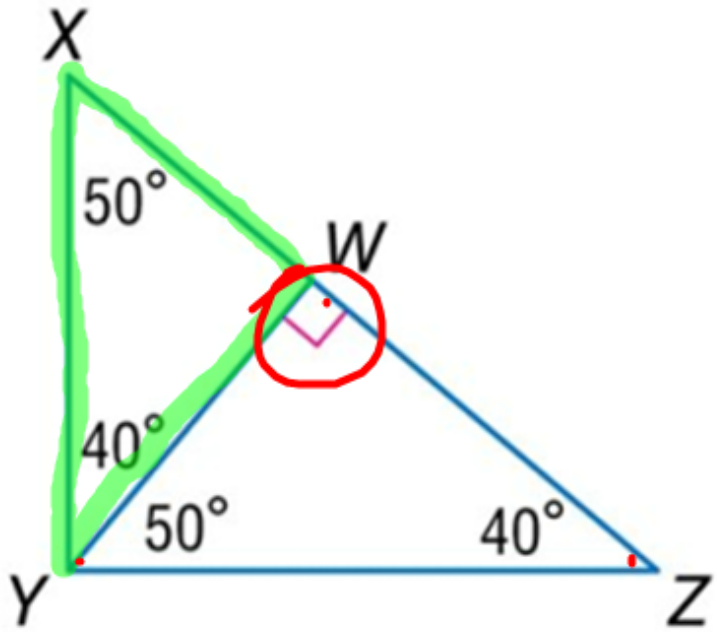


Classify ΔXYZ as *acute, equiangular, obtuse,* or *right.* Explain your reasoning.

$\Delta XYZ \rightarrow$ Rt Δ

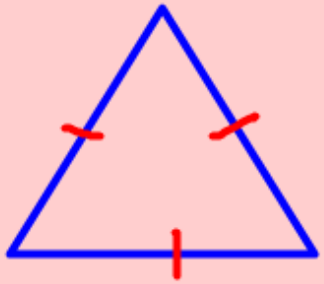
$\Delta XWX \rightarrow$ Rt Δ

$\Delta YWZ \rightarrow$ Rt Δ

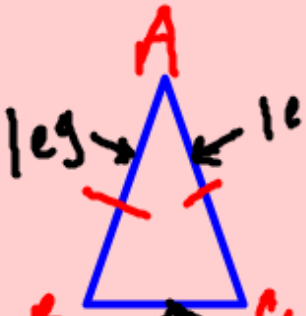


Classifying by sides:

Equilateral all sides ≅



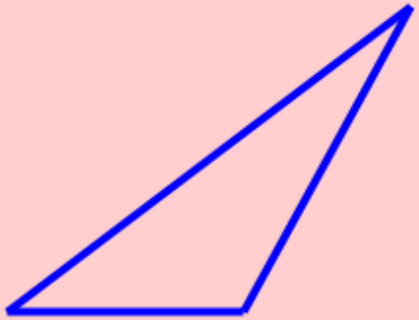
Isosceles



one pair of ≅ sides
↳ legs

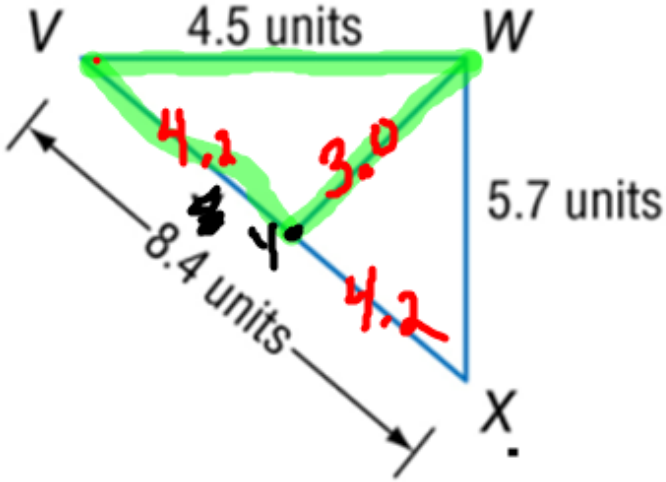
Base - the side that isn't ≅

Scalene



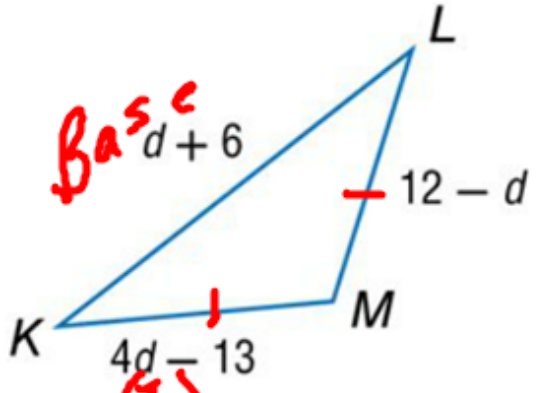
No ≅ sides

If point *Y* is the midpoint of $\overline{VX}$, and *WY* = 3.0 units, classify Δ*VWY* as *equilateral*, *isosceles*, or *scalene*. Explain your reasoning.



Scalene

ALGEBRA Find the measures of the sides of isosceles triangle *KLM* with base $\overline{KL}$.



Base

(3)

1) Find out what d is

$4d - 13 = 12 - d$

$+13 \quad +13$

$4d = 25 - d$

$+d \qquad +d$

$5d = 25$

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

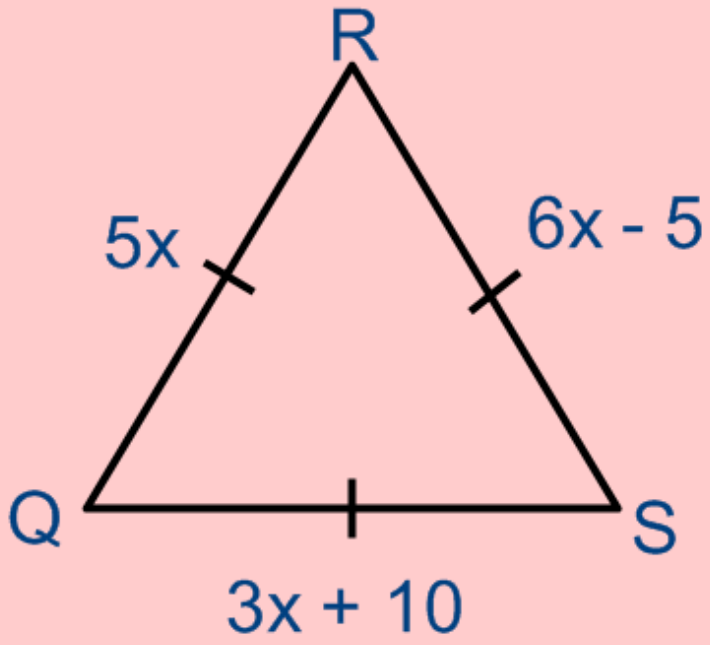
$d = 5$

$KL = 11$

$KM = 7$

$LM = 7$

Find x and the unknown sides of the triangle



$x = 5$

$QR = 25$

$RS = 25$

$QS = 25$

$6x - 5 = 3x + 10$

$+5 \qquad\qquad +5$

$6x = 3x + 15$

$-3x \quad -3x$

$3x = 15$

$\frac{3x}{3} = \frac{15}{3} \quad x = 5$