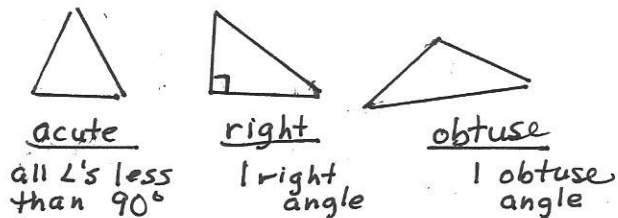
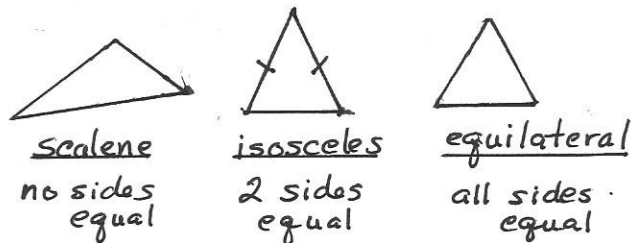


Geometry Note sheet → Triangles

Classifying Triangles → By angles ←

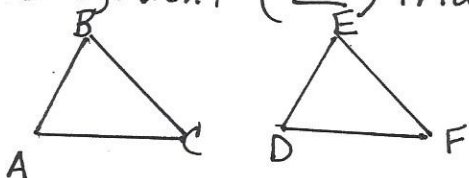


→ By sides ←



* THE INTERIOR ANGLES OF A TRIANGLE ADD TO 180° *

Congruent (\cong) Triangles



→ triangles that are the same size and same shape
 → all of the corresponding parts are equal

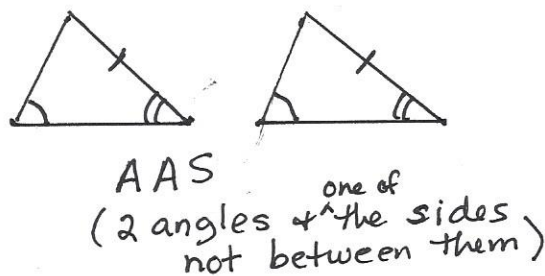
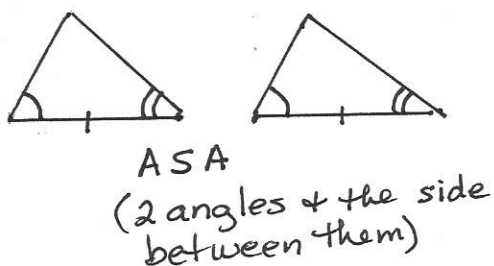
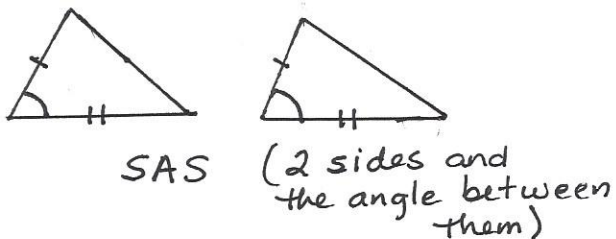
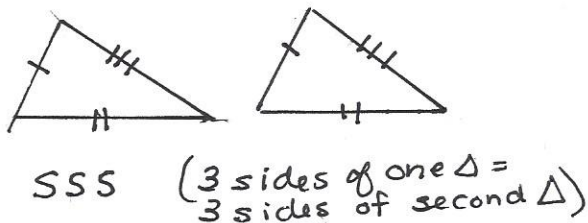
C.P.C.T.E → Corr. parts of \cong Δ 's are equal

If $\Delta ABC \cong \Delta DEF$, then

$\angle A = \angle D$	$\overline{AB} = \overline{DE}$
$\angle B = \angle E$	$\overline{BC} = \overline{EF}$
$\angle C = \angle F$	$\overline{AC} = \overline{DF}$

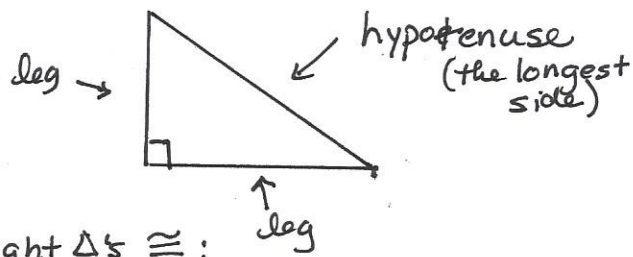
(equal)
 (the congruent parts are always listed in the same position)

Ways to show that 2 Δ 's are \cong without knowing all of the sides & angles:



(continued.)

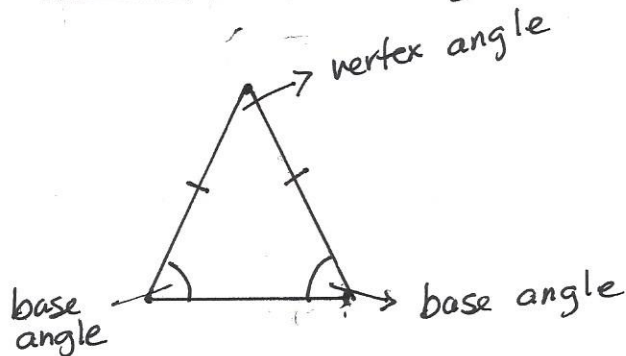
Right Δ 's



Ways to prove right Δ 's \cong :

- HL (hypotenuse + one leg)
- LL (leg, leg)
- AL (angle, leg)
- AH (angle, hypotenuse)
- LLH (leg, leg, hypotenuse)

Isosceles Triangles



- * If 2 sides of a triangle are $=$, the angles opposite those sides (base angles) are also equal.
- * If 2 angles of a triangle are equal, then the sides opposite those angles are also equal.

Triangle Inequality Theorem

- * In any triangle (or in 2 \cong Δ 's) the ~~largest~~ ^{longest} side is always opposite the biggest angle, the smallest (shortest) side is always opposite the smallest angle & the intermediate side is opposite the intermediate angle.