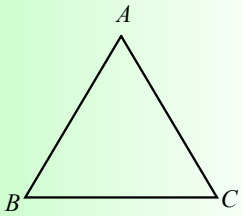
Congruent Triangles COMBINED

Congruent Triangles =
All pairs of corresponding *parts* are congruent.

All triangles have 6 parts

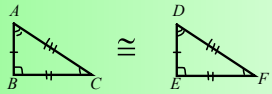
3 Sides ⟶ $\overline{AB}, \overline{AC}, \overline{BC}$

3 Angles ⟶ $\angle A, \angle B, \angle C$



Congruent Triangles

$\triangle ABC \cong \triangle DEF$



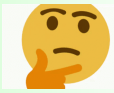
- All corresponding sides are congruent

$\overline{AB} \cong \overline{DE}, \overline{AC} \cong \overline{DF}, \overline{BC} \cong \overline{EF}$

- All corresponding angles are congruent

$\angle A \cong \angle D, \angle B \cong \angle E, \angle C \cong \angle F$

- What happens if you do not have all this information?
- What if we take away some of the tick marks on each triangle?
- What is the fewest number of tick marks we would need to prove the triangles congruent?

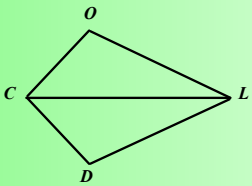


4 Things You Can "Assume" From a Diagram

1. Straight Angles
2. Supplementary Angles
3. Vertical Angles
4. Reflexive Property

Reflexive Property

- A segment or angle is congruent to itself
- Makes a "copy" for you to use in multiple triangles



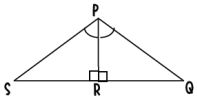
$\triangle \_\_\_ \cong \triangle \_\_\_$

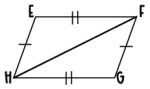
Congruent Triangles COMBINED

TRIANGLE HINTS PAGE 1

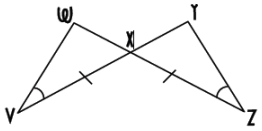
LABELING is so very, very, important!

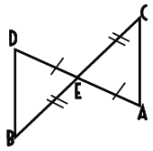
REFLEXIVE SIDE:





VERTICAL ANGLES:



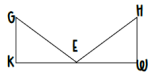


TRIANGLE HINTS PAGE 2

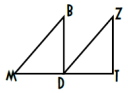
LABELING is so very, very, important!

MIDPOINT:

E is the midpoint of KW

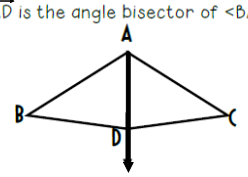


D is the midpoint of MT



ANGLE BISECTOR:

$\overrightarrow{AD}$ is the angle bisector of <BAC



$\overrightarrow{DC}$ bisects <ACB