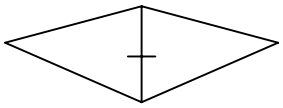
Integrated 2 Helpful Hints for Proofs involving Triangles

I. To prove triangles are congruent. (SAS, SSS, ASA, AAS)

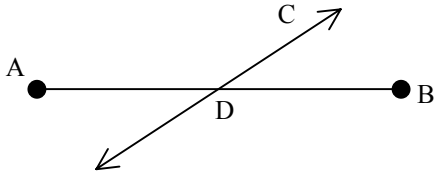
A. Use **Given** Information

B. Look for Congruent **Sides**

1. Shared Sides (Reflexive Property)

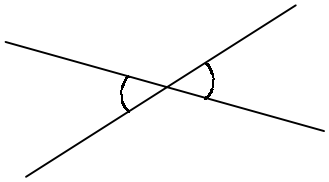


2. Bisected Sides. $\overleftrightarrow{CD}$ bisects $\overline{AB}$, so $\overline{AD} \cong \overline{DB}$



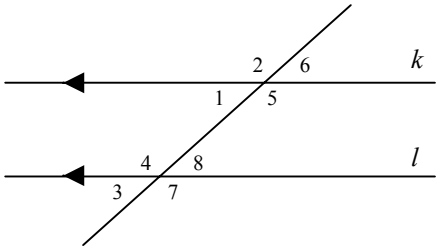
B. Look for Congruent **Angles**

1. Vertical Angles are Congruent



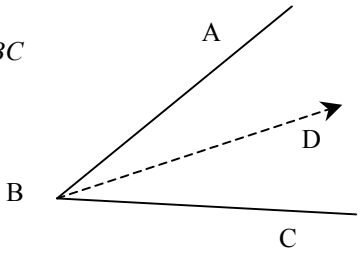
2. Parallel Lines

a) alternate interior angles are congruent
($\angle 1 \cong \angle 8$)



b) corresponding angles are congruent
($\angle 2 \cong \angle 4$)

3. Bisected angles. $\overrightarrow{BD}$ bisects $\angle ABC$, so $\angle ABD \cong \angle DBC$



4. Look for right angles.

** Once one set of triangles is congruent, then **C**orresponding **P**arts of **C**ongruent **T**riangles are **C**ongruent

II. To prove triangles are similar. (AA~) Use part B above to look for congruent angles.

** Once two triangles are similar… A) All angles are congruent
B) Corresponding sides are in proportion