FACT SHEET – UNIT 6

STEPS YOU SHOULD FOLLOW IN TRIANGLE PROOFS:

1) Your first statement(s) are what is GIVEN or already marked on the picture.

2) Mark the **GIVEN** information on the picture.

3) Look for congruencies **not in** GIVEN. Any of our properties used?

    - Vertical Angles: Vertical angles form an "X" and the angles across from each other are ≅
    - Reflexive Property: shared lines, segments or angles – mark congruent segments or angles on the diagram.
    - Parallel Lines: Angle Pairs Congruent (AI, AE, Corresponding) Angle Pairs Supplementary (SSI and SSE)

4) Look at what you have marked in the picture and determine how the Triangles are congruent? (**SSS, SAS, ASA, AAS , or HL**)

5) Look at the PROVE line ← THIS WILL BE YOUR LAST STATEMENT

    - Proving triangle congruent?
        - Statement: name the congruent triangles – remember ORDER MATTERS,
        - Reason: State how they are congruent using **SSS, SAS, ASA, AAS , or HL**
    - Proving certain parts congruent?
        - Statement: the congruent parts
        - Reason: CPCTC.

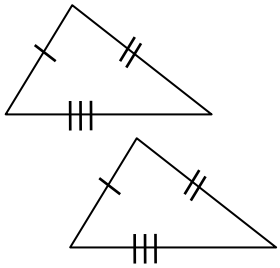
PROPERTIES TO LOOK FOR ON PROOFS:

1. **Definition of Midpoint**
2. **Definition of Angle Bisector**
3. **Definition of Right Angles**
4. **Definition of Perpendicular Lines**

SSS

SIDE – SIDE – SIDE

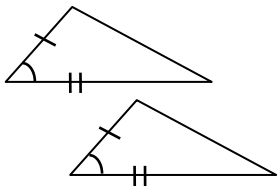
If all 3 pairs of corresponding sides are **congruent**, then the 2 triangles are congruent .



SAS

SIDE – ANGLE – SIDE

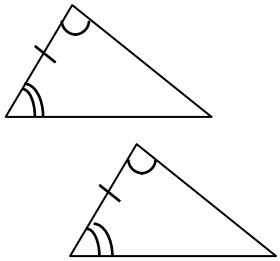
If 2 pairs of corresponding sides and the included angle are **congruent**, then the 2 triangles are congruent .



ASA

ANGLE – SIDE – ANGLE

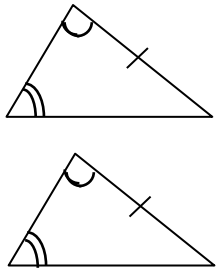
If 2 pairs of corresponding angles and the included side are **congruent**, then the 2 triangles are congruent .



AAS

ANGLE – ANGLE – SIDE

If 2 pairs of corresponding angles and a non-included side are **congruent**, then the 2 triangles are congruent .



HL

HYPOTENUSE – LEG

If a pair of corresponding legs and the hypotenuse are **congruent**, then the 2 triangles are congruent .