Geometry/Trig 2   Name: _____

7.4 – 7.5 Proving Similar Triangles Notes   Date: _____

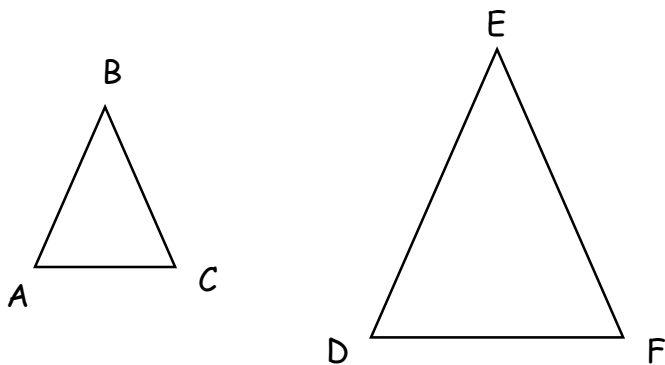To prove polygons are similar we can use two pieces of the definition:

1. corresponding angles are _____, and

2. corresponding sides have the same _____/scale factor.

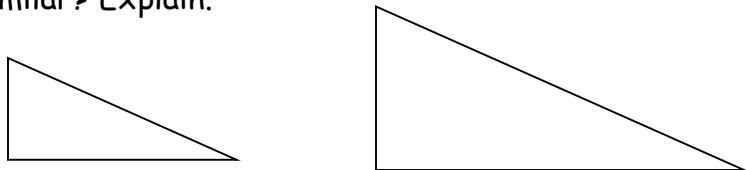However, when dealing with **triangles**, specifically, there are **simpler methods**.

AA Similarity Postulate

   If two _____ of one triangle are congruent to two _____ of another

   triangle, then the two triangles are _____.

Ex. If _____ ≅ _____ and _____ ≅ _____ , then Δ _____ ~ Δ _____

Ex: One right triangle has an angle with measure 37°. Another right triangle has an angle
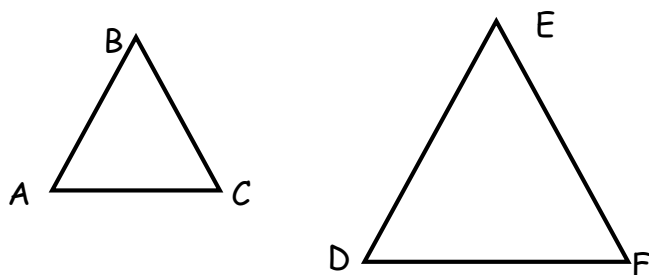with measure 53°. Are the two triangles similar? Explain.

_____

_____

SAS Similarity Theorem:

   If an angle of one triangle is congruent to an angle of another triangle and the
   _____ including those angles are in _____ , then the triangles are

   _____ .

If: _____ ≅ _____ and
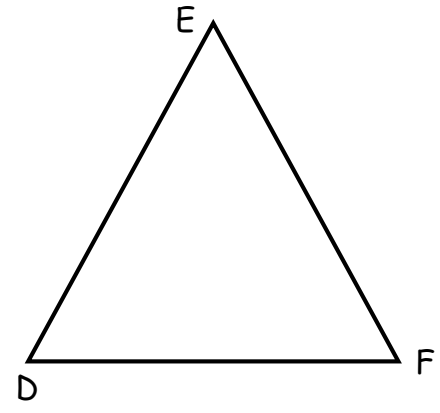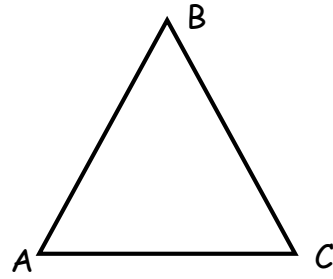
    ____ = ____

then: Δ_____ ~ Δ _____

SSS Similarity Theorem:

If the _____of two triangles are in _____, then the triangles are
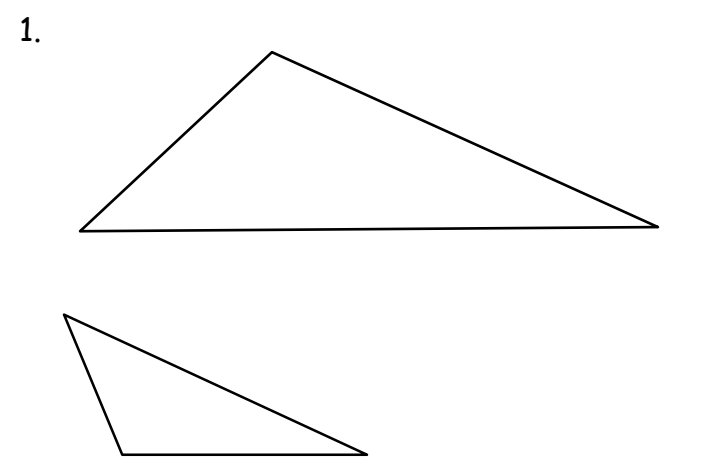
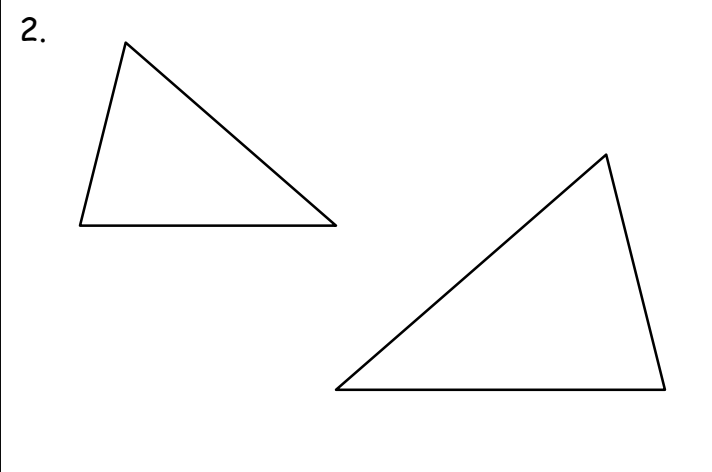_____ .

If:

_____ = _____ = _____

Then: Δ _____ ~ Δ _____

Can the two triangles shown be proved similar? If so, state the similarity and tell which postulate or theorem is used.

1.

2.
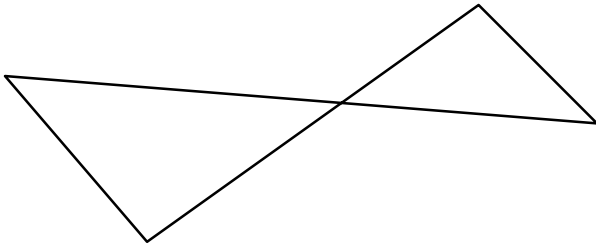
Similarity Statement: _____

Reason: _____

Similarity Statement: _____

Reason: _____

Can the two triangles shown be proved similar? If so, state the similarity and tell which postulate or theorem is used.
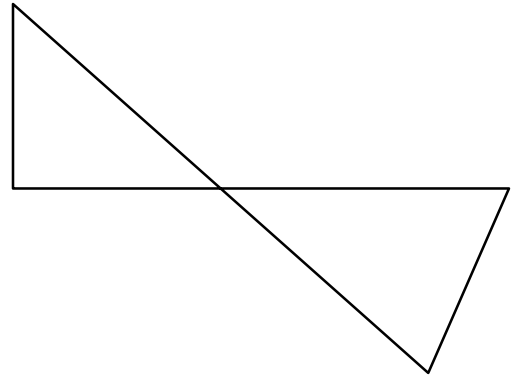
3.

Similarity Statement: _____
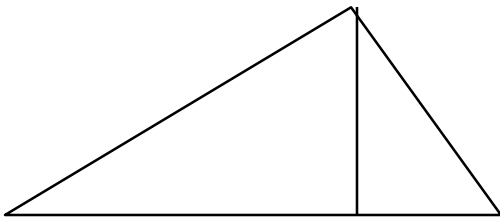
Reason: _____

4.
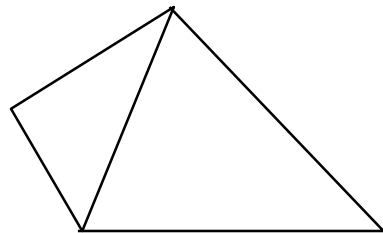
Similarity Statement: _____

Reason: _____

5.

Similarity Statement: _____

Reason: _____

6.

Similarity Statement: _____

Reason: _____

Problem Solving:

Linda wants to determine the height of this tree. She measured the shadow as _____ and her own shadow was _____. She knows that she is _____ tall. How tall is the tree?