Warm-up: AA Triangle Shortcut investigation:

You need: 1 pc patty paper, ruler, calculator, notebook

In-class section:

1. Use a ruler to draw an acute scalene ∆DEF with DE on a blue line on your notebook paper.
2. On patty paper, use ruler to draw D’E’, a shorter version of DE.
3. Trace ∠D on the D’ end of your patty paper segment: trace ∠E on the E’ end of your segment. Use your ruler to extend the sides of the angles until they meet (label this point F’). Put your patty paper F’ angle over ∠F in your notebook to make sure they are congruent.
4. You traced ∠D and ∠E and showed the ∠F’ ≅ ∠F, so corresponding angles are congruent in your two triangles.
5. Now use a ruler to measure all six sides (3 in each triangle) to the nearest tenth of a cm. Record measures on the sides of the triangles.
6. Now write up three ratios with the sides: DE/D’E’, EF/E’F’, and DF/D’F’.
7. Use a calculator to divide the ratios and see how close they are. (Hint: they should be close.) If they are about the same, then assume your corresponding sides are proportional. Is ∆DEF ~ ∆D’E’F’?
8. All of us made different triangles and did make special proportions for D’E’. All we did was copy two angles. And yet we all got similar triangles. Therefore AA, is a Triangle Similarity Shortcut: if two triangles have two pairs of corresponding congruent angles, then the triangles are similar.