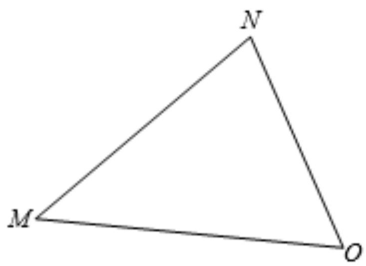
Geometry CC – Mr. Valentino
Unit 6 Lesson 3: Similarity with SSS & SAS

Name: ___________________________________
Date: _______________________ Period: ______

Aim: How can we prove triangles are similar with some **new** strategies?

Do Now:

Recall! In the diagram, $\Delta MNO \sim \Delta PQR$



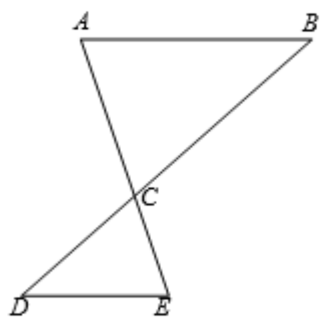
Corresponding ANGLES of similar triangles are __________________.

Corresponding SIDES of similar triangles are ________________________________.

What is the difference between these proofs?

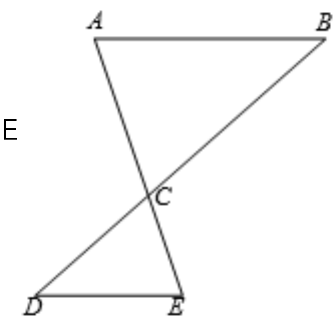
Given: $\overline{AB} // \overline{DE}$

Prove: $\frac{AC}{CE} = \frac{CB}{CD}$



Given: $\overline{AB} // \overline{DE}$

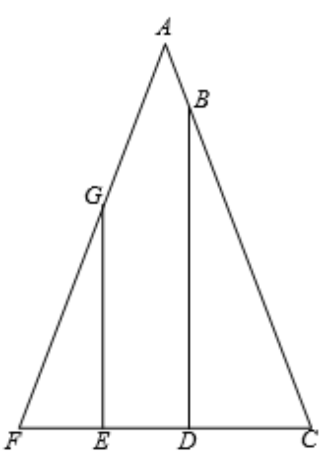
Prove: AC x CD = CB x CE



1. Given: ΔFAC is isosceles with vertex *A*,

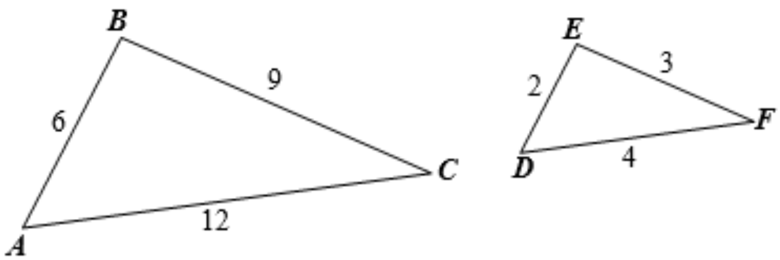
$\angle GEF \cong \angle BDC$

Prove: $GE \times BC = FG \times BD$



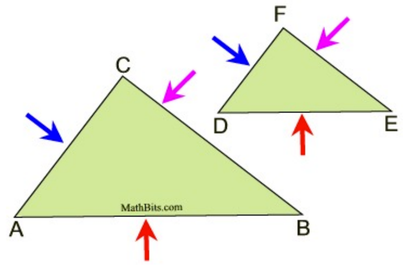
BEWARE The next two methods for proving similar triangles are NOT the same theorems used to prove congruent triangles.

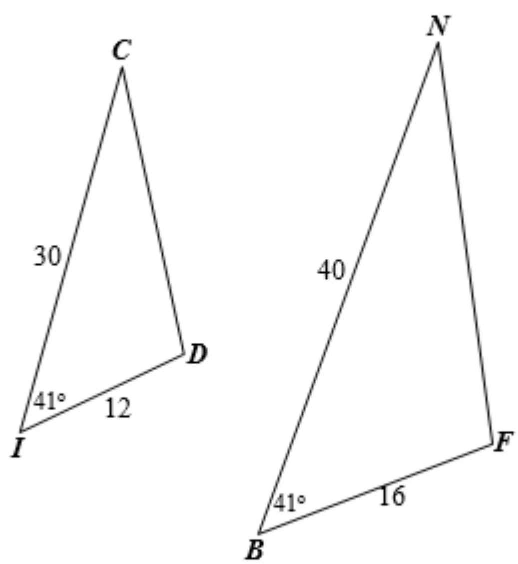
Hooray! We can prove triangles are similar two other ways!



If: $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$

Then: $\Delta ABC \sim \Delta DEF$

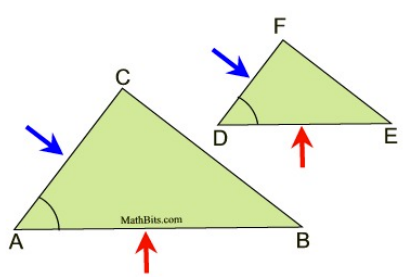




If: $\frac{AB}{DE} = \frac{AC}{DF}$

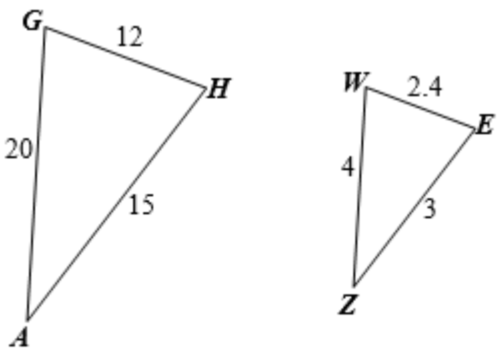
and $\angle A \cong \angle D$

Then: $\Delta ABC \sim \Delta DEF$

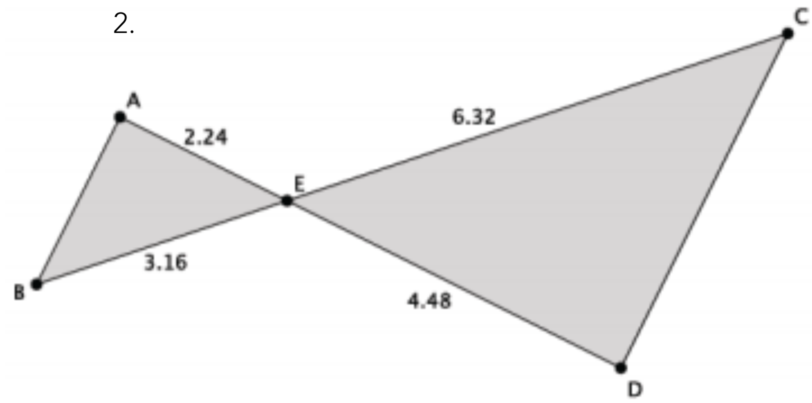


Determine if the triangles are similar. Explain why or why not:

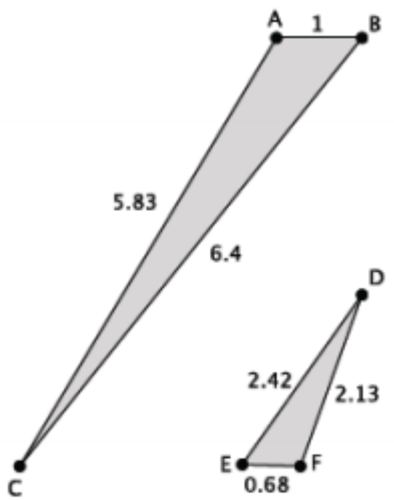
1.



2.



3.



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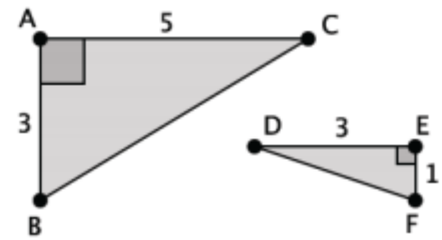
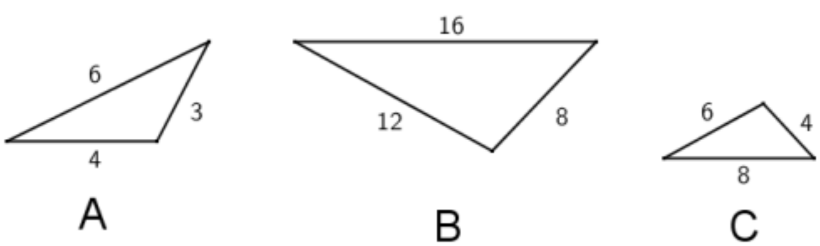
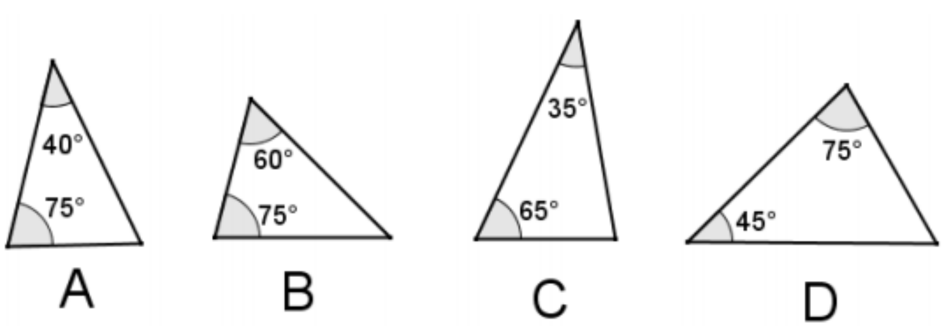


5. Determine which triangles, if any, are similar: Explain why or why not.

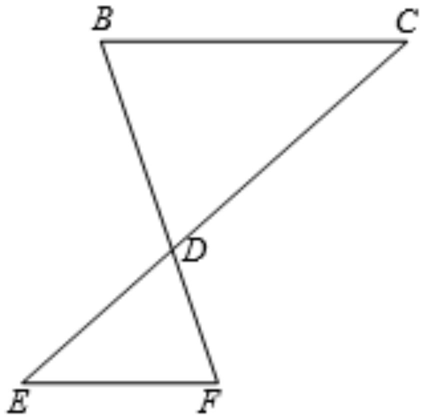


6. Determine which triangles, if any, are similar. Explain why or why not.



7. Given: $\overline{BC} \parallel \overline{EF}$

Prove: $BD \times DE = DF \times DC$



8.

Given: $\angle C$ and $\angle DEA$ right $\angle$s

Prove: $AD \bullet BC = AB \bullet DE$