7.6

Name (print first and last) _____ **Per**_____ **Date:** 3/7 due 3/10

7.6 Similarity: Proving Similar Triangles **Geometry Regents 2013-2014 Ms. Lomac**

SLO: I can prove that a pair of triangles are congruent by SSS~, SAS~, or AA~.

Dilation (Notation D_k)	Segment	Length	Similar	Image
Coordinates	Direction	Congruent	Units	Original
Scale factor	Center of dilation	Origin	Proportional	Corresponding

(1) ☐ So far, you have learned that shapes are similar if the angles are_____ and the sides _____.

You have seen that the symbol ≅ means congruent and now you are seeing that ~ means similar.

What do the symbols ≅ and ~ have in common?_____

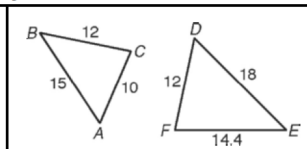
How are the symbols ≅ and ~ different? _____

Why do you think ≅ means congruent and ~ means similar? _____

_____

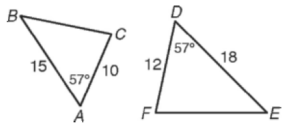
(2) ☐ For triangles, there are some shortcuts we can use to prove that triangles are similar: AA, SAS, and SSS (shown below):. Write a proof for each example diagram. List ratios of sides with letters in the "I know that" side and SHOW equal ratios with numbers in the "because" side.

Side-Side-Side (SSS) Similarity

If the three sides of one triangle are proportional to the three corresponding sides of another triangle, then the triangles are similar.	 △ABC ~ △DEF

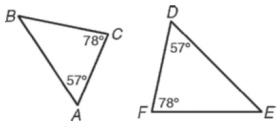
I know that . . .	because . . .

Side-Angle-Side (SAS) Similarity

If two sides of one triangle are proportional to two sides of another triangle and their included angles are congruent, then the triangles are similar.	 △ABC ~ △DEF

I know that . . .	because . . .

Angle-Angle (AA) Similarity

If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar.	 △ABC ~ △DEF

I know that . . .	because . . .

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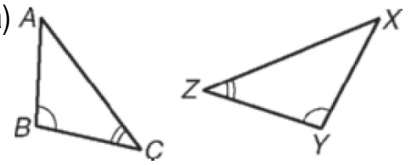
(3) ☐ Prove that the triangles in each pair are similar, OR describe why they cannot be proven similar.

QUESTIONS TO ASK YOURSELF:

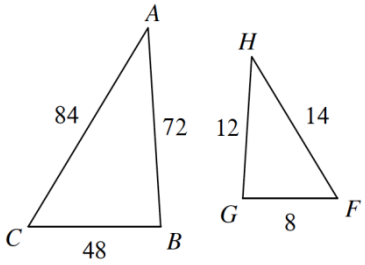
- What is given?
- What shortcut can I use?
- What do I need to show to prove that the triangles are similar?

☐ (a)

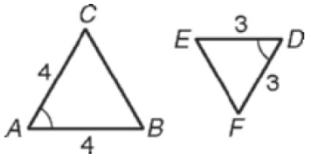


I know that . . .	because . . .

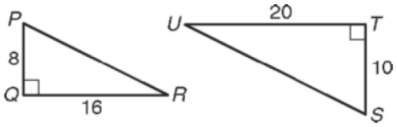
☐ (b)



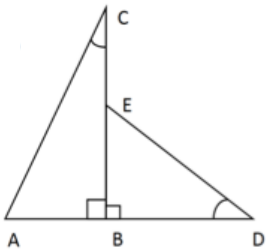
☐ (c)



☐ (d)



☐ (e)



☐ (f) BE CAREFUL