7.8

Name (print first and last) _____ **Per**_____ **Date:** 3/12 due 3/13

7.8 Similarity: Applications and Proof **Geometry Regents 2013-2014 Ms. Lomac**

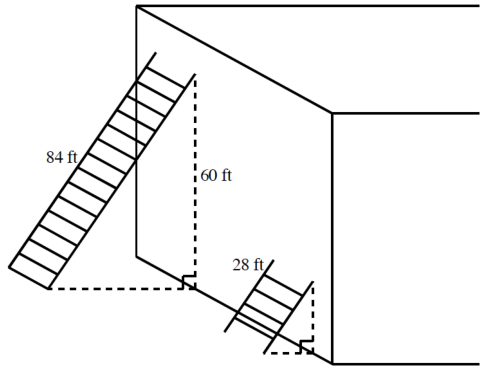
SLO: I can prove that a pair of triangles are congruent by SSS~, SAS~, or AA~.

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

(1) ☐ Use similar triangles to answer each question.

CONNECT the words of each problem to the diagram for the problem by underlining, circling, or using color.
LOCATE a pair of similar triangles
USE the diagram to setup and solve a proportion.
ANSWER the question with a sentence that restates the question.

☐ (a) Two ladders are leaning against a wall at the same angle as shown. How far up the wall does the shorter ladder reach?



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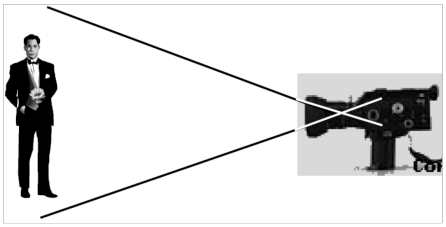
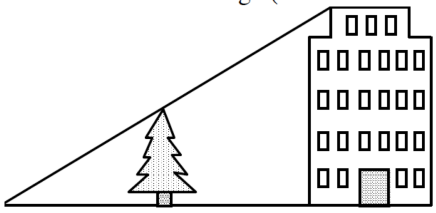
☐ (b) **Suppose a person is 300 cm from a camera lens, and the film is 1.3 cm from the lens. If the person is 180 cm tall, how tall is his image on the film?**

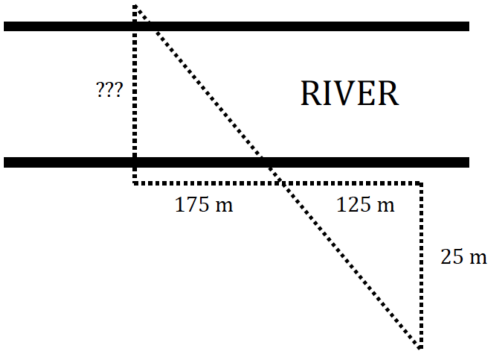


☐ (c) Fred wants to find the height of the tallest building in his city. He stands 169 feet away from the building. There is a tree 31 feet in front of him, which he knows is 22 feet tall. How tall is the building? (Round to the nearest foot.)



7.8

☐ (d) A group of engineers are building a bridge across a river and they need to determine how far it is to cross the river. To accomplish this they will use similar triangles. Determine the length across the river.



For problems (e) and (f), you must draw your own

☐ (e)

A telephone pole 10 meters tall casts a shadow 8 meters long at the same time that a tree nearby casts a shadow 14 meters long. How tall is the tree?

☐ (f) On a sunny day, Bill wants to find the height of a tree. He walks 25 feet along the shadow that the tree casts until his shadow ends at the same point as the tree's shadow. Bill is 6 feet tall and the length of his shadow is 9 feet. How many inches tall is the tree?