## Unit 3 Lesson 13: Using the Pythagorean Theorem and Similarity

### 1 Similar, Right? (Warm up)

#### Student Task Statement

Is triangle $ADC$ similar to triangle $CDB$? Explain or show your reasoning.



### 2 Tangled Triangles

#### Student Task Statement



Trace the 2 smaller triangles onto separate pieces of tracing paper.

1. Turn your tracing paper and convince yourself all 3 triangles are similar.
2. Write 3 similarity statements.
3. Determine the scale factor for each pair of triangles.
4. Determine the lengths of sides $HG$, $GF$, and $HF$.

### 3 More Tangled Triangles

#### Student Task Statement



1. Convince yourself there are 3 similar triangles. Write a similarity statement for the 3 triangles.
2. Write as many equations about proportional side lengths as you can.
3. What do you notice about these equations?

#### Images for Activity Synthesis





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