

Name: _____
 Geometry

Date: _____
 Band: _____

Unit 6: Similarity Performance Tasks

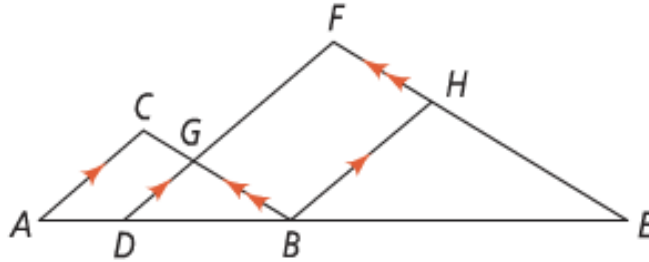
Instructions: Choose one performance task. Write all your work on a separate clean piece of paper and attach it to this page.

Big Idea: Visualization, Reasoning and Proof, and Similarity

You can show that two triangles are similar when certain relationships exist between two or three pairs of corresponding parts. If you know two triangles are similar, then you know their corresponding sides are proportional.

Performance Task 1

In the diagram below, $\overline{AC} \parallel \overline{DF} \parallel \overline{BH}$ and $\overline{CB} \parallel \overline{FE}$.



- A. Find four similar triangles. Explain how you know that they are similar.
- B. Using the similar triangles you found in part (a), complete the following extended proportion:

$$\frac{AB}{AC} = \frac{DE}{?} = \frac{?}{DG} = \frac{?}{?}$$

Big Idea: Similarity

Lines with special relationships to the sides and angles of a triangle determine proportional segments. When you know the lengths of some of the segments, you can use a proportion to find an unknown length.

Performance Task 2

You are making the kite shown at the right from five pairs of congruent panels. In parts (a)-(d) below, use the given information to find the side lengths of the kite’s panels.

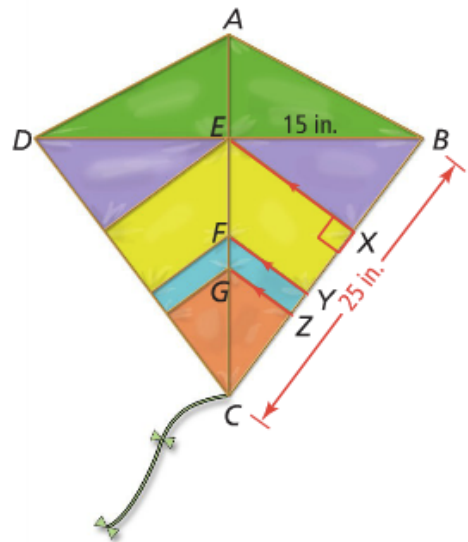
$ABCD$ is a kite.

$EB = 15$ in., $BC = 25$ in.

The extended ratio $XY:YZ:ZC$ is $3:1:4$.

$\overline{EX} \perp \overline{BC}$, $\overline{EX} \parallel \overline{YR} \parallel \overline{GZ}$

- A. $\triangle BEC$
- B. $\triangle XEFY$
- C. $\triangle YFGZ$
- D. $\triangle ZGC$



Performance Task Assessment: Analytic Holistic Scoring**Developing Autonomy—The student**

3	Persevered to complete the problem without help
2	Completed most of the problem without help
1	Needed key hints to complete the problem
0	Needed extensive guidance to work the problem

The Solution Process—The student's work showed

3	A complete and appropriate solution process
2	An appropriate solution process that is almost complete
1	An appropriate process that is partially complete
0	An inappropriate process or no evidence of a process

The Conclusion/Answer—The student's answer is an

3	Accurate conclusion, supported by valid evidence and reasons, appropriate to this problem and context
2	Inaccurate but logical conclusion, supported by evidence and reasoning but incorrect due to a minor factual error (in details of problem, in computation, recall a formula, etc.) or minor mistake in reasoning
1	Inaccurate but logical conclusion that overlooks, or gets wrong significant facts (about the problem, the rule, computation, etc.)
0	Inappropriate conclusion: not supported by facts and logic, or there is no conclusion

Teacher Comments: