

M153: Reasoning and Proof Through Similarity

Post-Badge Task

Reflecting on Badge Learning

Now that you have learned more about congruence, respond to the questions that follow. These are the same questions you responded to before the start of this badge.

The Task

In this task, you will use the “golden ratio” to create a design.

QUESTION 1 The “golden ratio” is sometimes referred to as “the perfect proportion.” Use an internet search to

- Determine what the golden ratio is.
- Identify 3-5 real world instances of the golden ratio. List or draw some examples of what you discover.

(Optional)



QUESTION 2 The value of the golden ratio is approximately 1.618. Recreate the XQ Institute logo shown at a scale that is 1.618 times larger than the one shown here.



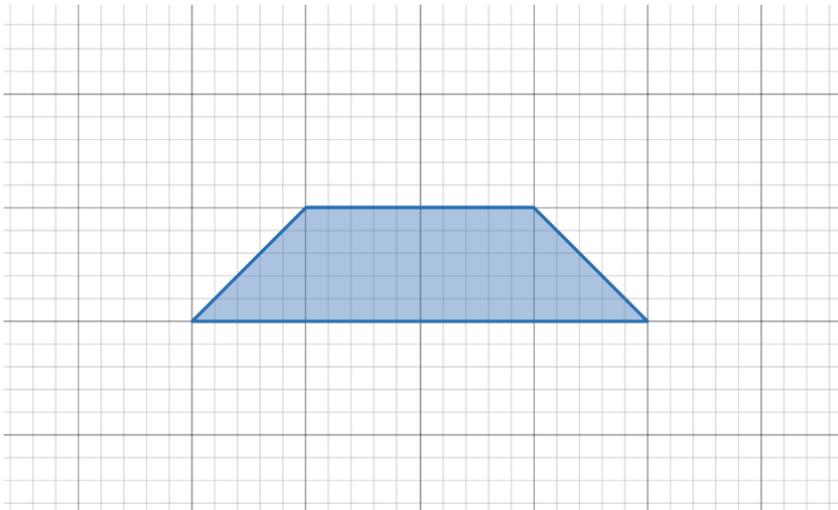
QUESTION 3

Apply the golden ratio (scale of 1.618:1) to create a design starting with the given trapezoid. You can do this by hand using the grid on the next page OR you can do it digitally using the [Logo Design Golden Ratio](#) file in Desmos.

- Use the golden ratio to create a design that has at least three different-sized trapezoids (including the original trapezoid).
- Include at least two other transformations (translation, rotation, reflection) in the creation of your design.
- Create a summary of the transformations that you used in the notebook below. For each of the transformations, be sure to include:
 - The location of the center of the dilation and the scale used.
 - The distance and direction of any translations.
 - The center, number of degrees and direction (clockwise, counterclockwise) for any rotations you used.
 - The line of reflection for any reflections you used.



My "Reflections"



QUESTION 4 What else did you learn that was not reflected in Questions 1-3?



QUESTION 5 Compare your answers to these questions now to your answers from the earlier attempt. What do you notice about your progress?

