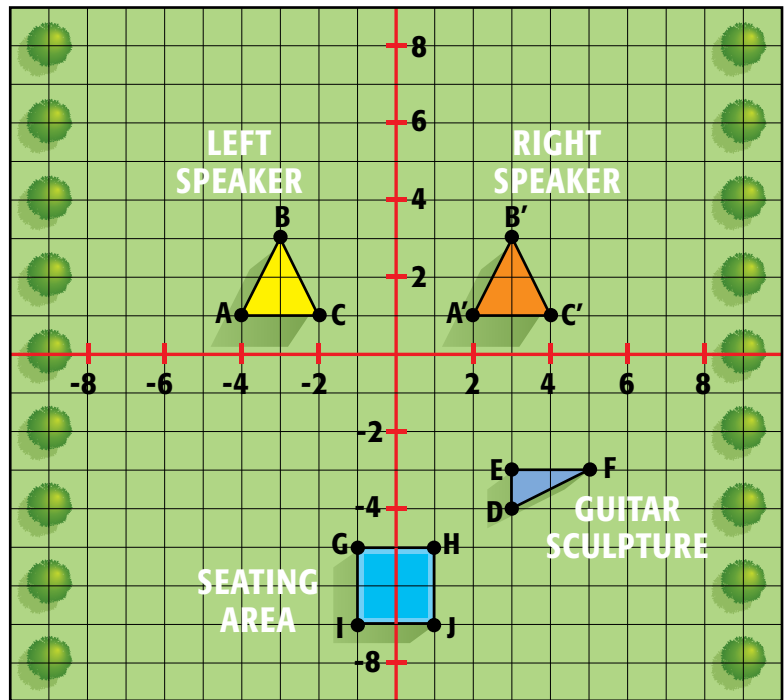


Name: \_\_\_\_\_ Date: \_\_\_\_\_

# Turn Up the Music

In your job as a design associate with Geometric Yard Spaces, you specialize in creating backyard designs using scale drawings.

Your latest client, Ophelia Allegro, is an up-and-coming recording artist who has skillfully blended rap, opera, and country music into an irresistible mix. Ms. Allegro plans to use her backyard to hold incredibly loud concerts for friends. She has ordered state-of-the-art speakers but would like some decorative elements, too. Here is your first draft of the design for her backyard.



## Work the Math

Record your responses on separate paper as needed.

- Are  $\triangle ABC$  and  $\triangle A'B'C'$  congruent? Explain your thinking.
- What kind of transformation took place from  $\triangle ABC$  to  $\triangle A'B'C'$ ? Explain your thinking.
- You decide to add a drum statue reflected across the  $y$ -axis from where the guitar statue is located. Draw in the triangle and label the corners.
- Ms. Allegro asks you to add a backup seating area with a roof in a location that is a  $180^\circ$  rotation around the origin from the current seating area. Draw this transformation and label the corners.
- In the space that hasn't already been allocated, add your own feature to the backyard. Transform the feature to another spot in the yard. Explain why your transformation is correctly drawn.