

Name \_\_\_\_\_

## Exploring Shapes: The Magic of Similarity

### Open-Ended Response Answer Key

1. Artists use similarity to ensure accurate proportions in their drawings. For example, when drawing a portrait, they can use the concept of similarity to ensure that facial features like eyes, nose, and mouth are in the correct relative sizes and positions.
2. Another example where similarity is crucial is in photography. When taking a photograph and resizing it, similarity ensures that objects in the image maintain their proportions. This is important for editing and printing photographs without distorting the original composition.
3. In geometry, similarity means that two shapes have the same angles and their corresponding sides are proportional, even if the shapes are of different sizes. Equality, on the other hand, means that two shapes have exactly the same size and shape, with all corresponding angles and sides being equal.
4. Engineers use the concept of similarity to design structures and machinery. Understanding similarity allows them to scale models of their designs, ensuring that the proportions and relationships between components remain accurate. This is crucial for testing and predicting the behavior of the full-scale structure or machine.

