

Just in Time Quick Check

Standard of Learning 2.MG.3

Strand: Measurement and Geometry

Standard of Learning 2.MG.3

The student will identify, describe, and create plane figures (including circles, triangles, squares, and rectangles) that have at least one line of symmetry and explain its relationship with congruency.

Students will demonstrate the following Knowledge and Skills:

- a) Explore a figure using a variety of tools (e.g., paper folding, geoboards, drawings) to show and justify a line of symmetry, if one exists.
- b) Create figures with at least one line of symmetry using various concrete and pictorial representations.
- c) Describe the two resulting figures formed by a line of symmetry as being congruent (having the same shape and size).

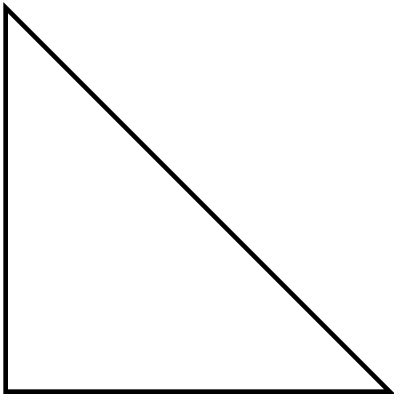
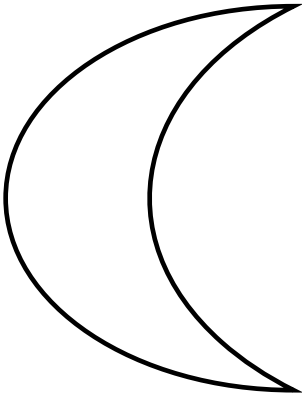
Just in Time Quick Check

Just in Time Quick Check Teacher Notes

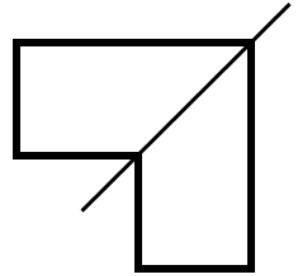
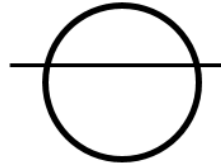
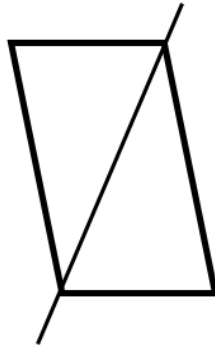
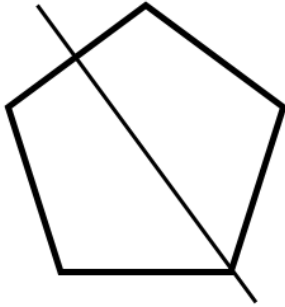
Supporting and Prerequisite SOL: 1.MG.2

Just in Time Quick Check 2.MG.3

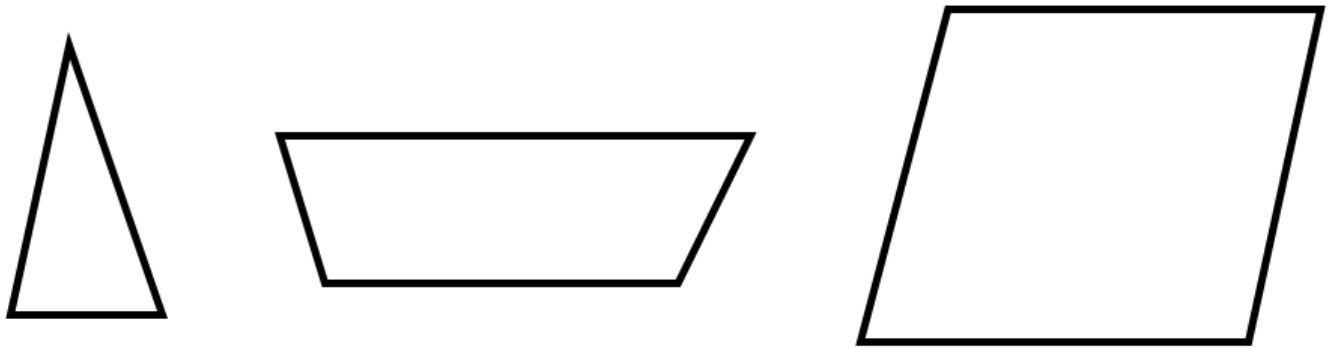
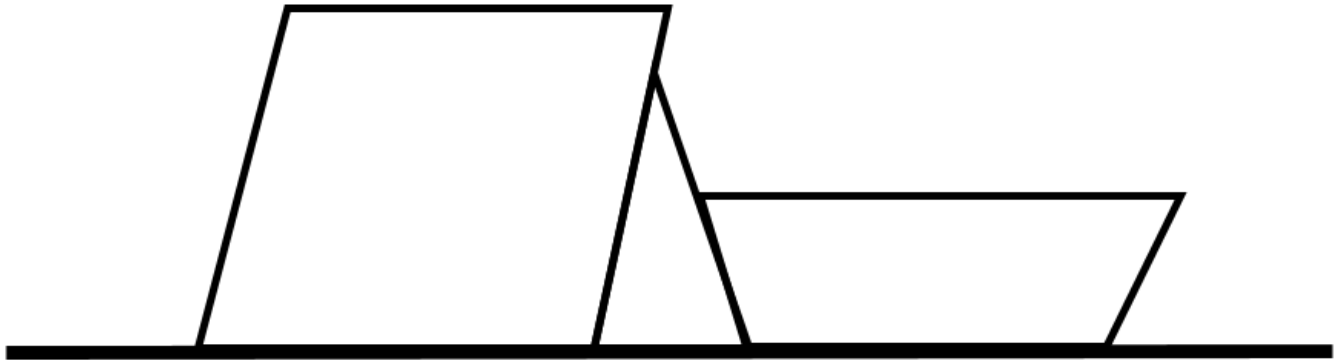
1. Draw a line of symmetry for each shape.



2. Circle the examples that show a line of symmetry. Explain how you know.



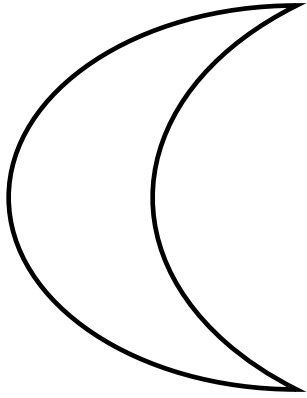
3. Part of a design is shown. The line touching the shapes will be a line of symmetry after the design is completed. To complete the design:
- a) Cut out the shapes at the bottom of the page. Use the shapes to complete the design.
 - b) Be sure your design uses the line of symmetry.



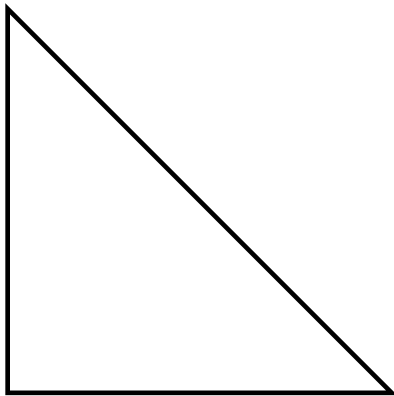
2.MG.3 Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

1. Draw a line of symmetry for each shape.



Students may draw a horizontal line that is not at the correct location, resulting in two figures that are not congruent. Students may also draw their lines vertically. Students will benefit from opportunities to use lines to divide a variety of figures into two parts and discuss whether the line results in two parts that are mirror images (reflections). Considering and discussing examples and nonexamples of lines of symmetry with classmates will be beneficial for students.



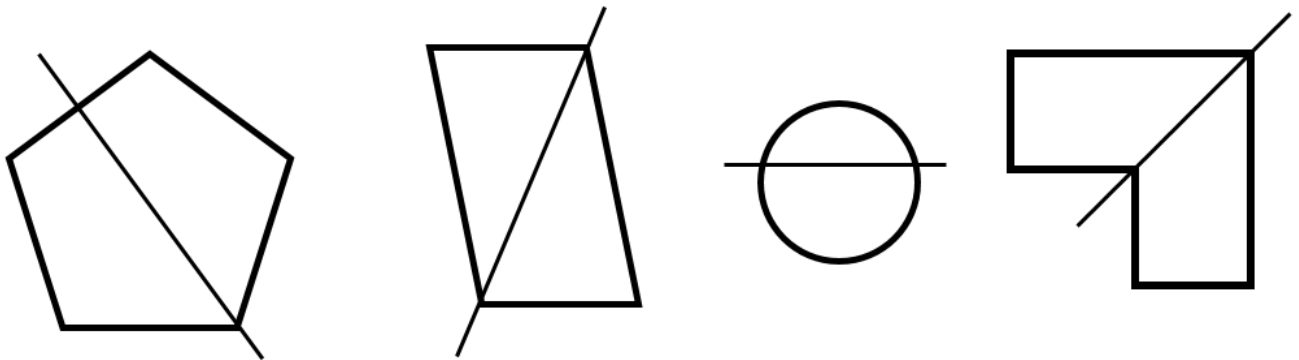
Students may draw a line from the vertex at the top of the triangle to the middle of the base of the triangle, which may indicate they are having difficulty finding a line of symmetry that is not horizontal or vertical. Students will benefit from opportunities to explore symmetry with figures in a variety of orientations. They may also find it helpful to physically fold figures to find the line of symmetry.



Students may draw a diagonal line to show symmetry. While a diagonal line in this case does subdivide the rectangle into equal parts, the parts are not mirror images of each other; therefore, the diagonal is not a line of symmetry.

It may help students to cut out the shapes and fold them to see where the line of symmetry is and how the two sides match up (are congruent). Paper folding and mirrors/miras may be helpful for students to see that both sides match when the line of symmetry is drawn.

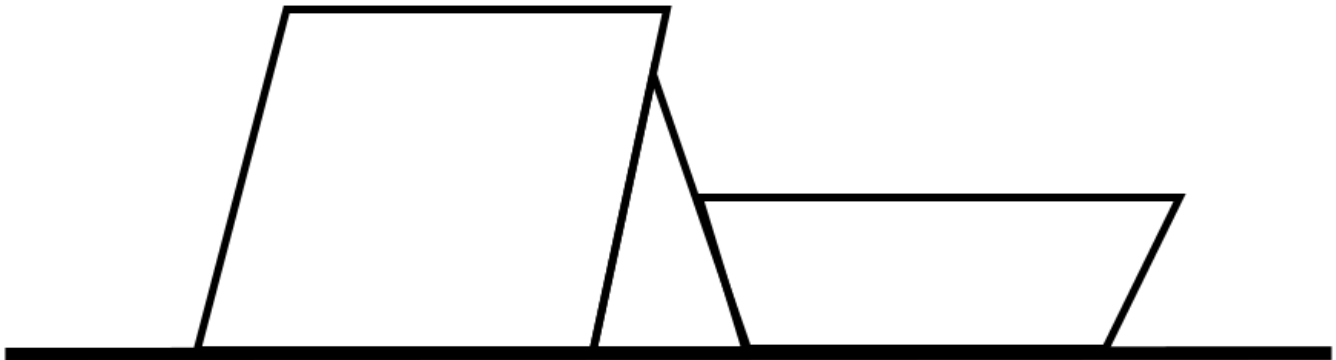
2. Circle the examples that show a line of symmetry. Explain how you know.



Students may not select the pentagon because the line of symmetry is not vertical. Students may select the parallelogram because the diagonal creates two triangles that are the same size and shape (congruent) but not symmetrical. Students may select the circle because of the horizontal line but fail to recognize that the two parts are not equal or symmetrical. Students may not select the hexagon because it is a concave figure.

Students need additional hands-on experiences to consider and discuss examples and nonexamples of lines of symmetry. Cutting out shapes and folding along the line, as well as activities with mirrors will help students confirm or reconsider their decisions.

3. Part of a design is shown. The line touching the shapes will be a line of symmetry after the design is completed. To complete the design:
- Cut out the shapes at the bottom of the page. Use the shapes to complete the design.
 - Be sure your design uses the line of symmetry.



Students may build designs below the line that are the same image as above but not a mirror image. As students engage in additional symmetry lessons, it may help for these students to think about flipping the image to the other side. Folding along the line of symmetry to trace the design on the back of the paper with a marker, or using mirrors or miras, may also help students see what the symmetrical image should look like.

