


7.5 Reflections and Line Symmetry Nov 20, 2018 Apr. 23, 2019

Outcome SS5: Demonstrate an understanding of line and rotation symmetry



May 10-7:42 PM

Apr. 23rd, 2019

Mini Lesson #1 (TASK 2 & 3)

7.5 Reflections and Line Symmetry

Outcome SS5: Demonstrate an understanding of line and rotation symmetry

May 12th, 2015
May 13th, 2014

Jan 21-8:53 AM

Line Symmetry: is a line that divides a figure into two reflected parts.

A shape can have no lines of symmetry or multiple lines of symmetry:

A line of symmetry can be vertical, horizontal or slanted.

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Which shapes have the same number of lines of symmetry?

How many lines a symmetry does this regular pentagon have?

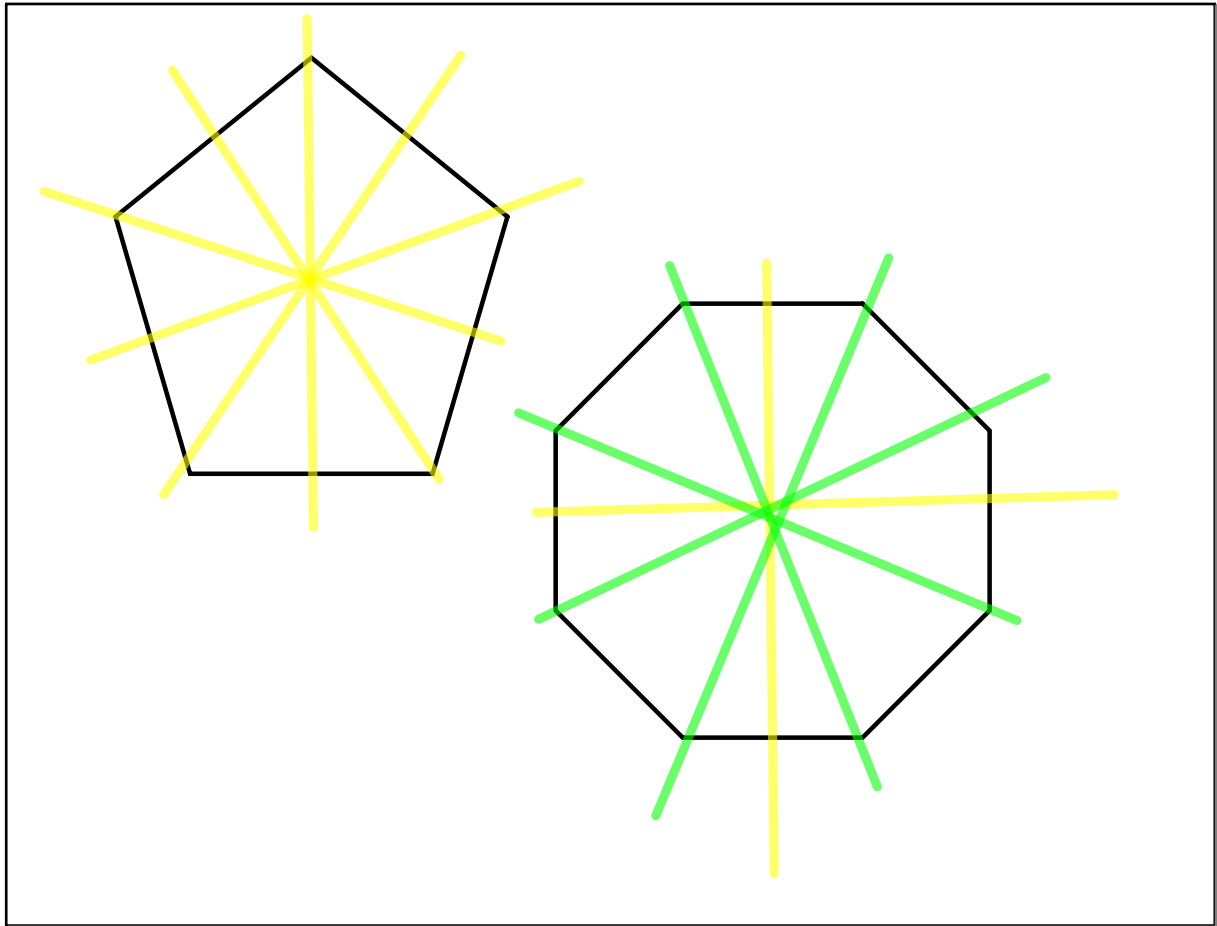
May 10-11:18 AM

Which shapes have the same number of lines of symmetry?

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- Which shapes do not have any lines of symmetry? (C, J, K) How do you know? (There is no way that I can fold each shape so that one part coincides with the other part.)
- Which shapes have one line of symmetry? (A, D, G, I)
- Which shapes have two lines of symmetry? (B)
- Are there any shapes with three lines of symmetry? (No)
- Are there any shapes with four lines of symmetry? (Yes, F and H)
- How many lines of symmetry do the regular pentagon and octagon have? (5 and 8)
- How many lines of symmetry would a regular polygon with 10 sides have? (10)
- Why is it that a rectangle has two lines of symmetry, but shape K has no lines of symmetry? (There is no line in which one part of the design is the reflection of the other part of the design.) Why do you think this happens? (Because of the shading and because there are an even number of partitions)

May 13-2:45 PM



May 1-3:26 PM

Example 1 Identifying Lines of Symmetry in Tessellations

Identify the lines of symmetry in each tessellation.

a) A tessellation of a zigzag pattern. A vertical red line is drawn through the center, representing a line of symmetry. A green circle with the number 1 is written below the line.

b) A tessellation of a grid pattern. Multiple red lines are drawn through the center, representing lines of symmetry: a vertical line, a horizontal line, and two diagonal lines. A green circle with the number 4 is written below the lines.

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A diagram showing six dashed lines intersecting at a central point. The lines are: a vertical line, a horizontal line, and two diagonal lines. Each line has an arrow at one end pointing away from the center, indicating they are lines of symmetry.

May 10-11:20 AM

Example 2 Completing a Shape Given its Line of Symmetry

Use graph paper!

Quadrilateral ABCD is part of a larger shape.

- Draw the image of ABCD after each reflection below.
- Write the coordinates of the larger shape formed by ABCD and its image.
- Describe the larger shape and its symmetry.

a) a reflection in the horizontal line through 2 on the y-axis

b) a reflection in the vertical line through 6 on the x-axis

c) a reflection in an oblique line through (0, 0) and (6, 6)

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Example 3 Completing a Shape Given its Line of Symmetry

Use graph paper!

Quadrilateral ABCD is part of a larger shape.

- Draw the image of ABCD after each reflection below.
- Write the coordinates of the larger shape formed by ABCD and its image.
- Describe the larger shape and its symmetry.

a) a reflection in the horizontal line through 2 on the y-axis

b) a reflection in the vertical line through 6 on the x-axis

c) a reflection in an oblique line through (0, 0) and (6, 6)

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End of mini lesson #1

May 14-7:20 AM