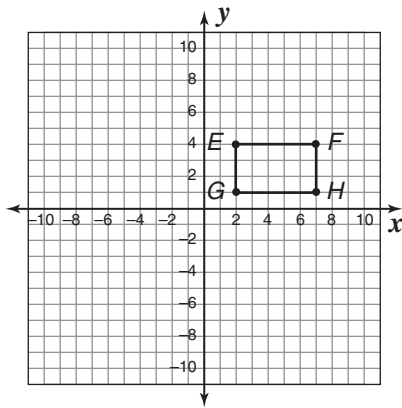


**GRADE 10 Focus on Sunshine State Standards: Benchmark Tests**  
**MA.912.G.2.4 Benchmark Pre-Test (Multiple Choice)**

- Which of the following figures CANNOT be used to make a tessellation in a plane?
  - square
  - equilateral triangle
  - five-pointed star
  - parallelogram
- Triangle  $A'B'C'$  is the result of a transformation on triangle  $ABC$ . They are congruent. Which could NOT be the transformation?
  - a reflection
  - a translation
  - a rotation
  - a dilation

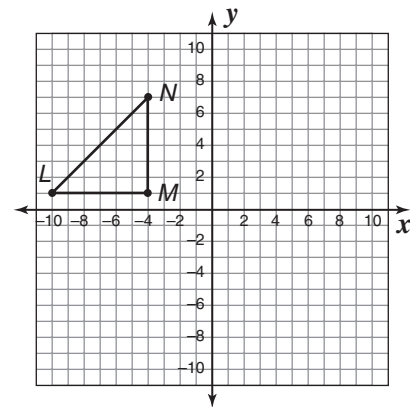
3. Use figure  $EFGH$ . [Reduce art 20%]



Which transformation creates an image with a vertex of  $(-2, -1)$ ?

- Rotate the figure  $90^\circ$  around vertex  $E$ .
- Reflect the figure across the  $x$ -axis and then across the  $y$ -axis.
- Reflect across the line  $x = 1$ .
- Translate left 4 units, then down 1 unit.

- Which of the following figures has exactly eight lines of symmetry?
  - regular hexagon
  - regular heptagon
  - regular octagon
  - regular nonagon
- Which coordinates are the vertices of a triangle congruent to triangle  $LMN$ ?

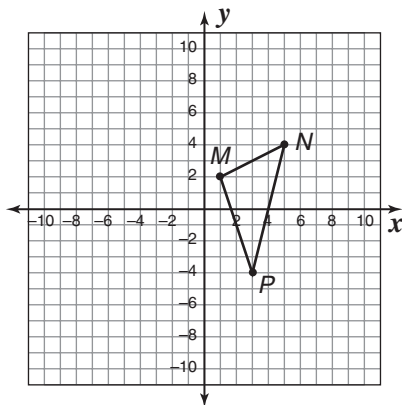


- $(0, 3), (6, 3),$  and  $(6, 8)$
  - $(0, 3), (0, -3),$  and  $(6, -3)$
  - $(3, 0), (8, 0),$  and  $(8, 5)$
  - $(3, 0), (3, -5),$  and  $(9, 0)$
- Which is always true?
    - A polygon can only be rotated around an exterior point.
    - The image of a triangle after translation is never congruent to the original.
    - The image of a dilation is always congruent to the original.
    - The image of a polygon after reflection is congruent to the original.

**GRADE 10 Focus on Sunshine State Standards: Benchmark Tests**  
**10 MA.912.G.2.4 Benchmark Pre-Test (Multiple Choice)**

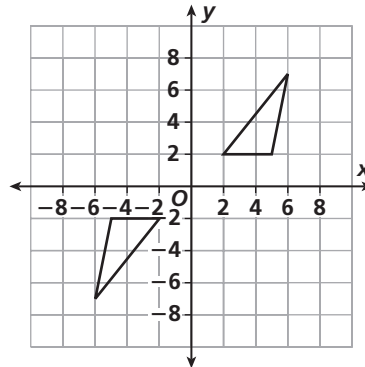
7. Which of the following compositions would result in congruent figures?
- A. a dilation by a factor of 2 and then a second dilation by a factor of 2
  - B. a reflection across the line  $x = 2$  and then a dilation by a factor of  $\frac{1}{2}$
  - C. a dilation by a factor of  $\frac{1}{2}$  and then a second dilation by a factor of 2.
  - D. a translation up 2 units and then a dilation by a factor of  $\frac{1}{2}$

8. What are the coordinates of the image of  $M$  if triangle  $MNP$  is translated up 3 units, then reflected across the  $x$ -axis?



- F. (1, -5)
- G. (-5, 1)
- H. (-1, 5)
- I. (1, 5)

9. Which of the following pairs of transformations can be used to make the triangle in the third quadrant the image of the triangle in the first quadrant?



- A. a reflection in the  $x$ -axis followed by a translation 4 units left
  - B. a reflection in the  $y$ -axis followed by a translation 4 units left
  - C. a reflection in the  $x$ -axis followed by a reflection in the  $y$ -axis
  - D. a translation left 4 units followed by a translation down 4 units
10. Through how many degrees can you rotate a regular dodecagon to show it has rotational symmetry?
- F. only  $30^\circ$  clockwise
  - G. only positive integer multiples of  $30^\circ$
  - H. only  $30^\circ$ ,  $60^\circ$ , and  $90^\circ$
  - I. any integer multiple of  $30^\circ$