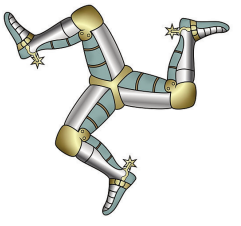
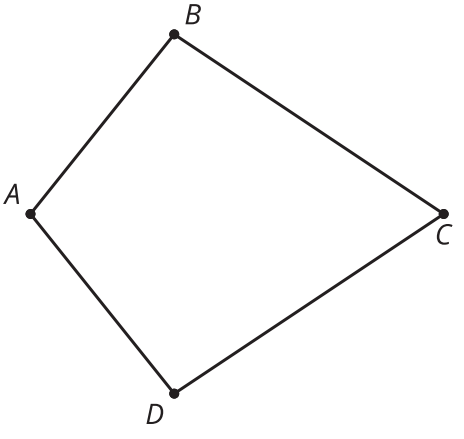
Lesson 15 Practice Problems

1. For each figure, identify any lines of symmetry the figure has.



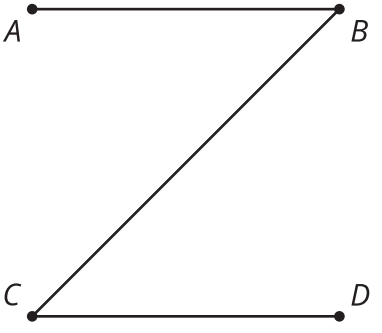
2. In quadrilateral $BADC$, $AB = AD$ and $BC = DC$. The line AC is a line of symmetry for this quadrilateral.



   a. Based on the line of symmetry, explain why the diagonals AC and BD are perpendicular.

   b. Based on the line of symmetry, explain why angles ABC and ADC have the same measure.

3. Three line segments form the letter Z. Rotate the letter Z counterclockwise around the midpoint of segment BC by 180 degrees. Describe the result.



(From Unit 1, Lesson 14.)

4. There is a square, $ABCS$, inscribed in a circle with center D. What is the smallest angle we can rotate around D so that the image of A is B?

   A. 45°

   B. 60°

   C. 90°

   D. 180°

(From Unit 1, Lesson 14.)

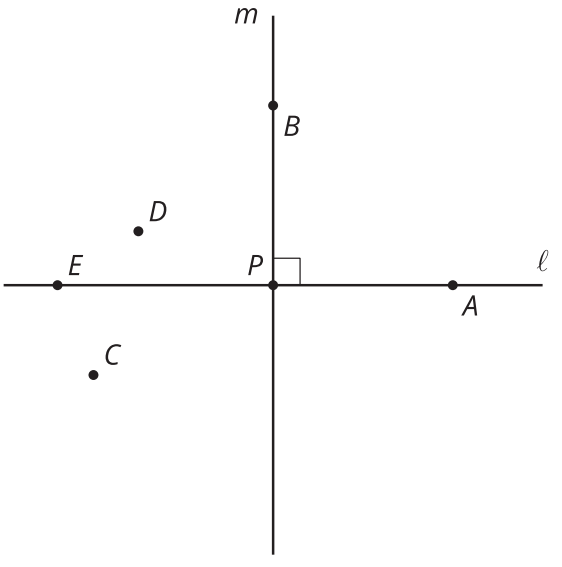
5. Points A, B, C, and D are vertices of a square. Point E is inside the square. Explain how to tell whether point E is closer to A, B, C, or D.

(From Unit 1, Lesson 9.)

6. Lines ℓ and m are perpendicular.

Sometimes reflecting a point over m has the same effect as rotating the point 180 degrees using center P. Select **all** labeled points which have the same image for both transformations.

$m \perp \ell$



A. A

B. B

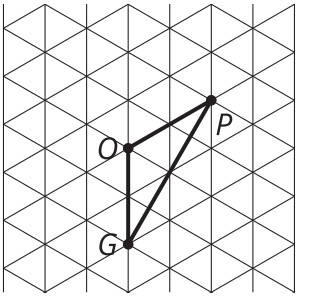
C. C

D. D

E. E

(From Unit 1, Lesson 11.)

7. Here is triangle POG. Match the description of the rotation with the image of POG under that rotation.



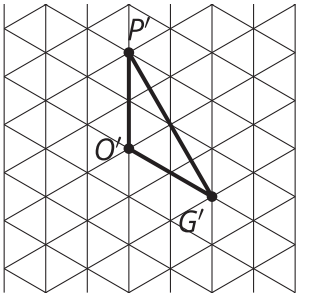
A. Rotate 60 degrees clockwise around O.

B. Rotate 120 degrees clockwise around O.

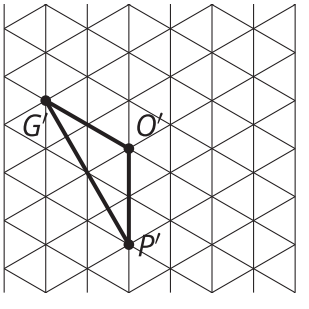
C. Rotate 60 degrees counterclockwise around O.

D. Rotate 60 degrees clockwise around P.

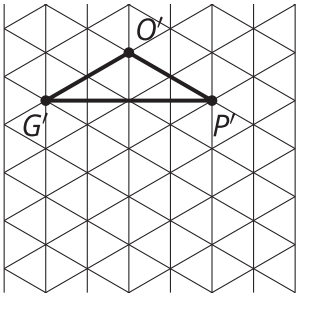
1.



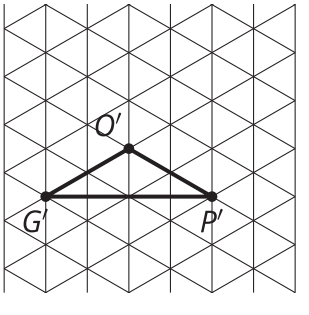
2.



3.



4.



(From Unit 1, Lesson 13.)