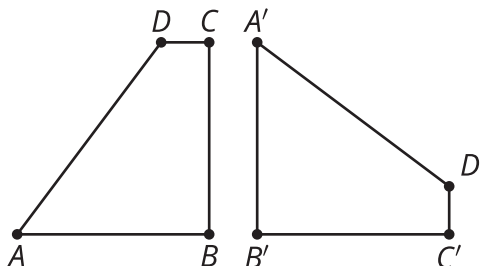# Lesson 17 Practice Problems

1. Quadrilateral $ABCD$ is congruent to quadrilateral $A'B'C'D'$. Describe a sequence of rigid motions that takes A to A', B to B', C to C', and D to D'.

2. Select **all** transformations that must take any point A to any point B.

   A. Rotation of $180°$ around A

   B. Rotation of $180°$ around B

   C. Rotation of $180°$ around the midpoint of segment AB

   D. Reflection across the line AB

   E. Reflection across the perpendicular bisector of segment AB

   F. Translation by the directed line segment AB

   G. Translation by the directed line segment BA

3. Triangle ABC is congruent to triangle $A'B'C'$. Describe a sequence of rigid motions that takes A to A', B to B', and C to C'.
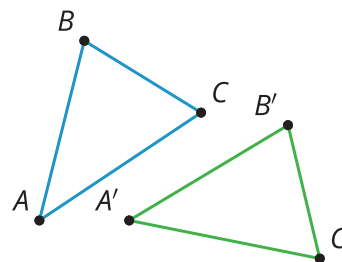
4. A triangle has rotation symmetry that can take any of its vertices to any of its other vertices. Select **all** conclusions that we can reach from this.

    A. All sides of the triangle have the same length.

    B. All angles of the triangle have the same measure.

    C. All rotations take one half of the triangle to the other half of the triangle.

    D. It is a right triangle.

    E. None of the sides of the triangle have the same length.

    F. None of the angles of the triangle have the same measure.

(From Unit 1, Lesson 16.)

5. Select **all** the angles of rotation that produce symmetry for this flower.
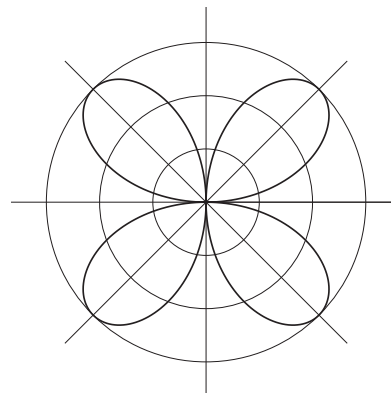
    A. 30

    B. 45

    C. 60

    D. 90

    E. 120

    F. 135

    G. 180

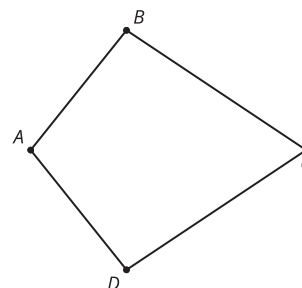(From Unit 1, Lesson 16.)

6. A right triangle has a line of symmetry. Select **all** conclusions that *must* be true.

    A. All sides of the triangle have the same length.

    B. All angles of the triangle have the same measure.

    C. Two sides of the triangle have the same length.

    D. Two angles of the triangle have the same measure.

    E. No sides of the triangle have the same length.

    F. No angles of the triangle have the same measure.

(From Unit 1, Lesson 15.)

7. In quadrilateral $BADC$, $AB = AD$ and $BC = DC$. The line AC is a line of symmetry for this quadrilateral. Based on the line of symmetry, explain why angles ACB and ACD have the same measure.
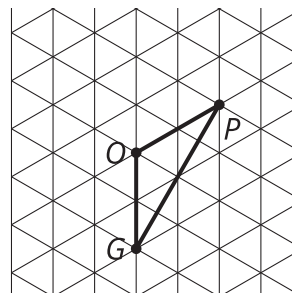
(From Unit 1, Lesson 15.)

8. Which of these constructions would construct a line of reflection that takes the point A to point B?

    A. Construct the midpoint of segment AB.

    B. Construct the perpendicular bisector of segment AB.

    C. Construct a line tangent to circle A with radius AB.

    D. Construct a vertical line passing through point A and a horizontal line passing through point B.

(From Unit 1, Lesson 11.)

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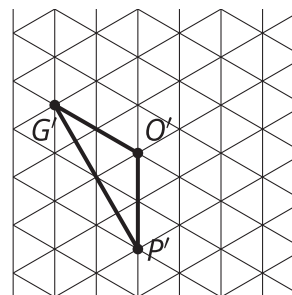

A. Rotate 300 degrees clockwise around O.
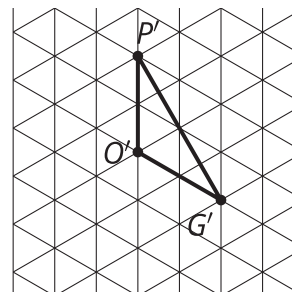
B. Rotate 60 degrees clockwise around O.

C. Rotate 60 degrees clockwise around P.
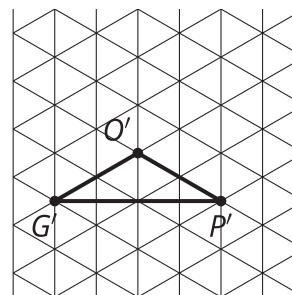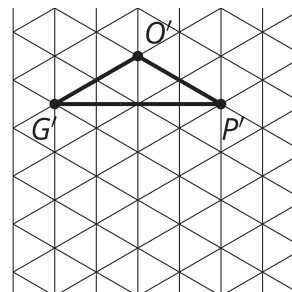
D. Rotate 240 degrees counterclockwise around O.

1.

2.

3.

4.

(From Unit 1, Lesson 13.)