Lesson 6-3: Analyze Rotations

1. Sample answer: A rotation changes the position of the figure but it does not change the size, shape, or orientation of the figure.

2. Sample answer: It will not change the image, because 360° is a full rotation and the resulting image would be in the same place as the preimage.

3. Sample answer: Side A'B' and side D'C' are also parallel because the angle measures and side lengths are the same after a figure is rotated.

4. a. A' (2,3), B' (-2,3), C'(-2,-3), and D' (2,-3)

   b. Sample answer: The preimage is a rectangle and the image is also a rectangle, so its angle measures are all 90°.

5. △Q'R'S' is a 270° rotation about the origin of △QRS.

6. 90°

7. Yes; Sample answer: The size, shape, and orientation of the triangles are the same. Rays connecting the origin with corresponding points shows an angle of rotation of 270° about the origin.

8. P' (3,-2), R' (7,-2), Q' (6,-4)

9. No; Sample answer: It is a 90° rotation about the origin.

10. Sample answer: After 360°, you are just repeating multiples of the degrees between 0° and 360°. For example, 540° is the same as 180° because 540° - 360° = 180°.

11. K' (2,3), L' (2,5), M' (4,5), N' (4,3)

12. (-3,-2)

13. a. A
    b. B