Additional Problems: Transformations and Congruence

**Rotations**

1. What is the length of the sides in the reflected figure if a rectangle with sides 8 units and 10 units in length is reflected across the y-axis?
2. What is the length of the sides in the reflected figure if a triangle with sides 5 units, 6 units, and 7 units in length is reflected across the x-axis?
3. What is the area of the rotated figure if a rectangle with an area of 36 square units is rotated 90° counterclockwise?
4. What is the area of the rotated figure if a circle with an area of 50 square units is rotated 270° clockwise?
5. What is an endpoint of the rotated segment if a line segment with endpoints (2, 3) and (2, 5) is rotated 90° counterclockwise?
6. What is an endpoint of the rotated segment if a line segment with endpoints (-4, -2) and (-4, -6) is rotated 180° clockwise?
7. If a square with vertices (1, 1), (1, 3), (3, 3), and (3, 1) is translated to the left 2 units and up 1 unit, what are the vertices of the translated figure?
8. If a triangle with vertices (2, 1), (4, 1), and (3, 3) is translated to the left 3 units and up 2 units, what are the vertices of the translated figure?
9. Which transformation(s) will result in a figure that has the same orientation as the original figure if the original figure is a square?
10. Shoua discovers that the orientation of a triangle is counterclockwise. She then reflects the triangle over the y-axis. What is the orientation of the reflected figure?