14. Yes, rotation and reflection are rigid motions, so side lengths are preserved. The sum of the side lengths is unchanged, and therefore the perimeters are unchanged.

15. Given $WXYZ \cong WTUV$. Rotate figure $WXYZ$ by 90° in a counterclockwise rotation around the point W.

16. Yes, the figures $ABCD$ and $EFGH$ have equal side lengths and shape and therefore are congruent. To map $ABCD$ to $EFGH$, reflect it over the y -axis and then reflect it over the x -axis. The composition $\left(R_{y-axis} \circ R_{x-axis}\right)$ maps one image to another. $\left(R_{y-axis} \circ R_{x-axis}\right)(ABCD) = A'B'C'D'$

17. $A \cong C$; Since objects A and C are the same size and shape, they are congruent objects. To map object A to C, reflect object A over a vertical line

18.

a. Congruent images have the same size and shape. From looking at the image, the following images appear congruent: A, C, and G; D and I; E and F.

b. Samples: A and C by a reflection across the vertical line halfway between; A and G by a 180° rotation about the midpoint of the segment between the centers of A and G; D and I by a translation; E and F by a translation; C and G by a glide reflection.