6-7: Understand Similar Figures

1. Sample answer: Two figures are similar if you can map one figure to the other by a sequence of transformations including dilations.

2. Sample answer: Corresponding angles are congruent and corresponding side lengths are related by the same ratio.

3. No; Sample answer: A given translation, reflection, or rotation followed by a given dilation does not always map a figure to the same image as the same dilation followed by the same translation, reflection, or rotation.

4. Yes; Sample answer: The figures have the same shape. Corresponding angles have the same angle measure, and corresponding sides have a ratio of ½.

5. A' (-5,4), B' (1,4), C' (-3,6)

6. No; Sample answer: There is no sequence of transformations, including a dilation, that maps △ABC to △DEF.

7. y-axis
   3; 3
   ⅓

8. No; Sample answer: There is no series of transformations, including a dilation, that maps △MNO to △PQO.

9. X (-4,-4), Y (-8,-4), Z (-6,-8)

10. Sample answer: RSTU is mapped to VXYZ by a translation 6 units right and 4 units up, followed by a dilation with center (0,0) and a scale factor of 0.5.

11. Yes; Sample answer: Rotation 90° about the origin followed by a dilation with center at the origin and a scale factor of 2 maps △PQR to △XYZ.

12. Sample answer: Coordinate 1: (0,2): translation 4 units left and dilation with center point Z and a scale factor of 0.5; Coordinate 2: (-4,2); reflection across y-axis, and dilation with center point Z and a scale factor of 0.5.

13. B

14. Similar
    Not Similar
    Not Similar