

Lesson 6-1: Analyze Translations

1. Sample answer: Corresponding sides and angles have the same measures in a preimage and its image. Parallel lines are still parallel. Also, the orientation is the same.
2. Sample answer: A translation slides a preimage to an image. This means that the two figures will have the same size, shape, and orientation. So the side lengths of the triangles are equal and the angle measures are equal.
3. Sample answer: Every point of the figure is mapped to its image the same distance and in the same direction, so the rule for mapping each point is the same; move 2 units left and 7 units down.
4. Figure B; Sample answer: Figure B is a translation of Figure A since it slides each coordinate 5 units up.
5. Points are located at $(-1,3)$, $(1,3)$, $(1,0)$, $(-1,0)$, $(-1,1)$, $(0,1)$, $(0,2)$, and $(-1,2)$.
6. Translate Figure B 3 units right and 1 unit down.
7. $R'(4,8)$, $A'(7,8)$, $G'(3,4)$, $M'(6,4)$
8. 1 unit left and 4 units up
9. $\triangle MNO$; 10 units right
10. Sample answer: The two figures have the same size, shape, and orientation. Corresponding angles and sides have the same measures. The two figures are in different positions on the coordinate plane.
11. Points are located at $(-2,1)$, $(-5,5)$, and $(0,6)$.
12. a. About 2.8 units.
b. 75°
13. a. Points are located at $(140,140)$, $(200,140)$, $(140,200)$, and $(200,200)$.
b. 7,200 yd^2
14. A, D, E
15. a. $U'(5,5)$, $A'(9,5)$, $Q'(4,2)$, $D'(8,2)$
b. 110°
c. 4 units