



Name: _____

Date: _____

Transformations And Congruence

Solve for x. Show your work.

1. Triangle with vertices $A(4,1)$, $B(2,6)$, $C(10,2)$ is reflected across the x-axis. Find one side length of the image to verify congruence.
2. Pentagon ABCDE is rotated 180° about the origin, then translated 7 units right. Is the final image congruent to the original?
3. Rectangle ABCD with sides 8×9 is reflected across the y-axis to form $A'B'C'D'$. Verify that $ABCD \cong A'B'C'D'$.
4. Rectangle ABCD with sides 5×12 is reflected across the y-axis to form $A'B'C'D'$. Verify that $ABCD \cong A'B'C'D'$.
5. Triangle with vertices $A(4,5)$, $B(4,7)$, $C(6,4)$ is reflected across the x-axis. Find one side length of the image to verify congruence.
6. Pentagon ABCDE is rotated 90° about the origin, then translated 5 units right. Is the final image congruent to the original?
7. Triangle with vertices $A(3,5)$, $B(2,9)$, $C(7,3)$ is reflected across the x-axis. Find one side length of the image to verify congruence.
8. Pentagon ABCDE is rotated 270° about the origin, then translated 4 units right. Is the final image congruent to the original?



Transformations And Congruence – Answer Key

1. Triangle with vertices $A(4,1)$, $B(2,6)$, $C(10,2)$ is reflected across the x-axis. Find one side length of the image to verify congruence.

$$A'B' = 5.39$$

2. Pentagon ABCDE is rotated 180° about the origin, then translated 7 units right. Is the final image congruent to the original?

Yes

3. Rectangle ABCD with sides 8×9 is reflected across the y-axis to form $A'B'C'D'$. Verify that $ABCD \cong A'B'C'D'$.

Yes, all corresponding sides and angles are equal

4. Rectangle ABCD with sides 5×12 is reflected across the y-axis to form $A'B'C'D'$. Verify that $ABCD \cong A'B'C'D'$.

Yes, all corresponding sides and angles are equal

5. Triangle with vertices $A(4,5)$, $B(4,7)$, $C(6,4)$ is reflected across the x-axis. Find one side length of the image to verify congruence.

$$A'B' = 2.00$$

6. Pentagon ABCDE is rotated 90° about the origin, then translated 5 units right. Is the final image congruent to the original?

Yes

7. Triangle with vertices $A(3,5)$, $B(2,9)$, $C(7,3)$ is reflected across the x-axis. Find one side length of the image to verify congruence.

$$A'B' = 4.12$$

8. Pentagon ABCDE is rotated 270° about the origin, then translated 4 units right. Is the final image congruent to the original?

Yes