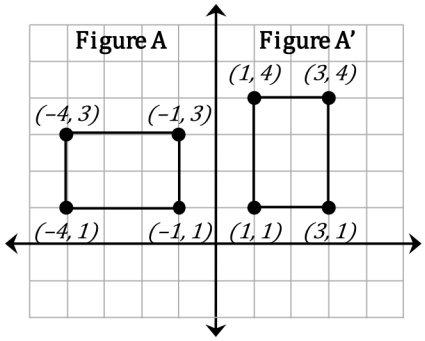
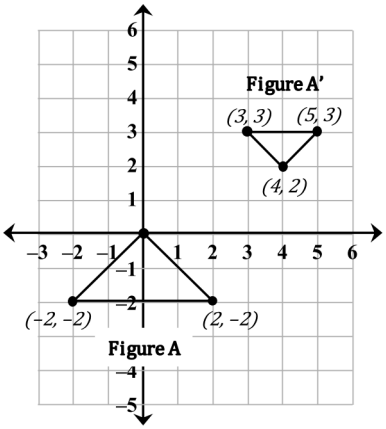
Composition Transformation

Name: _____ **Date:** _____

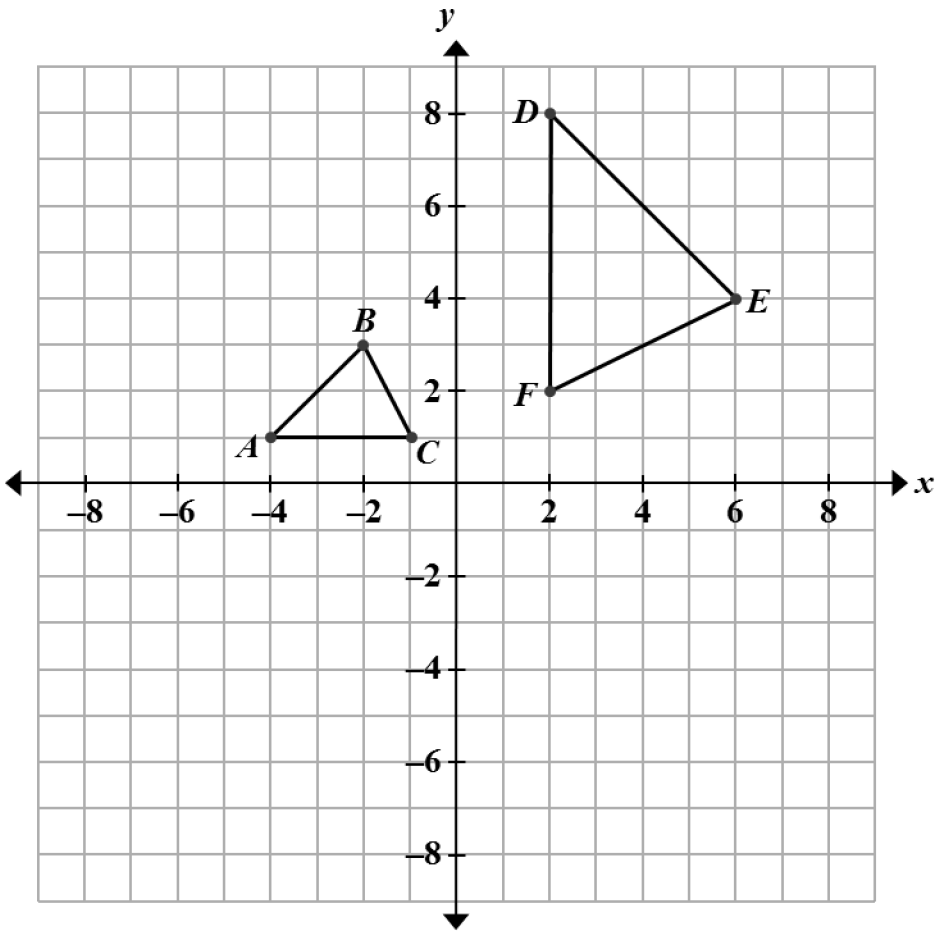
1. Describe the sequence of transformations that results in the transformation of Figure A to Figure A'.



2. Describe the sequence of transformations that results in the transformation of Figure A to Figure A'.



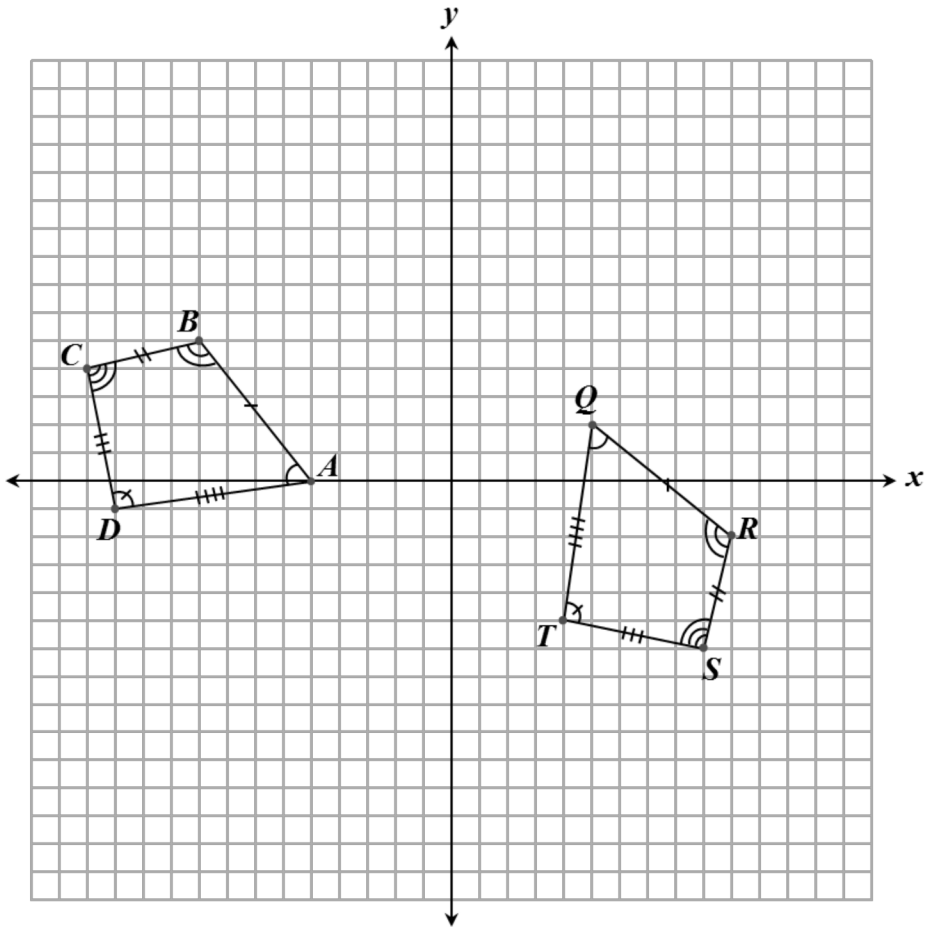
3. Triangles *ABC* and *DEF* are shown on this coordinate grid.



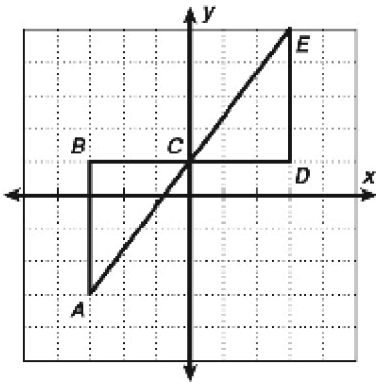
Describe a sequence of transformations that verifies these triangles are geometrically similar.

4. The two quadrilaterals shown below, quadrilateral *ABCD* and *QRST* are congruent, with corresponding congruent parts marked in the diagrams.

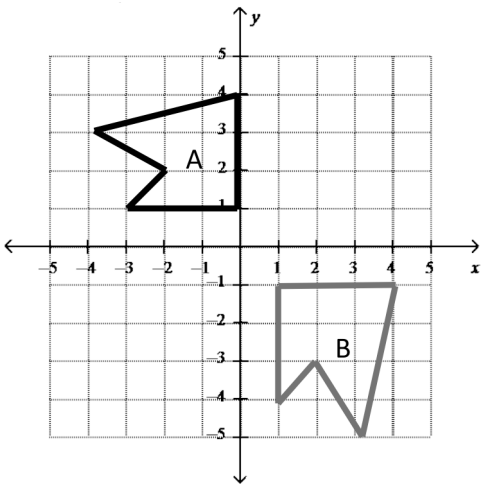
Describe a sequence of rigid-motion transformations that will carry quadrilateral *ABCD* onto quadrilateral *QRST*. Be very specific in describing the sequence and types of transformations you will use so that someone else could perform the same series of transformations.



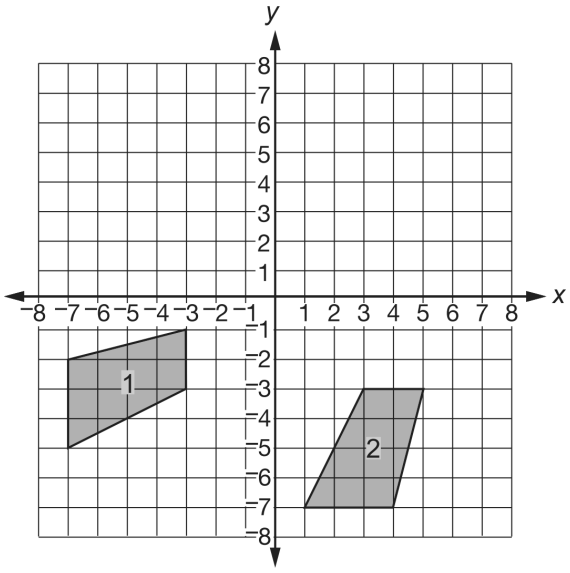
5. Give a sequence of translations, reflections, and/or rotations in which $\triangle ABC \rightarrow \triangle EDC$.



6. Give a sequence of translations, reflections, or rotations that will transform figure A to figure B.



7. Use the graph to answer the question.



Which pair of transformations moves quadrilateral 1 to quadrilateral 2?

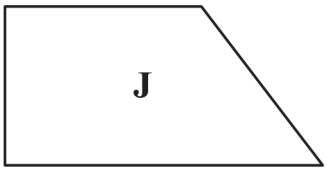
A. reflect it over the line $y = -3$, then rotate it 90° counterclockwise about the origin

B. reflect it over the x-axis, then rotate it 180° about the origin

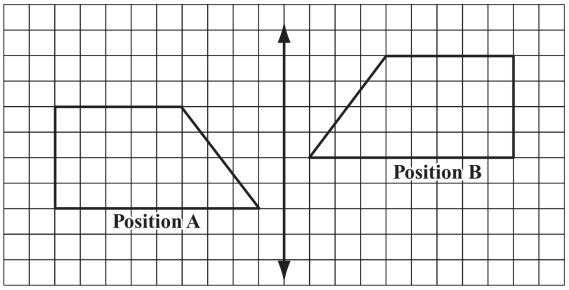
C. rotate it 90° counterclockwise about point $(-3, -3)$, then translate it 8 units to the right

D. translate it 8 units to the right, then reflect it over the line $y = -3$

8. *Use shape J to answer the following question*



A shape was moved from Position *A* to Position *B*, as shown below.



Which of the following best describes how the shape was moved from Position *A* to Position *B*?

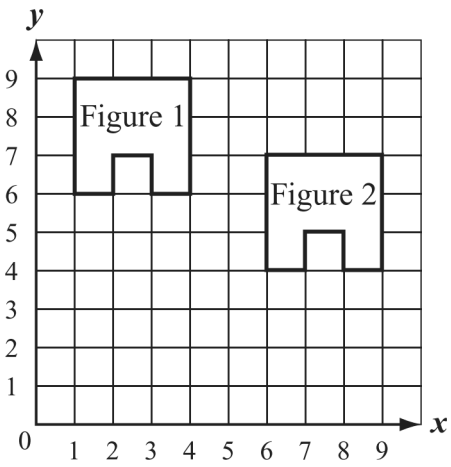
A. flipped over the line, then slid up

B. flipped over the line, then slid down

C. flipped over the line, then turned 90° clockwise

D. flipped over the line, then turned 90° counterclockwise

9. Which of the following describes the transformation from Figure 1 to Figure 2 shown on the graph below?



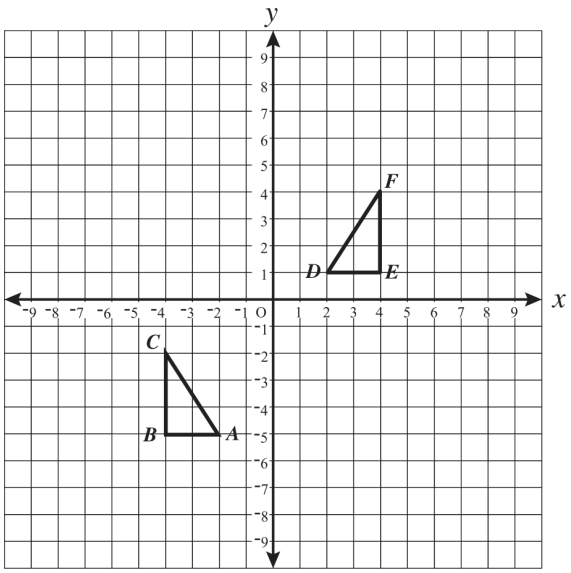
A. translation 2 units down and 5 units right

B. translation 2 units down and 2 units right

C. translation 1 unit up and 2 units right

D. translation 5 units up and 2 units left

10. $\triangle ABC$ and $\triangle DEF$ are shown on the grid below.



Which of the following transformations will map $\triangle ABC$ onto $\triangle DEF$?

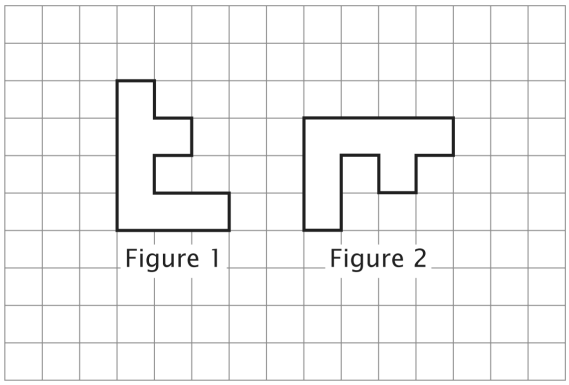
A. Reflect $\triangle ABC$ over the y-axis and shift up 6 spaces.

B. Reflect $\triangle ABC$ over the x-axis and shift up 6 spaces.

C. Reflect $\triangle ABC$ over the y-axis and shift down 6 spaces.

D. Reflect $\triangle ABC$ over the y-axis, reflect over the x-axis, and shift down 4 spaces.

11. Study the figures on the grid below.



Which two transformations could be used to change Figure 1 to Figure 2?

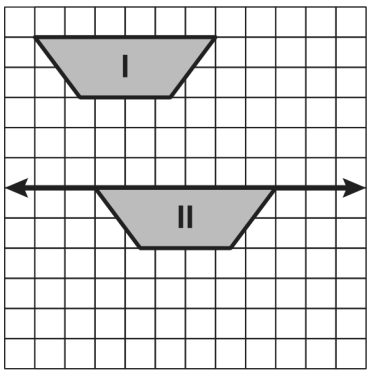
A. a flip and a slide

B. a slide and a flip

C. a counterclockwise 90° turn and a slide

D. a clockwise 90° turn and a slide

12. The figure on the grid below was translated from position I to position II.



Which best describes how the figure was translated from position I to position II?

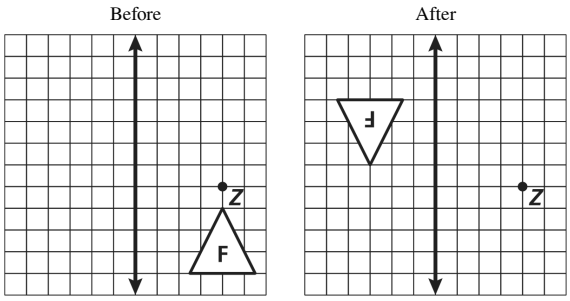
A. Right 2 units and down 5 units

B. Right 2 units and down 4 units

C. Down 3 units and right 2 units

D. Down 5 units and right 1 unit

13. Kay graphed triangle F on the "Before" grid. Then she used a combination of two transformations to move triangle F to the position on the "After" grid.



Which of these transformations could Kay have used to move triangle F from the "Before" position to the "After" position?

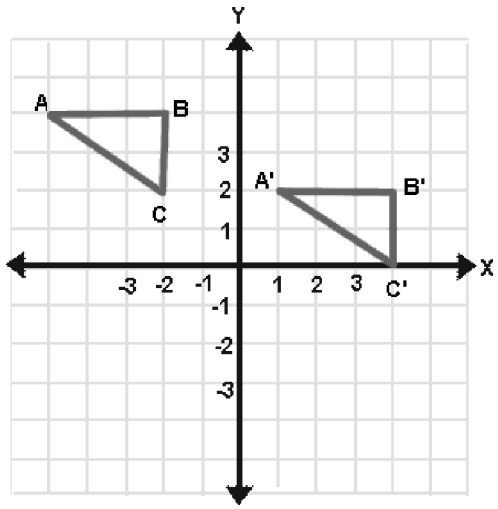
A. She rotated the triangle 90° clockwise around Point *Z* and then translated it 7 units to the left.

B. She reflected the triangle over the line and then translated it 5 units up.

C. She rotated the triangle 180° clockwise around Point *Z* and then translated it 7 units to the left.

D. She reflected the triangle over the line and then translated it 2 units up.

14. The graph below illustrates a translation.



Which statement describes the relationship of the pre-image and image?

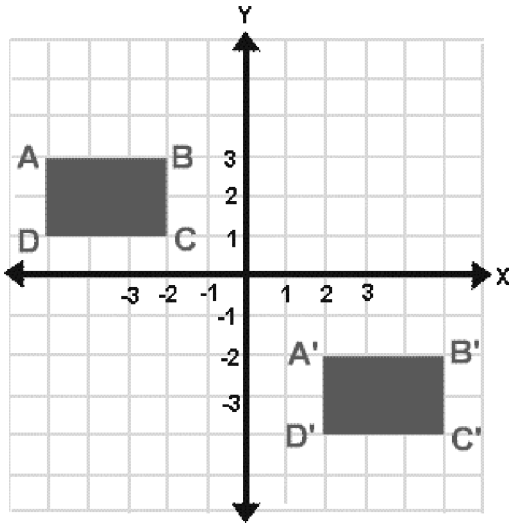
A. The original diagram was moved 6 units to the right and 2 units down.

B. The original diagram was moved 7 units to the left and 4 units up.

C. The original diagram was moved up 2 units and 6 units to the left.

D. The original diagram was rotated 90 degrees counterclockwise.

15. This graph below illustrates a translation of rectangle $ABCD$ to rectangle $A'B'C'D'$.



Which of the following explains what happens to ■ $ABCD$?

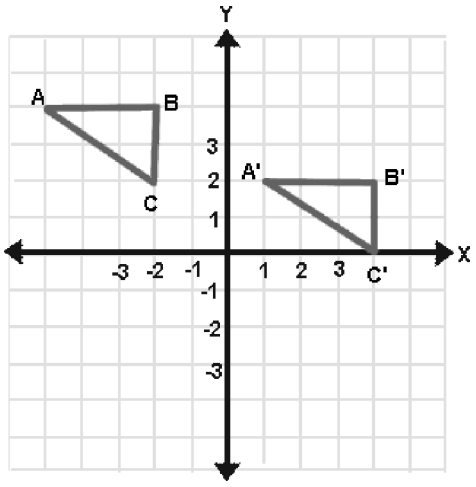
A. Each vertex is translated $+3$ units in the x-direction and -2 units in the y-direction.

B. Each vertex is translated -4 units in the x-direction and $+5$ units in the y-direction.

C. Each vertex is translated $+7$ units in the x-direction and -5 units in the y-direction.

D. Each vertex is translated -7 units in the x-direction and $+5$ units in the y-direction.

16. Which explanation indicates how Point A $(-5, 4)$ becomes Point A' $(1, 2)$?



A. Move Point A 6 units to the left and 1 unit up

B. Move Point A 3 units to the right and 1 unit down

C. Move Point A 7 units to the left and 2 units down

D. Move Point A 6 units to the right and 2 units down

17.

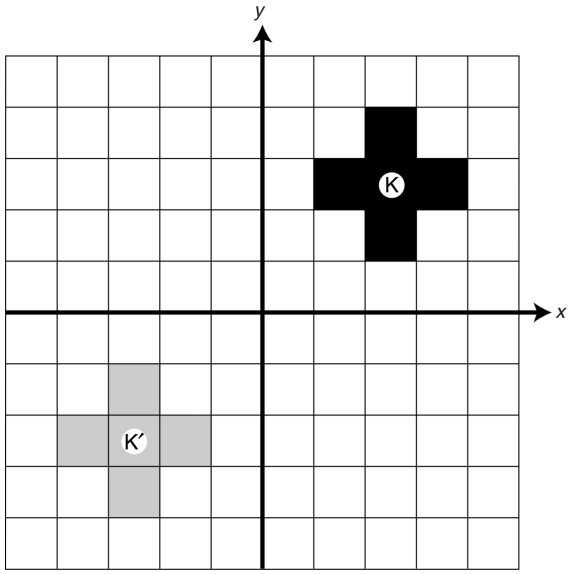


Figure K′ is the result of a sequence of transformations of Figure K. Which of the following does *not* describe a correct possible sequence of transformations?

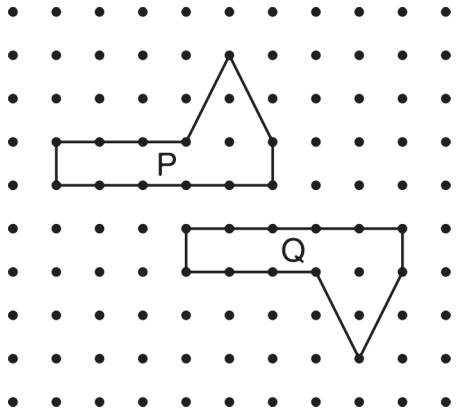
A. a translation of Figure K down 5 units, then a translation to the left 5 units

B. a reflection of Figure K across the *x*-axis, then a translation to the left 5 units

C. a reflection of Figure K across the *y*-axis, then a translation down 4 units

D. a reflection of Figure K across the *x*-axis, then a reflection across the *y*-axis

18. Look at Figure P and Figure Q.



Which motion or motions will result in Figure P exactly covering Figure Q?