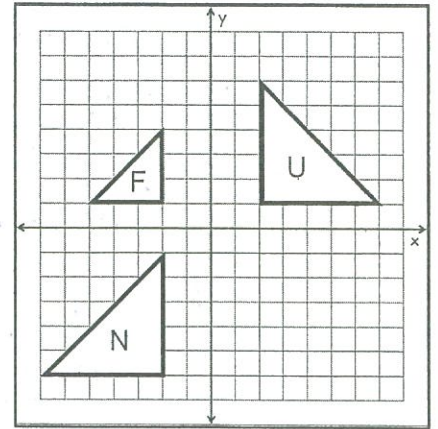


1. Compare the transformations in the figure to the right. Determine which two triangles are isometric and explain your reasoning.

Triangles U and N are isometric. One is a reflection and translation of the other. Triangle F is a reduction of triangle U and N.

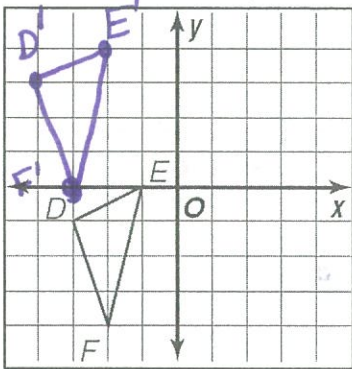


Graph the image of the original using the transformation indicated.

2. Translate $(x, y) \rightarrow (x - 1, y + 4)$.

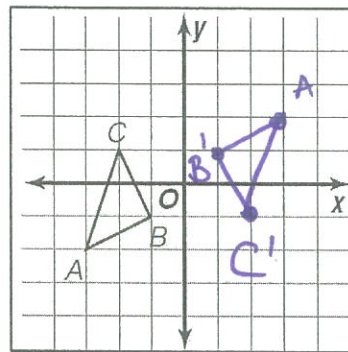
Write a verbal description:

Left 1, Up 4



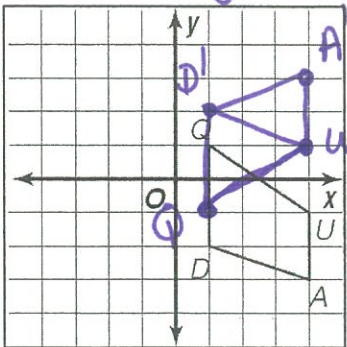
3. Rotate 180° about the origin.

Write the rule: $(x, y) \rightarrow (-x, -y)$



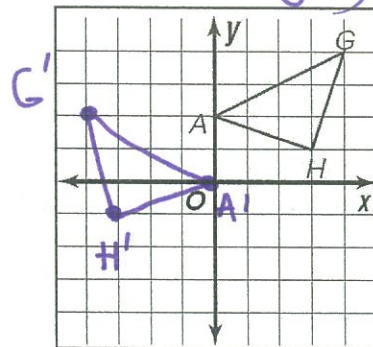
4. Reflect over the x-axis.

Write the rule: $(x, y) \rightarrow (x, -y)$



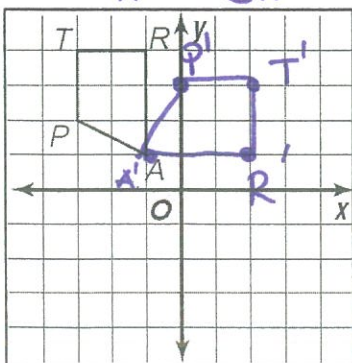
5. Reflect over the y-axis, then translate down 2 units.

Write the rule: $(-x, y - 2)$



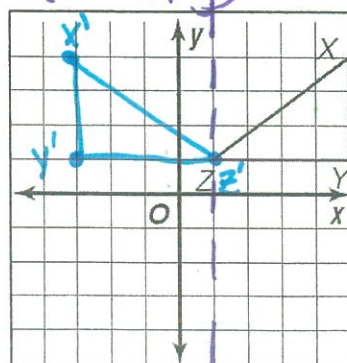
6. Rotate TRAP 90° clockwise about point A.

Notation: $R_A 90^\circ \text{ CW}$



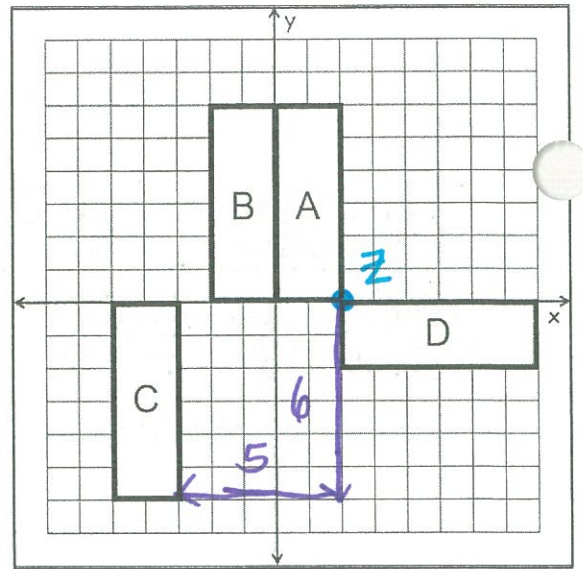
7. Reflect over $x = 1$ and write the rule.

Rule: $(-x + 2, y)$



8. State each transformation and describe it as a function.

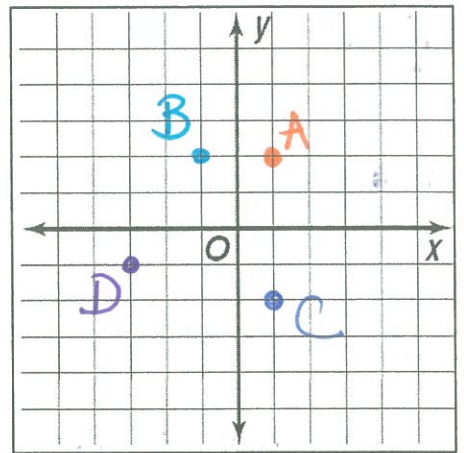
- a) $A \rightarrow B$
 Transformation: Reflection over y-axis
 $(x, y) \rightarrow (-x, y)$
- b) $A \rightarrow C$
 Transformation: Translation $\leftarrow 5, \downarrow 6$
 $(x, y) \rightarrow (x-5, y-6)$
- c) $A \rightarrow D$
 Transformation: Rotation 90° CW
 $(x, y) \rightarrow (y, -x)$



9. Find the image of the coordinate after performing the following sequence of transformations.

Label the point on the graph for each step and list each coordinate.

- A. Start at $(1, 2)$. $A(1, 2)$
- B. Reflect over the y axis. $B(-1, 2)$
- C. Rotate 180° about the origin. $C(1, -2)$
- D. Translate $(x-4, y+1)$. $D(-3, -1)$



10. Using proper notation, which sequence of transformations would move $\triangle FUN$ onto $\triangle F'U'N'$. Draw the triangle after the first transformation.

Reflect over $X=-2$ and
Rotate 90° CCW

Find a different sequence of transformations that would move

$\triangle FUN$ onto $\triangle F'U'N'$.

Rotate 90° CW
and Reflect over $X=-2$

