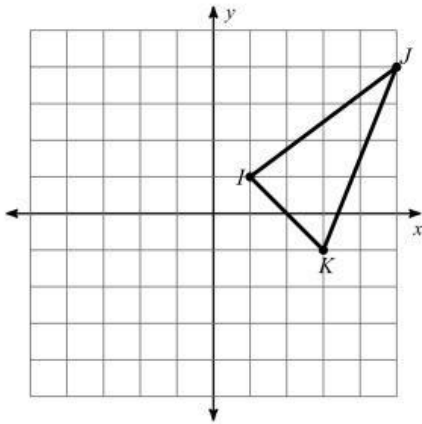


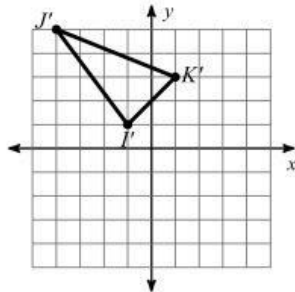
Worksheet 4.3 Rotation of Shapes

Graph the image of the figure using the transformation given.

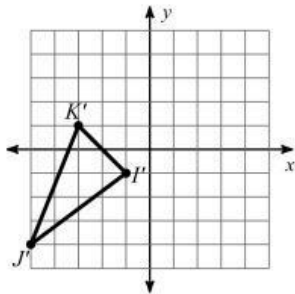
1) rotation 180° about the origin



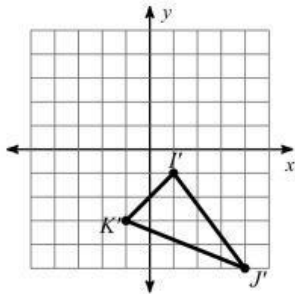
A)



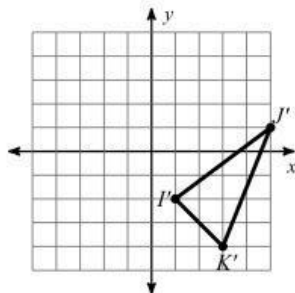
B)



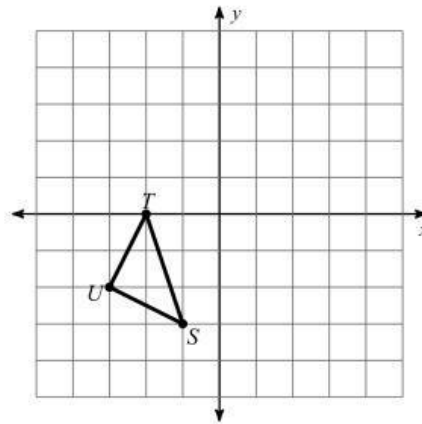
C)



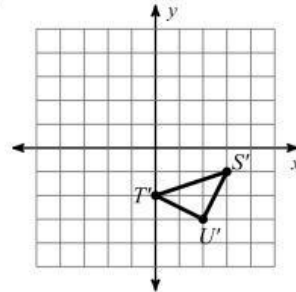
D)



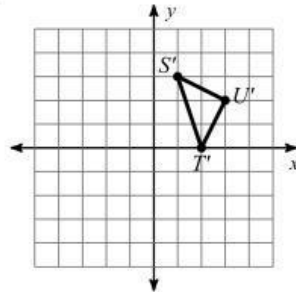
2) rotation 90° counterclockwise about the origin



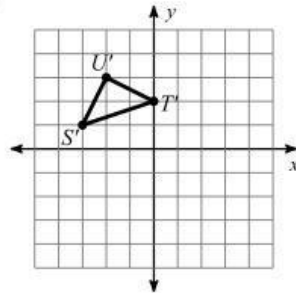
A)



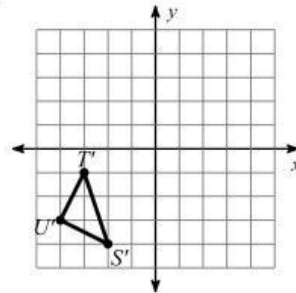
B)



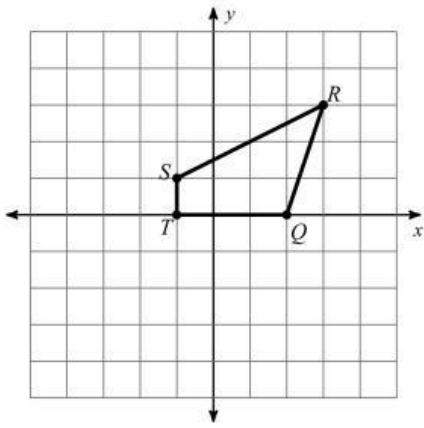
C)



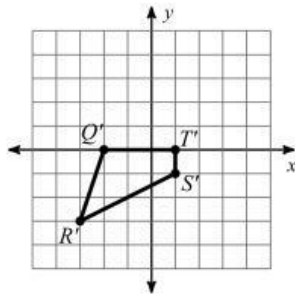
D)



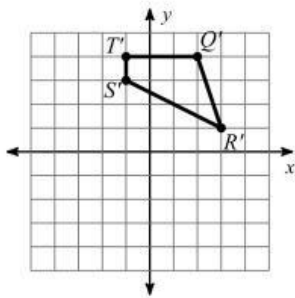
3) rotation 90° clockwise about the origin



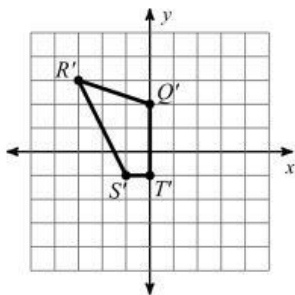
A)



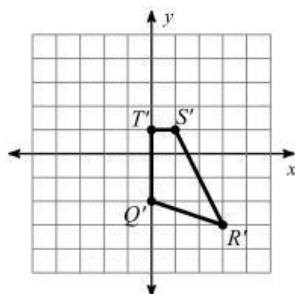
B)



C)

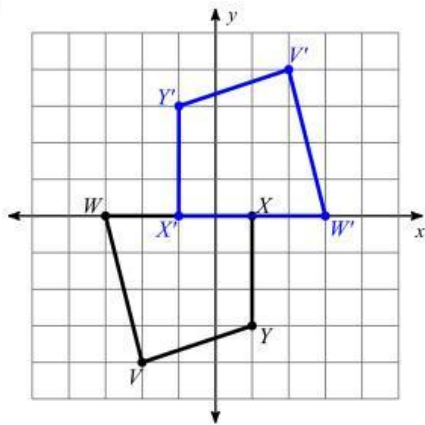


D)



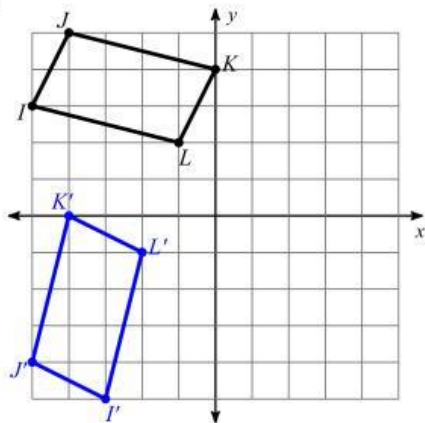
Write a rule to describe each transformation.

4)



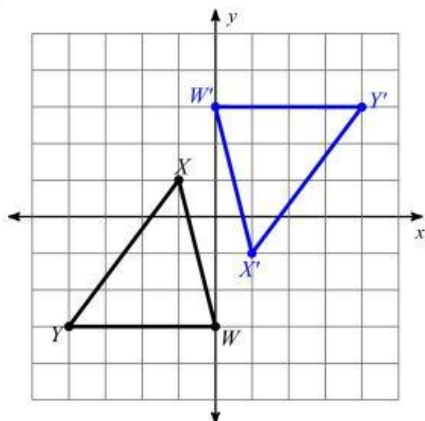
- A) rotation 180° about the origin
- B) rotation 90° counterclockwise about the origin
- C) translation: 2 units left and 1 unit down
- D) rotation 90° clockwise about the origin

6)



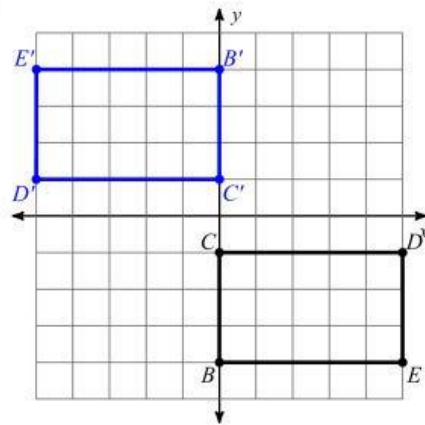
- A) rotation 180° about the origin
- B) translation: 6 units down
- C) rotation 90° clockwise about the origin
- D) rotation 90° counterclockwise about the origin

8)



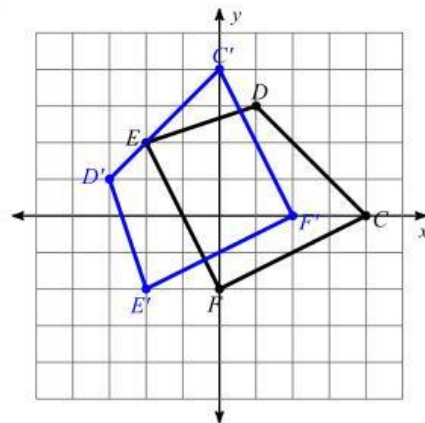
- A) rotation 90° counterclockwise about the origin
- B) rotation 90° clockwise about the origin
- C) rotation 180° about the origin
- D) reflection across $y = -1$

5)



- A) rotation 90° counterclockwise about the origin
- B) rotation 90° clockwise about the origin
- C) rotation 180° about the origin
- D) reflection across the x-axis

7)



- A) reflection across the y-axis
- B) rotation 90° clockwise about the origin
- C) rotation 180° about the origin
- D) rotation 90° counterclockwise about the origin