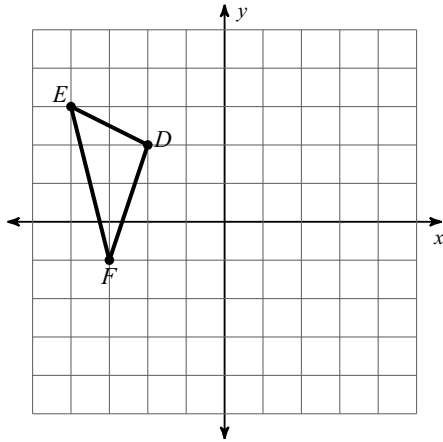


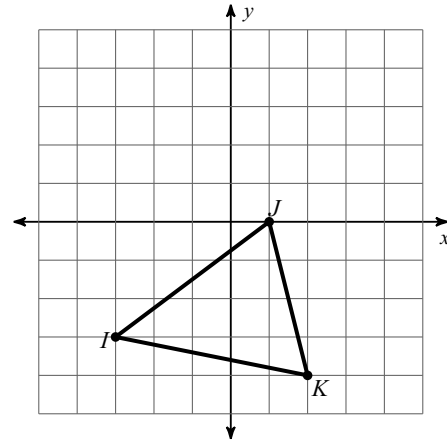
Transformations Test Review

Graph the image of the figure using the transformation given.

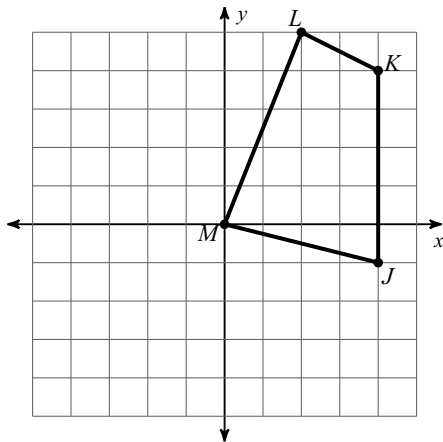
1) rotation 90° clockwise about the origin



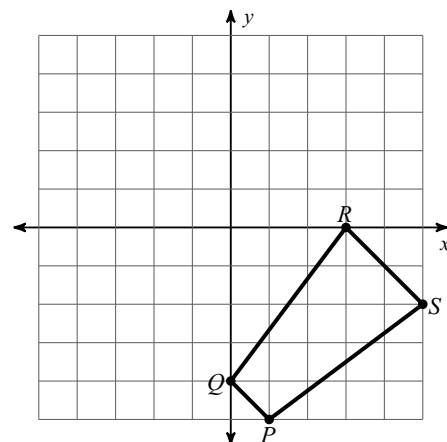
2) rotation 180° about the origin



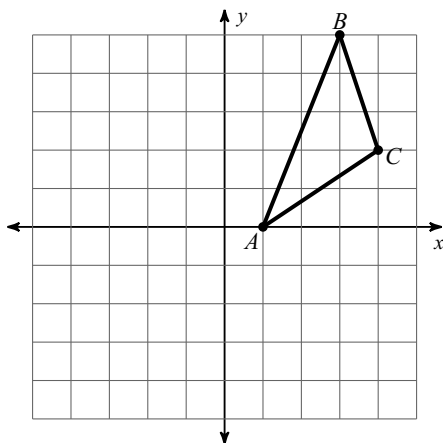
3) translation: 4 units left and 3 units down



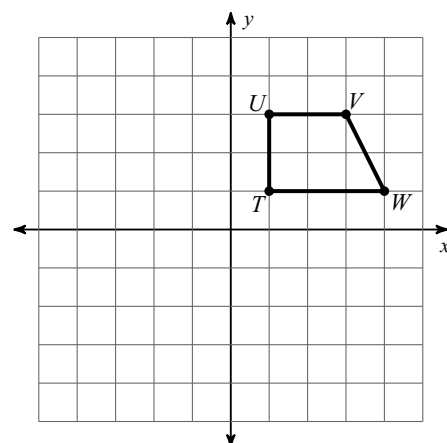
4) reflection across $x = 2$



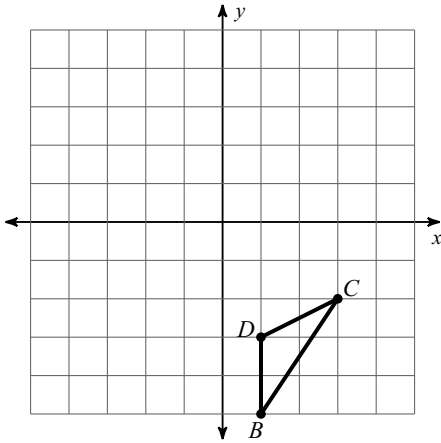
5) translation: 4 units down



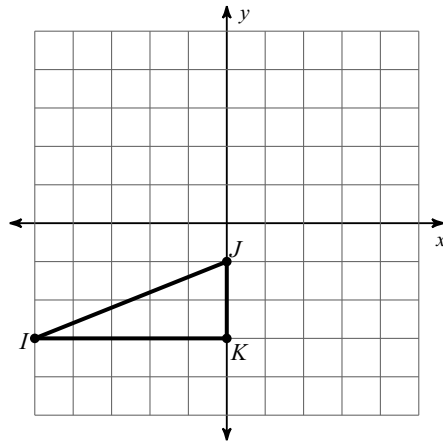
6) rotation 90° counterclockwise about the origin



7) reflection across the x-axis



8) translation: $(x, y) \rightarrow (x + 4, y + 6)$



Find the coordinates of the vertices of each figure after the given transformation.

9) translation: 5 units left and 4 units up
 $W(1, -1), X(1, 0), Y(4, -2), Z(4, -4)$

10) dilation of 2.5 about the origin
 $K(-1, -1), L(0, 2), M(2, 0)$

11) reflection across the y-axis
 $V(1, -3), W(-1, 2), X(3, 5), Y(3, 0)$

12) rotation 90° counterclockwise about the origin
 $P(-4, -5), Q(-4, 0), R(0, -2)$

13) reflection across the x-axis
 $I(-5, -2), J(-3, -1), K(-1, -3)$

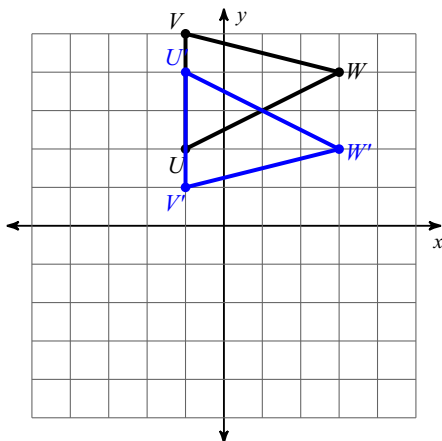
14) rotation 180° about the origin
 $G(-2, -3), H(0, 0), I(3, -2), J(1, -4)$

15) dilation of 0.25 about the origin
 $V(-2, -2), W(0, 2), X(2, 1), Y(2, 0)$

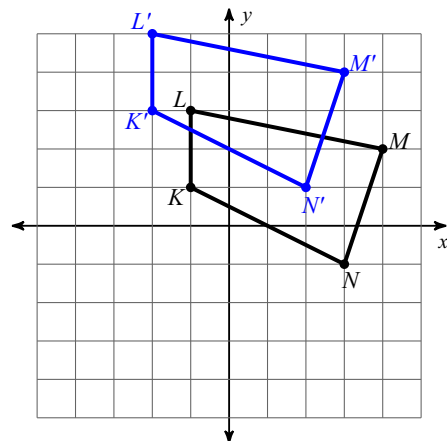
16) translation: $(x, y) \rightarrow (x + 2, y - 2)$
 $Q(-3, -1), R(-1, 0), S(0, -3)$

Write a rule to describe each transformation.

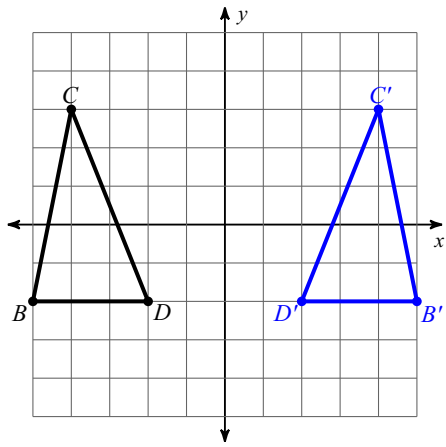
17)



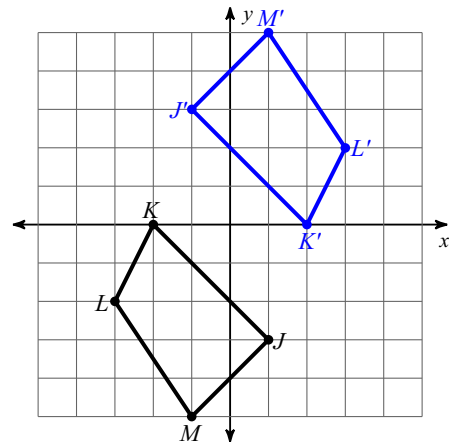
18)



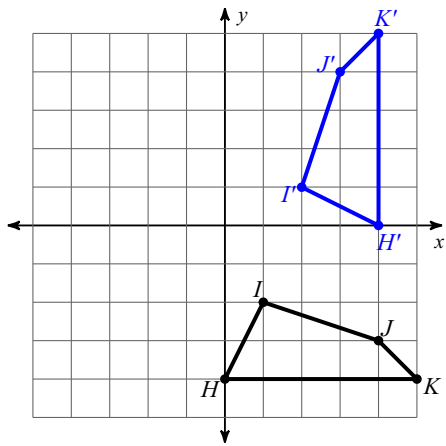
19)



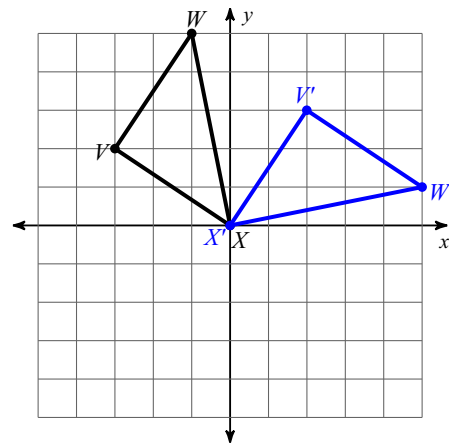
20)



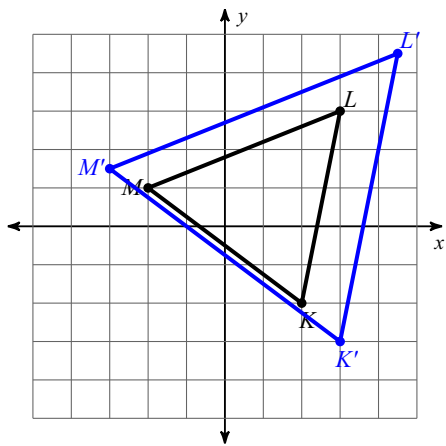
21)



22)

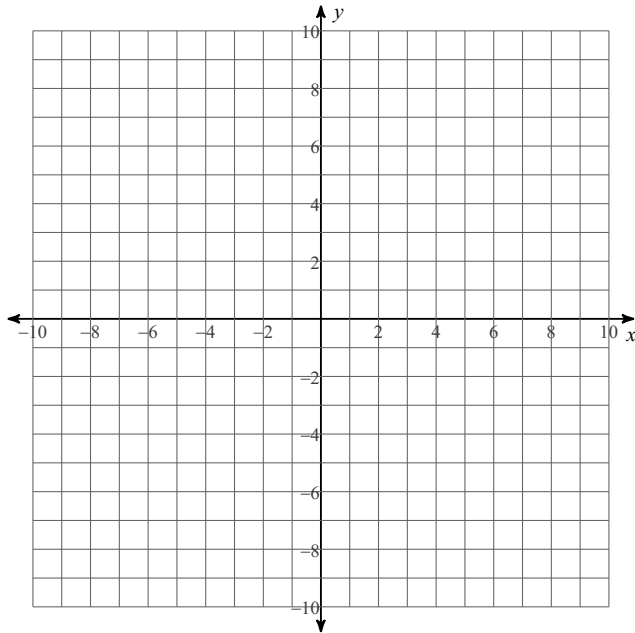


23)



24) Triangle DEF has vertices at D (3, 1), E (-3, 2), and F (-2, -2). Complete the composition of transformations in order.

1. Rotation 180°
2. Dilation with a scale factor of 3.



25) Triangle DEF has vertices at D (9, -6), E (3, -5), and F (4, -9). Complete the composition of transformations in order.

1. Reflection over the y-axis
2. Rotation of 90° clockwise about the origin

