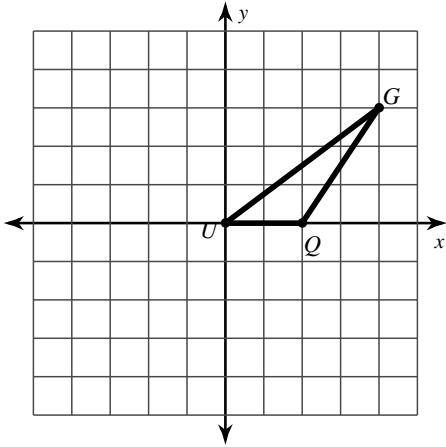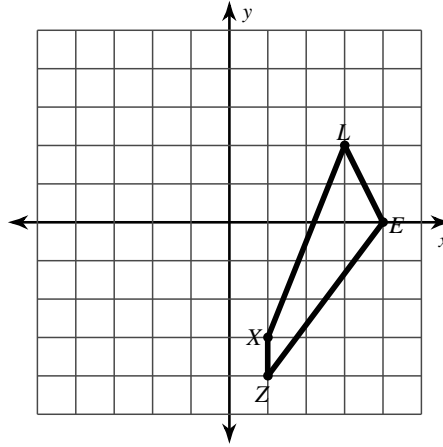Name_____

Review Unit 8

Graph the image of the figure using the transformation given.
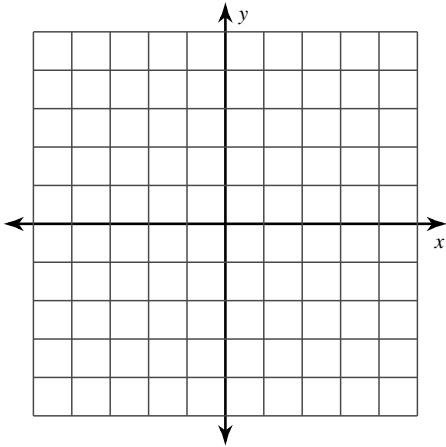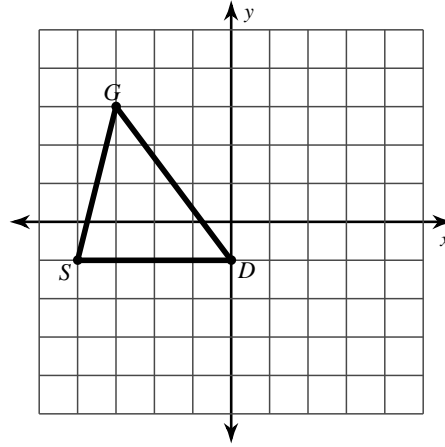
1) translation: 2 units left and 1 unit up

2) translation: 5 units left

3) translation: $(x, y) \rightarrow (x, y + 5)$
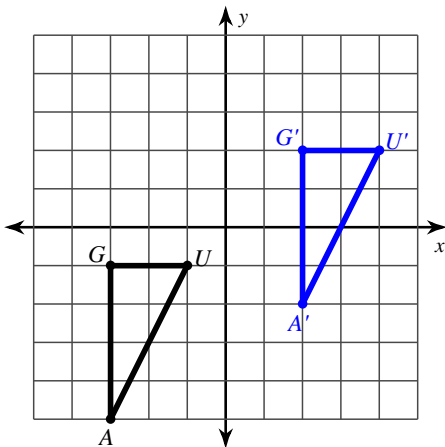$H(-3, -2), A(0, -1), Y(-3, -4)$

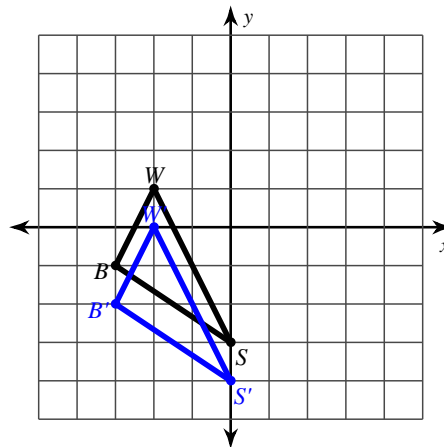4) translation: $(x, y) \rightarrow (x + 4, y - 2)$

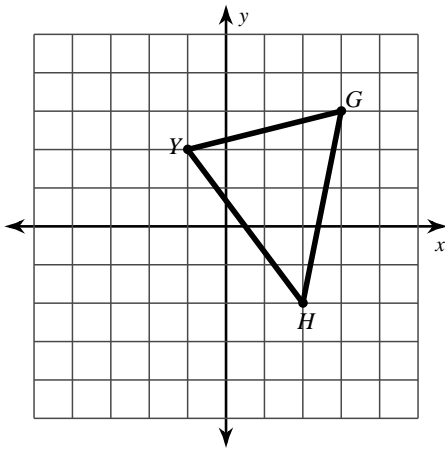
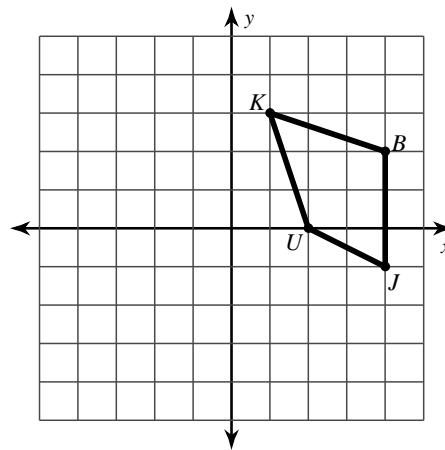**Write an ALGEBRAIC RULE to describe each transformation.**

5)

6)

Graph the image of the figure using the transformation given.
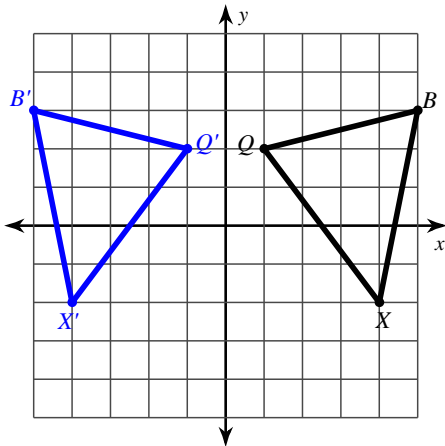
7) reflection across the y-axis
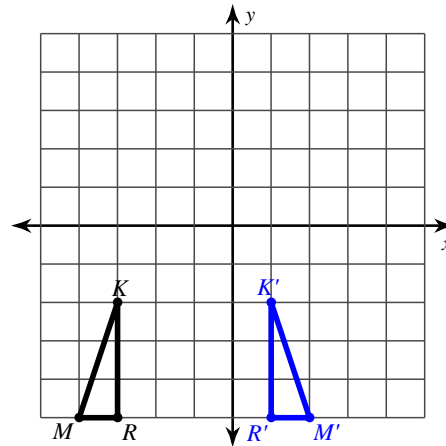
8) reflection across $y = x$

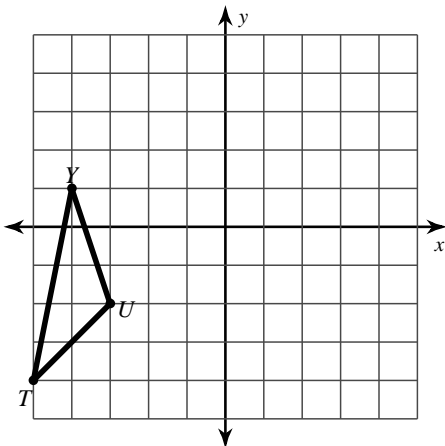**Give the line of reflection (equation or axis) for the transformations below:**
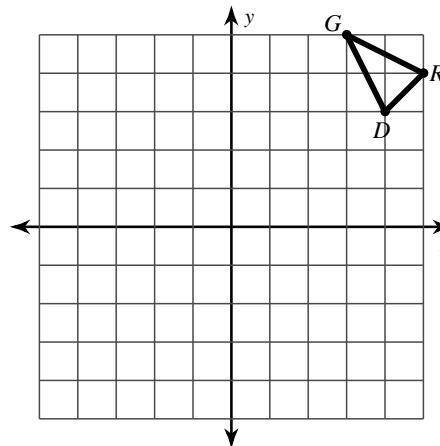
9)

10)

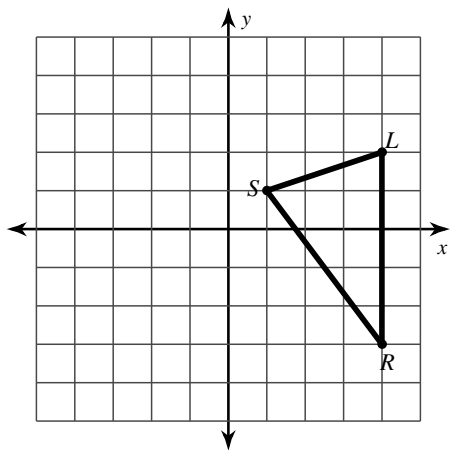**Graph the image of the figure using the transformation given.**
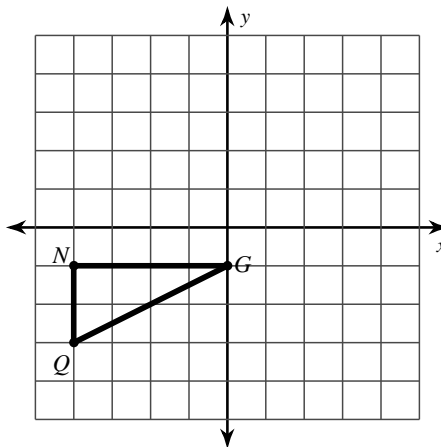
11) rotation 180° about the origin

12) rotation 90° clockwise about the origin

13) rotation 90° counterclockwise about the origin

14) rotation 90° clockwise about the origin

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

15) rotation 90° clockwise about the origin
$T(3, 5), G(5, 5), A(5, 4)$

16) rotation 180° about the origin
$J(2, 2), T(5, 3), Q(2, 0)$

17) rotation 90° counterclockwise about the origin
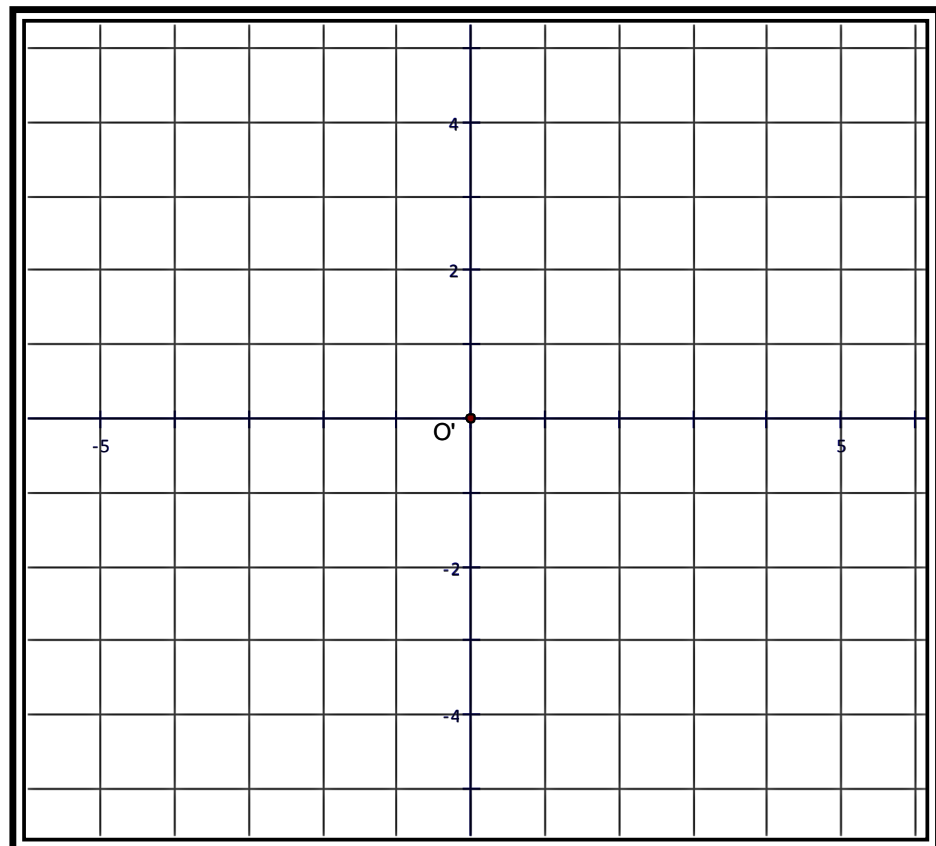$A(1, -1), P(3, 3), Z(5, 0)$

18) rotation 180° about the origin
$Y(-5, -3), M(-4, 1), D(-1, 0)$

19.   Give three numbers that have reflectional symmetry.

20.   Give an example of a food that has rotational symmetry.

Application and Extension

21.   a.   Graph T'A'G', the image of T(-4, 1), A(-5, 0), G(-1, -2) after a translation
             using the rule (x,y) → (x + 3, y + 4).

       b.   Graph T"A"G", the image of T'A'G', after a reflection in the y-axis.

       c.   Graph T'"A'"G'", the image of T"A"G", after a CLOCKWISE rotation of 90^0.

       d.   Is the transformation of ΔTAG → ΔT'A'G' → ΔT"A"G" → ΔT'"A'"G'" an isometry?

Tell if the following logos have Rotational Symmetry, Reflectional Symmetry, neither, or both.
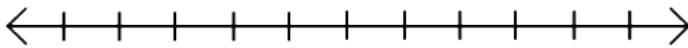
22. 23. 24

Solve each equation for x!

1. $-3x - 5 > 15$

2. $2x - 5 - x = 3x - 15$

Factor!

3. $2x^2 + 3x - 2$

Factor!
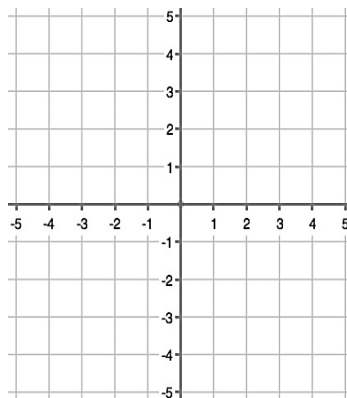
4. $x^2 + 4x + 4$

5. Graph the equation:

$2y - x = 2$

6. Graph the equation:

$2x + 3y = 12 + 2x$