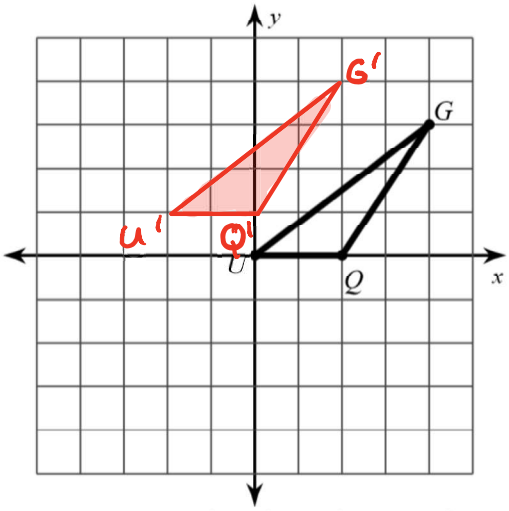
Transformations 2

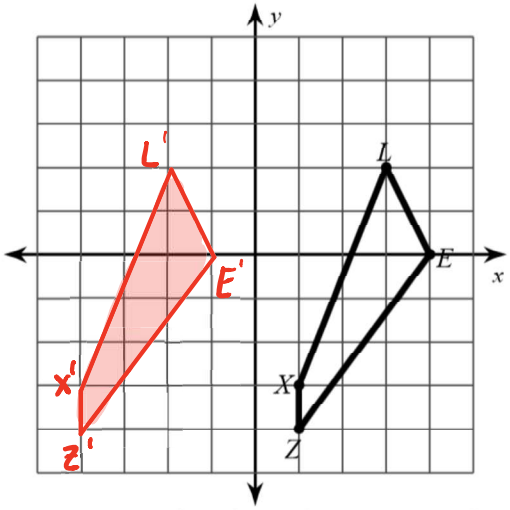
G.CO.A.5 Review 20 Name_____

Graph the image of the figure using the transformation given.

1) translation: 2 units left and 1 unit up



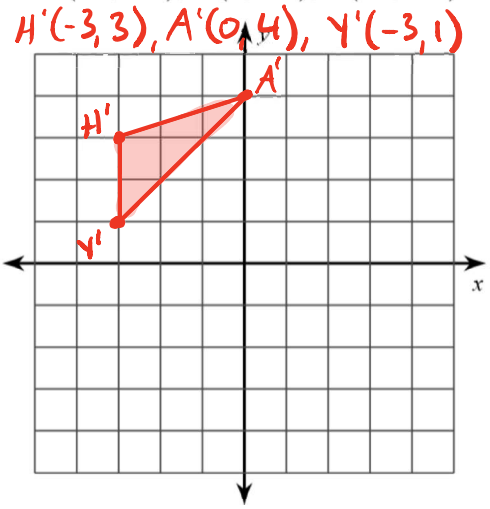
2) translation: 5 units left



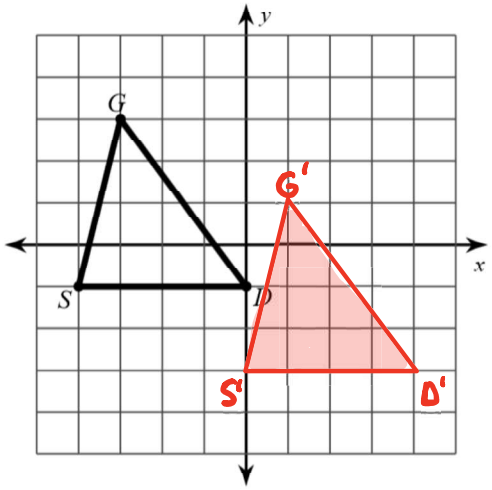
3) translation: $(x, y) \rightarrow (x, y + 5)$

$H(-3, -2)$, $A(0, -1)$, $Y(-3, -4)$

H'(-3, 3), A'(0, 4), Y'(-3, 1)



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

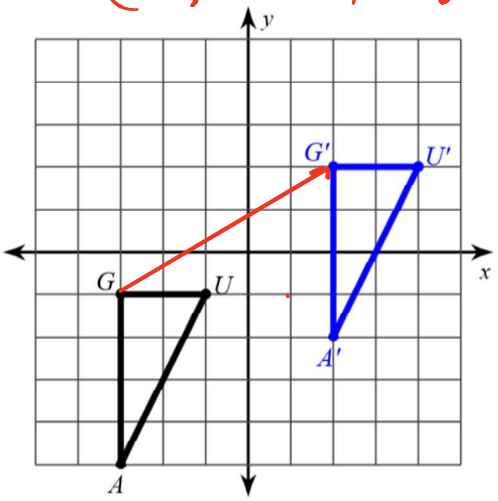


Transformations 2

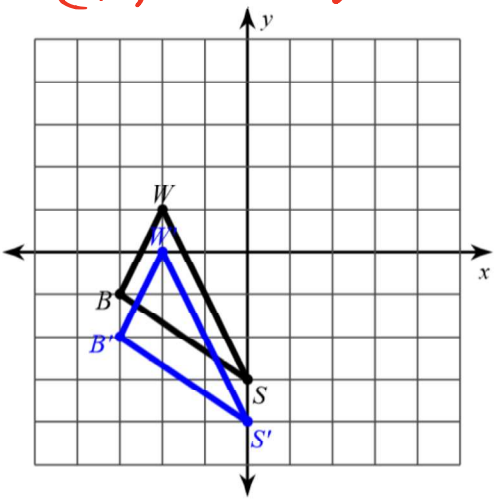
G.CO.A.5 Review 20 Name_____

Write an ALGEBRAIC RULE to describe each transformation.

5) $(x, y) \rightarrow (x+5, y+3)$

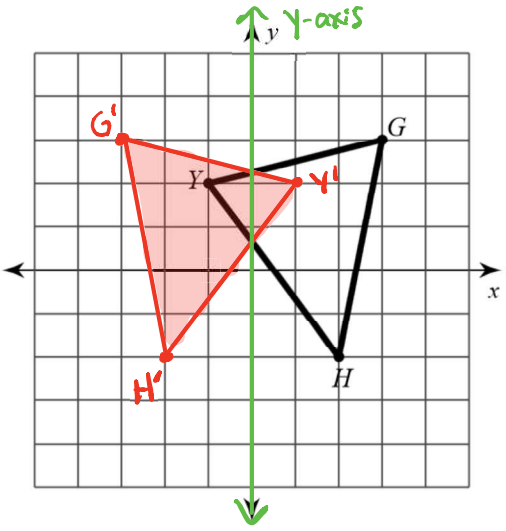


6) $(x, y) \rightarrow (x, y-1)$

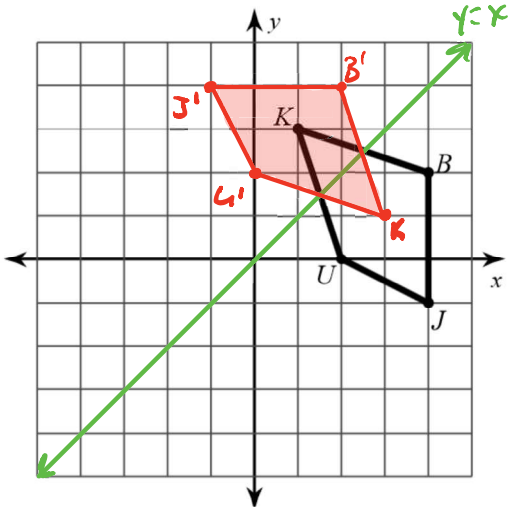


Graph the image of the figure using the transformation given.

7) reflection across the y-axis



8) reflection across $y = x$

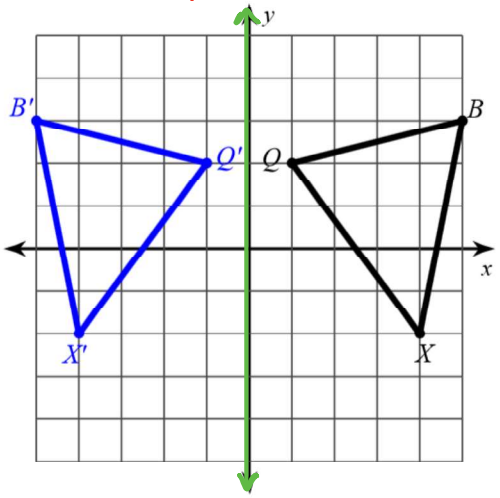


Transformations 2

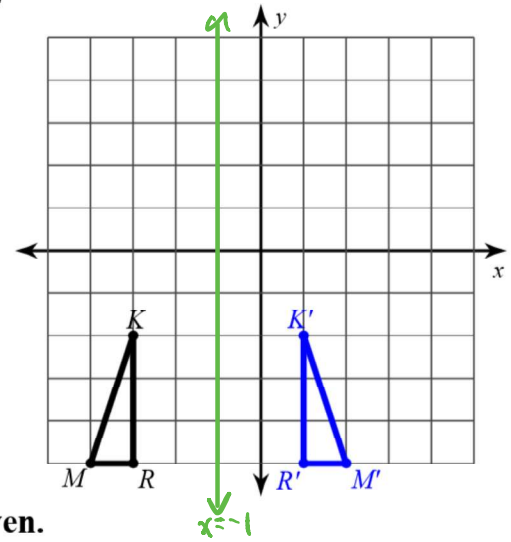
G.CO.A.5 Review 20 Name_____

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

9) Y-axis



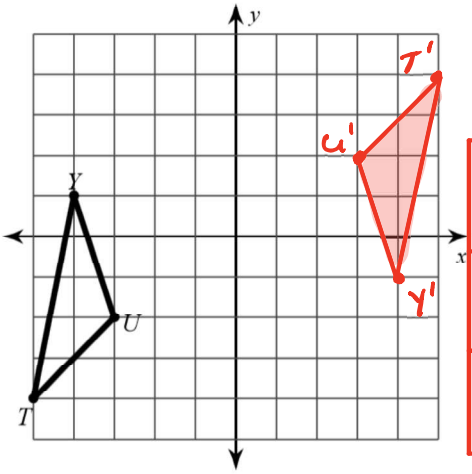
10) x=-1



Graph the image of the figure using the transformation given.

11) rotation 180° about the origin

(x, y)
90° (−y, x)
180° (−x, −y)
270° (y, −x)



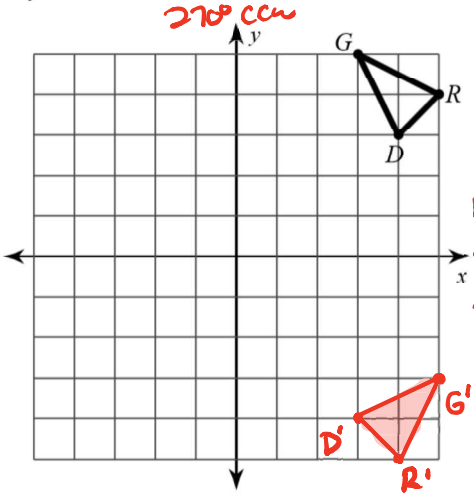
Y(−4,1)
Y'(4,−1)

U(−3,−2)
U'(3,2)

T(−5,−4)
T'(5,4)

12) rotation 90° clockwise about the origin

270° ccw

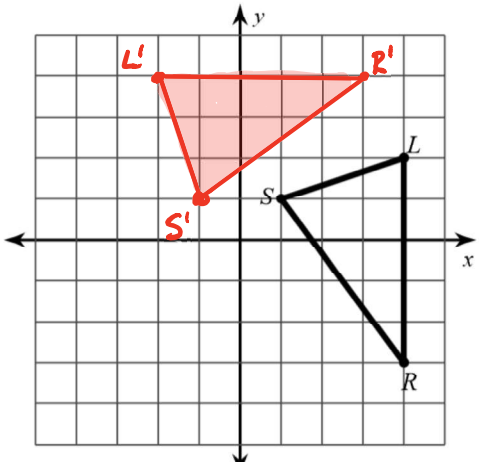


G(3,5)
G'(5,−3)

R(5,4)
R'(4,−5)

D(4,3)
D'(3,−4)

13) rotation 90° counterclockwise about the origin



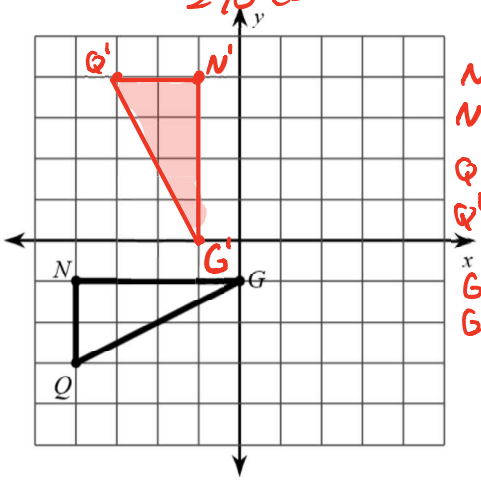
S(1,1)
S'(−1,1)

L(4,2)
L'(−2,4)

R(4,−3)
R'(3,4)

14) rotation 90° clockwise about the origin

270 ccw



N(−4,−1)
N'(−1,4)

Q(−4,−3)
Q'(−3,4)

G(0,−1)
G'(−1,0)

Transformations 2

G.CO.A.5 Review 20 Name_____

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

15) rotation ~~90° clockwise~~ 270° ccw about the origin
$T(3, 5), G(5, 5), A(5, 4)$

$T'(5,-3), G'(5,-5), A'(4,-5)$

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

$J'(-2,-2), T'(-5,-3), Q'(-2,0)$

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

$A'(1,1), P'(-3,3), Z'(0,5)$

(x,y)
$90°(-y,x)$
$180°(-x,-y)$
$270°(y,-x)$

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

$Y'(5,3), M'(4,-1), D'(1,0)$

19. Give three numbers that have reflectional symmetry.

1, 3, 8,

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

Orange cut in half