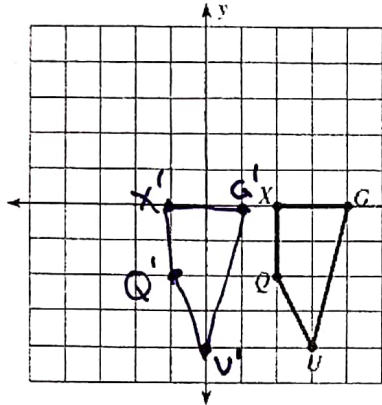


Day 2 Translations Hw

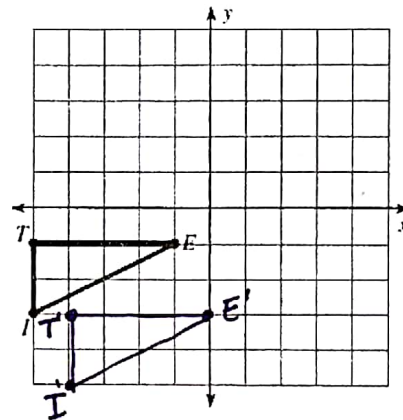
Graph the image of the figure using the transformation given write the algebraic rule and as a vector.

1) translation left 3 units



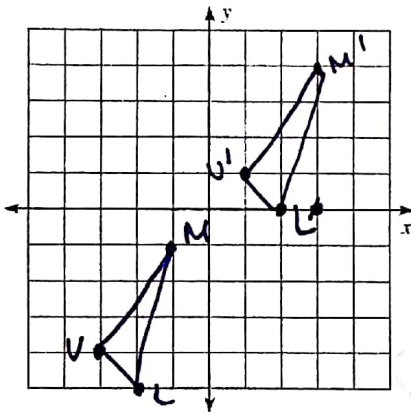
Algebraic Rule:
 $(x, y) \rightarrow (x-3, y)$
 Vector:
 $\langle -3, 0 \rangle$

2) translation 1 unit right and 2 units down



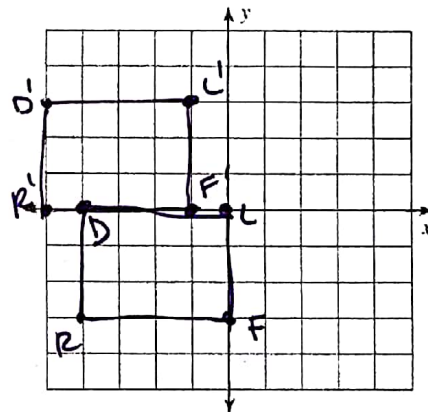
Algebraic Rule:
 $(x, y) \rightarrow (x+1, y-2)$
 Vector:
 $\langle 1, -2 \rangle$

3) translation 4 units right and 5 units up
 U(-3, -4), M(-1, -1), L(-2, -5)



Algebraic Rule:
 $(x, y) \rightarrow (x+4, y+5)$
 Vector:
 $\langle 4, 5 \rangle$

4) translation 3 units up and one unit left
 R(-4, -3), D(-4, 0), L(0, 0), F(0, -3)



Algebraic Rule:
 $(x, y) \rightarrow (x-1, y+3)$
 Vector:
 $\langle -1, 3 \rangle$

Describe each of the transformations below. Then find the coordinates of the vertices of each image.

5) Translation: $(x, y) \rightarrow (x+2, y-1)$
 Q(0, -1), D(-2, 2), V(2, 4), J(3, 0)

Vertices of the image:
 $Q'(2, 2)$ $D'(-2, 1)$ $V'(4, 3)$ $J'(5, -1)$
 Description of Transformation:
 Right 2, Down 1

6) Translation: $(x, y) \rightarrow (x-6, y)$
 D(-4, 1), A(-2, 5), S(-1, 4), N(-1, 2)

Vertices of the image:
 $D'(-10, 1)$ $A'(-8, 5)$ $S'(-7, 4)$ $N'(-7, 2)$
 Description of Transformation:
 Left 6

7) Translation: $\langle -4, 4 \rangle$
 J(-1, -2), A(-1, 0), N(3, -3)

Vertices of the image:
 $J'(-5, 2)$ $A'(-5, 4)$ $N'(-1, 1)$
 Description of Transformation:
 Left 4, Up 4

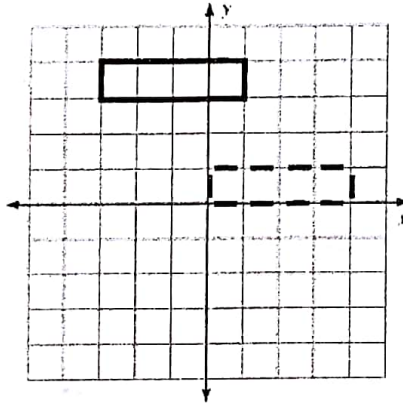
8) Translation: $\langle 0, 2 \rangle$
 Z(-4, -3), I(-2, -2), V(-2, -4)

Vertices of the image:
 $Z'(-4, -1)$ $I'(-2, 0)$ $V'(-2, -2)$
 Description of Transformation:
 Up 2

9) Write an algebraic rule that describes the translation from the dotted figure to the solid figure.

Rule:

$(x, y) \rightarrow$
 ~~$(x+3, y-3)$~~
 $(x-3, y+3)$



~~Down 3~~
~~Right 3~~
 Left 3
 UP 3

10) Kyle has performed a translation on a certain rectangle, however Mr. Ray is having a hard time reading his work. This is what he can make out:

Pre-image	Image
A(-3, -6)	
B(4, -6)	B'(1, -4)
C(4, 5)	C'(1, 7)
	D'(-6, 7)

a) What translation does it seem Kyle was performing?

Description: Left 3, UP 2

Rule: $(x, y) \rightarrow (x-3, y+2)$

Vector: $\langle -3, 2 \rangle$

b) Find the coordinates of A' and D.

$A' (-6, -4)$

$D (-3, 5)$

$x - 3 = -6$

$x = -3$

$y + 2 = 7$