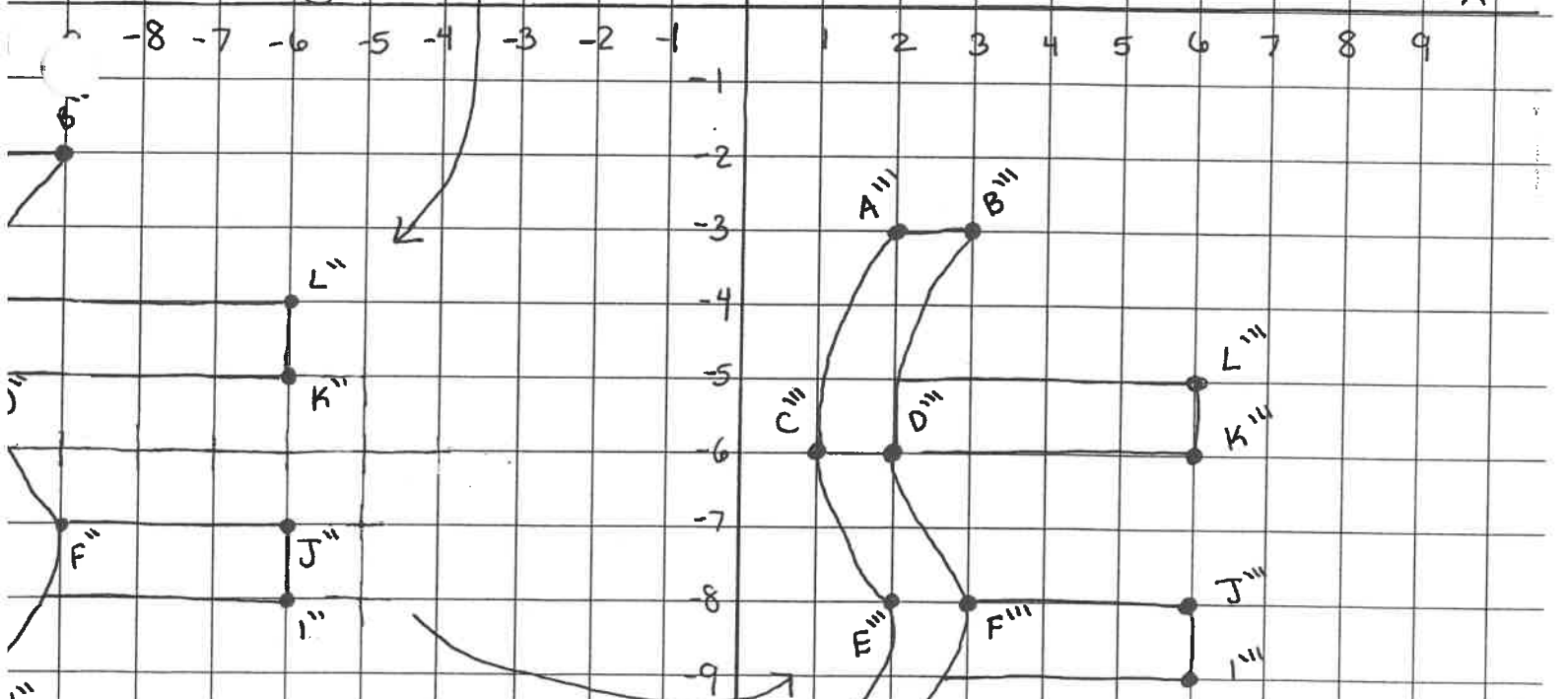
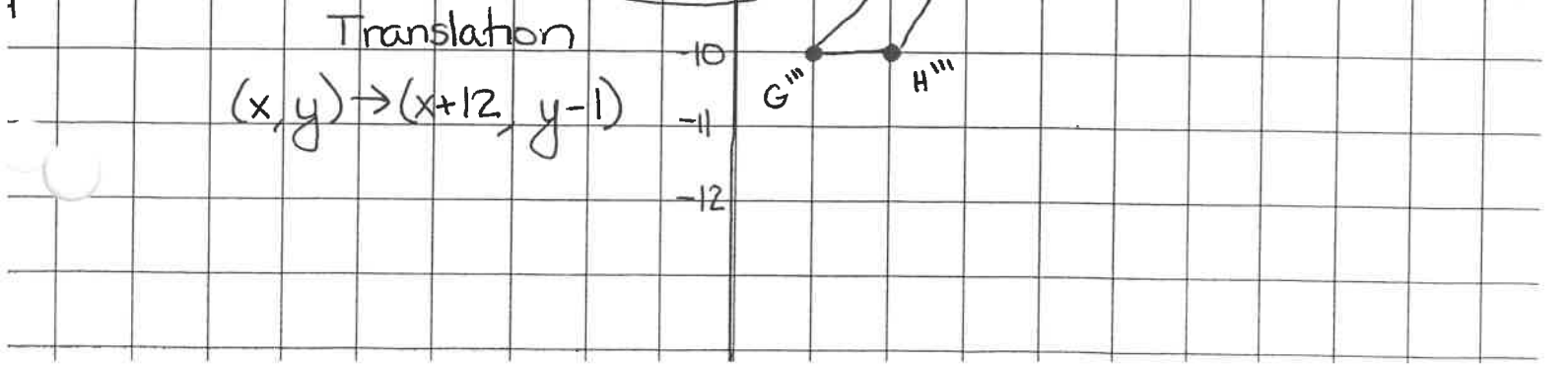


90°
Counterclockwise
Rotation About
 $(x,y) \rightarrow (-y,x)$ Origin

Reflection Over
Y-axis
 $(x,y) \rightarrow (-x,y)$



Translation
 $(x,y) \rightarrow (x+12, y-1)$



Original :

- A (2, 10)
- B (2, 9)
- C (5, 11)
- D (5, 10)
- E (7, 10)
- F (7, 9)
- G (9, 11)
- H (9, 10)
- L (4, 6)
- K (5, 6)
- J (7, 6)
- I (8, 6)

Reflected over y-axis:

- A' (-2, 10)
- B' (-2, 9)
- C' (-5, 11)
- D' (-5, 10)
- E' (-7, 10)
- F' (-7, 9)
- G' (-9, 11)
- H' (-9, 10)
- L' (-4, 6)
- K' (-5, 6)
- J' (-7, 6)
- I' (-8, 6)

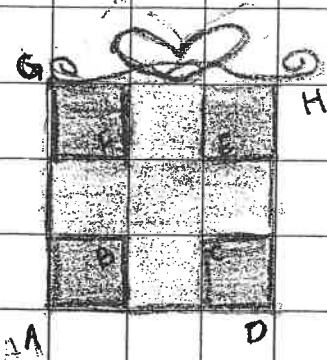
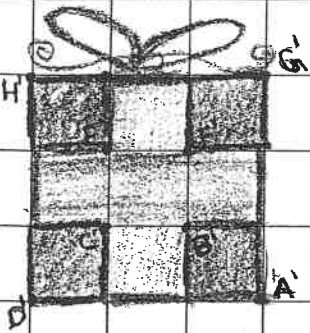
Rotated 90°
Counterclockwise
About Origin:

- A'' (-10, -2)
- B'' (-9, -2)
- C'' (-11, -5)
- D'' (-10, -5)
- E'' (-10, -7)
- F'' (-9, -7)
- G'' (-11, -9)
- H'' (-10, -9)
- L'' (-6, -4)
- K'' (-6, -5)
- J'' (-6, -7)
- I'' (-6, -8)

Translation

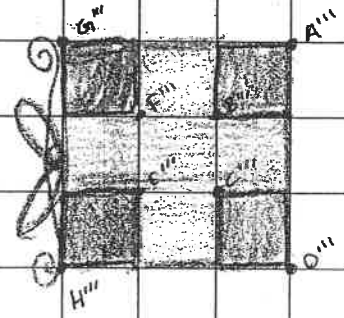
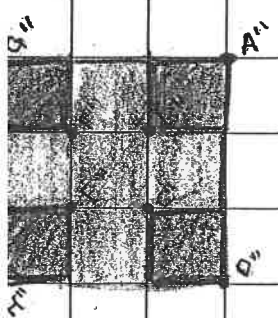
$$(x, y) \rightarrow (x + 12, y - 1)$$

- | | |
|---------------|---------------|
| A''' (2, -3) | H''' (2, -10) |
| B''' (3, -3) | L''' (6, -5) |
| C''' (1, -6) | K''' (6, -6) |
| D''' (2, -6) | J''' (6, -8) |
| E''' (2, -8) | I''' (6, -9) |
| F''' (3, -8) | |
| G''' (1, -10) | |



90° counterclockwise
 Rotation
 $(x, y) \rightarrow (-y, x)$

Reflection over
 y-axis
 $(x, y) \rightarrow (-x, y)$



Translation
 $(x, y) \rightarrow$

$(x + 13, y - 2)$

13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
-11
-12

-9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Original

A (4, 7)

B (5, 8)

C (6, 8)

D (7, 7)

E (6, 9)

F (5, 9)

G (4, 10)

H (7, 10)

Reflection

A (-4, 7)

B (-5, 8)

C (-6, 8)

D (-7, 7)

E (-6, 9)

F (-5, 9)

G (-4, 10)

H (-7, 10)

90° counterclockwise

A (-7, -4)

B (-8, -5)

C (-8, -6)

D (-7, -7)

E (-9, -6)

F (-9, -5)

G (-10, -4)

H (-10, -7)

Translation

A (6, -6)

B (5, -7)

C (5, -8)

D (6, -9)

E (4, -8)

F (4, -7)

G (3, -6)

H (3, -9)