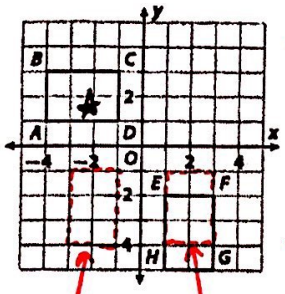
Sequences of Transformations Homework

For each pair of congruent figures, specify a sequence of rigid motions that maps one figure onto the other. The starred figure is the pre-image! Name all congruent corresponding parts.

1.



Rotated 90° Reflected across y=x

POSSIBLE ANSWERS

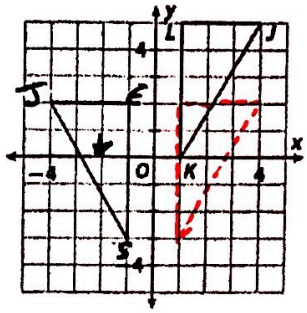
- Reflect across y=x,
- Then translate by ⟨0,-1⟩

ABCD ≅ HGFE

- Rotate 90° CCW,
- Then translate by ⟨4,-1⟩

ABCD ≅ GHEF

2.

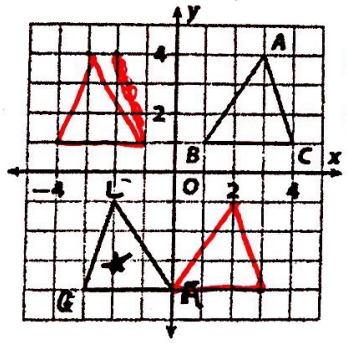


These 2 steps could be switched

- Reflect across the y-axis,
- then translate by (x,y)→(x,y+3)

ΔJES ≅ ΔJLK

3.



- Reflect across y-axis,
- Then translate by ⟨1,5⟩

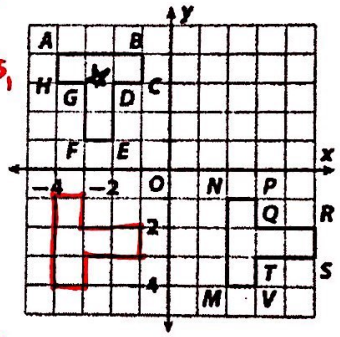
ΔGLA ≅ ΔCAB

OR

- Translate by ⟨-1,5⟩
- Then reflect across y-axis

ΔGLA ≅ ΔCAB

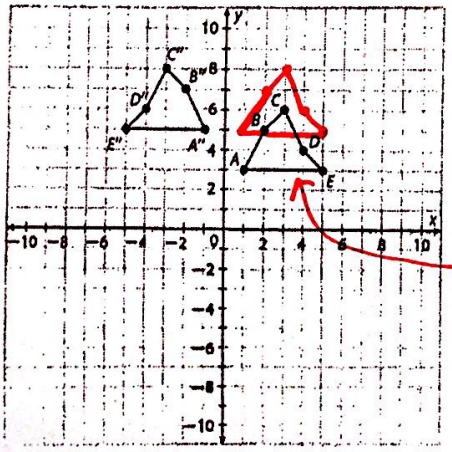
4.



- Rotate 90° CCW
- Then translate by (x,y)→(x+6,y)

ABCDEFGH ≅ MNPQRSTV

5. Use two transformations to get from the pre-image to the image. Describe your transformations using coordinate notation (x,y) → (____, ____)



First transformation: Translate up 3 (x,y)→(x,y+3)

Second transformation: Reflect across y-axis (x,y)→(-x,y)

pre-image (no prime marks)

These 2 steps could be switched

I didn't really teach this... it's OK if you don't have it.