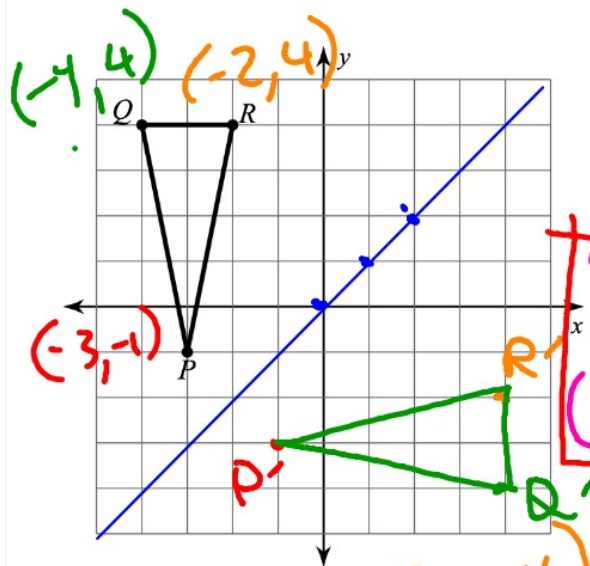


Good morning: attach warm up

1. Reflect  $\triangle QRP$  across the line  $y=x$ . 2. Reflect  $\triangle TRS$  across the line  $y=3$ .



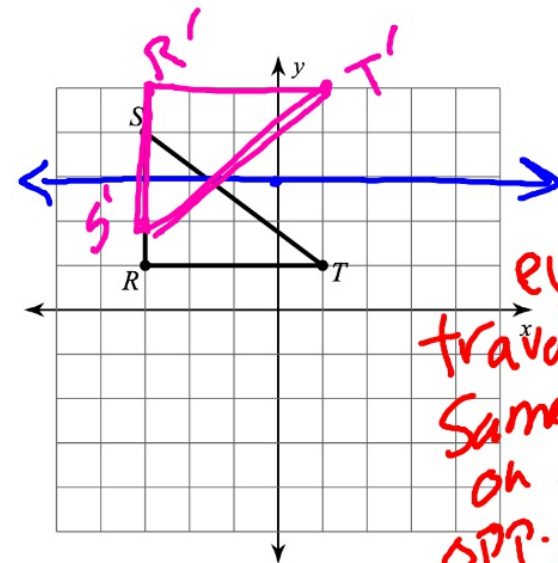
$$y = 1x + 0$$

slope  $\uparrow$   $y$ -int  $\uparrow$

Rule ★★  
 $(x, y) \rightarrow (y, x)$

$$\begin{aligned} (-2, 4) &\rightarrow (4, -2) \\ (-3, -1) &\rightarrow (-1, -3) \\ (-4, 4) &\rightarrow (4, -4) \end{aligned}$$

Assessment:  
next class



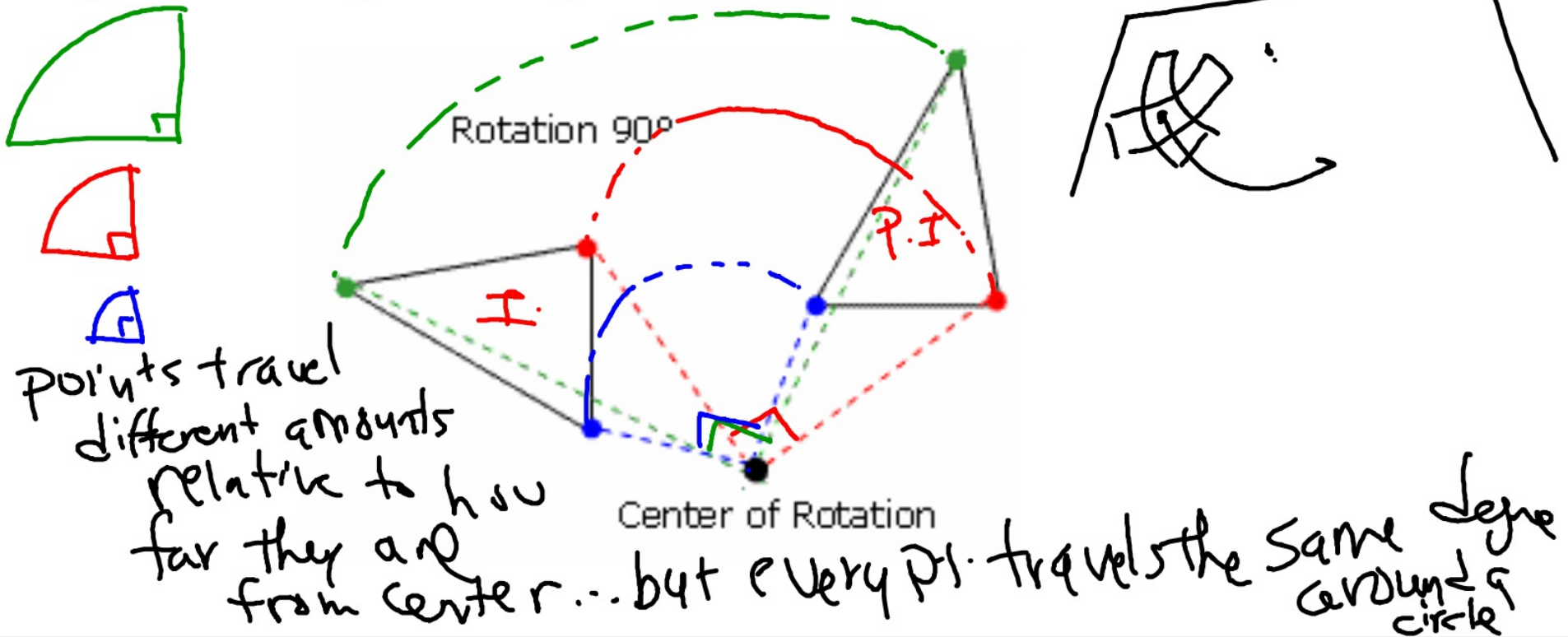
every pt.  
travels the  
same dist.  
on the  
opp. side  
of refl.  
line

Hint:  $y=\#$  is a horizontal line  
 $x=\#$  is a vertical line

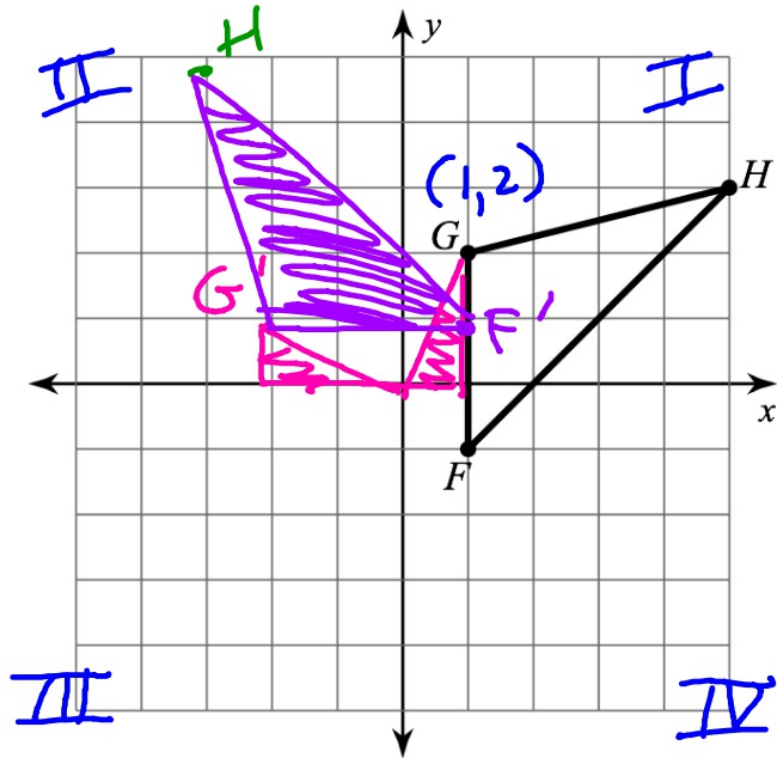
What questions do you have about reflections and translations?

# Rotations

a rotation is a turn around a fixed center through a specified angle in a specified direction



① rotation  $90^\circ$  counterclockwise about the origin



Rule:

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

$$(1, 2) \rightarrow (-2, 1)$$

$$(5, 3) \rightarrow (-3, 5)$$

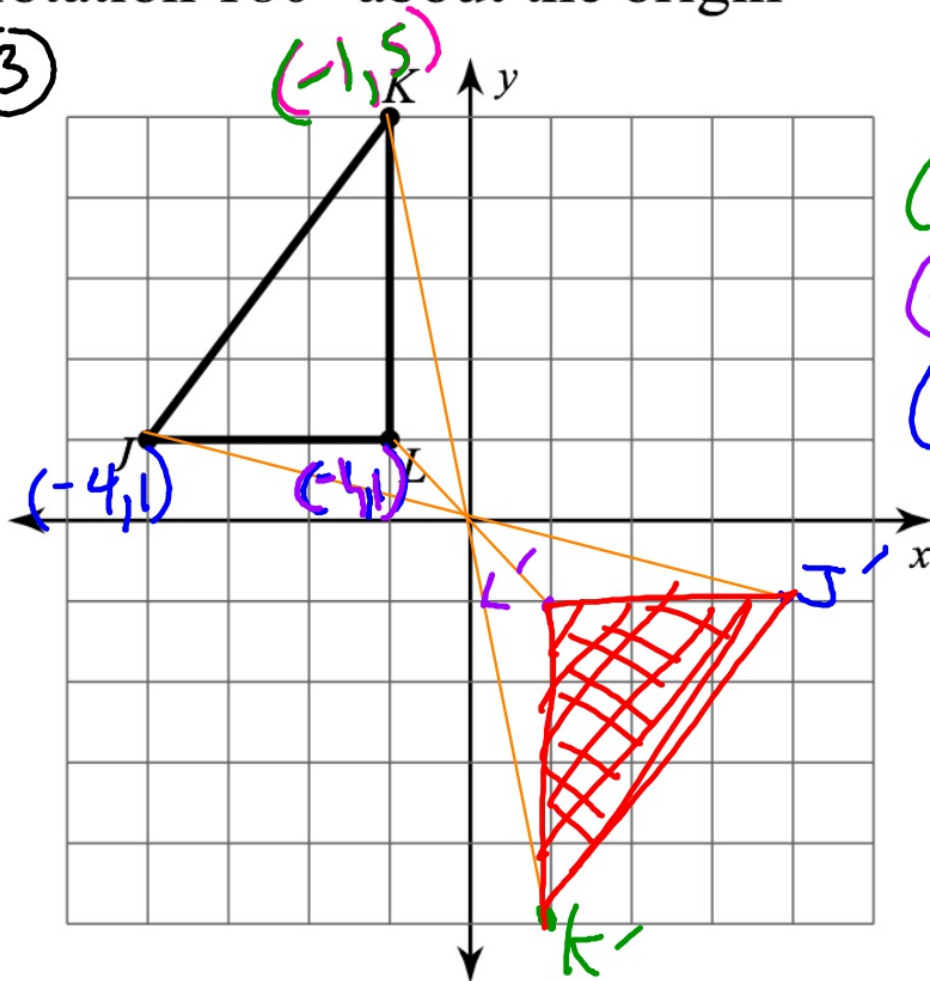
$$(1, -1) \rightarrow (1, 1)$$

think  
⊥  
slopes



rotation  $180^\circ$  about the origin

③



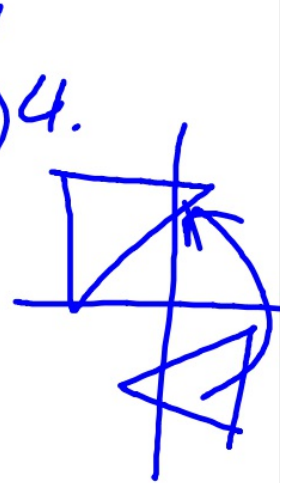
Rule:

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

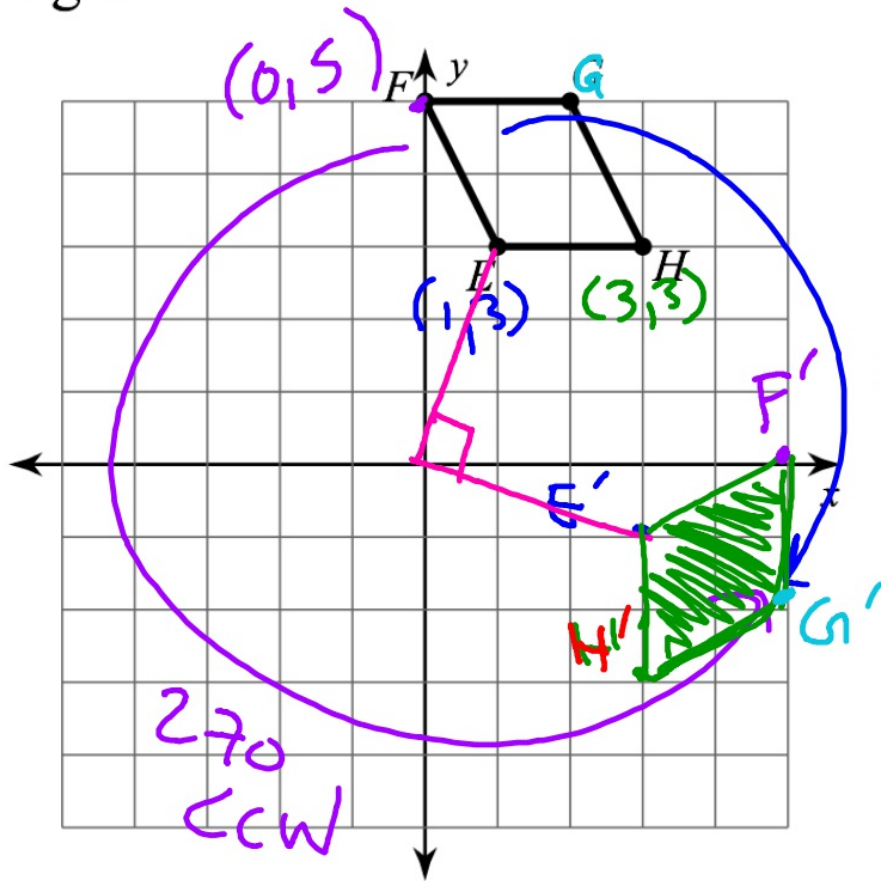
$$(-1, 5) \rightarrow (1, -5)$$

$$(-1, 1) \rightarrow (1, -1)$$

$$(-4, 1) \rightarrow (4, -1)$$



5.) rotation  $270^\circ$  counterclockwise about the origin



Rule:

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

$$(1,3) \rightarrow (3,-1)$$

$$(3,3) \rightarrow (3,-3)$$

$$(2,5) \rightarrow (5,-2)$$

$$90 \text{ cw } (0,5) \rightarrow (5,0)$$

$$-1 \cdot 0 = 0$$

What will be on tomorrow's assessment?

- 3 problems where you draw the transformation
- 3 problems where you identify the transformation

In other words, exactly like the last/tonight hw :)