

Good afternoon: no warm up, we will randomize seats and go over the hw when the bell rings (have it out please)



Reminders:

- tutoring tomorrow 4-5p
- first Q2 assessment: next class

Honors Geometry [CO-A5a front, CO-A2a back]
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Performing and Describing Transformations

Name _____
Date _____ Block _____

Graph the image of the figure using the transformation given. Use primes to label the vertices.

1) rotation 90° counterclockwise about the origin

2) translation: $(x, y) \rightarrow (x + 1, y + 2)$

3) translation: $(x, y) \rightarrow (x - 6, y - 4)$

4) reflection across $y = -x$

5) reflection across $x = -1$

6) rotation 180° about the origin

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Visually Random Grouping



Take a few minutes and look over the homework with your partners, asking questions and getting/giving help if needed

Honors Geometry [CO-A5a front, CO-A2a back]

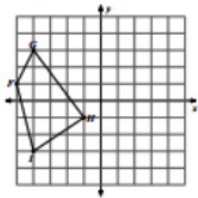
Name _____

Performing and Describing Transformations

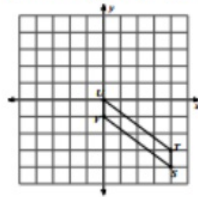
Date _____ Block _____

Graph the image of the figure using the transformation given. Use primes to label the vertices.

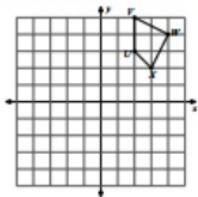
- 1) rotation 90° counterclockwise about the origin



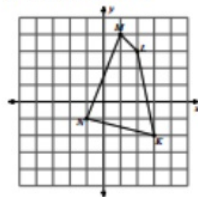
- 2) translation: $(x, y) \rightarrow (x + 1, y + 2)$



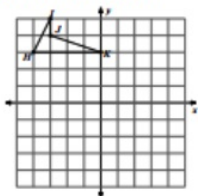
- 3) translation: $(x, y) \rightarrow (x - 6, y - 4)$



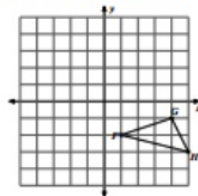
- 4) reflection across $y = -x$



- 5) reflection across $x = -1$

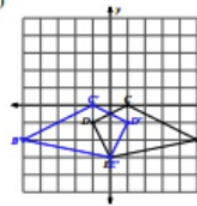


- 6) rotation 180° about the origin

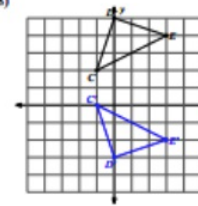


First identify whether each is a translation, reflection, or rotation. For translations, write a rule in arrow notation to describe the motion. For reflections, write the equation of the line of reflection. For rotations, given the angle of rotation CCW about the origin.

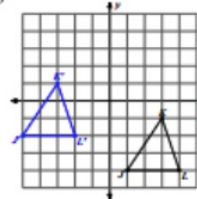
7)



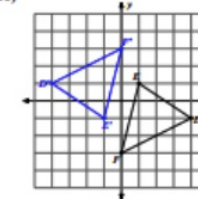
8)



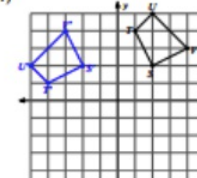
9)



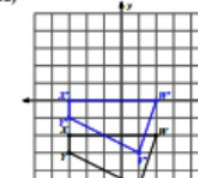
10)



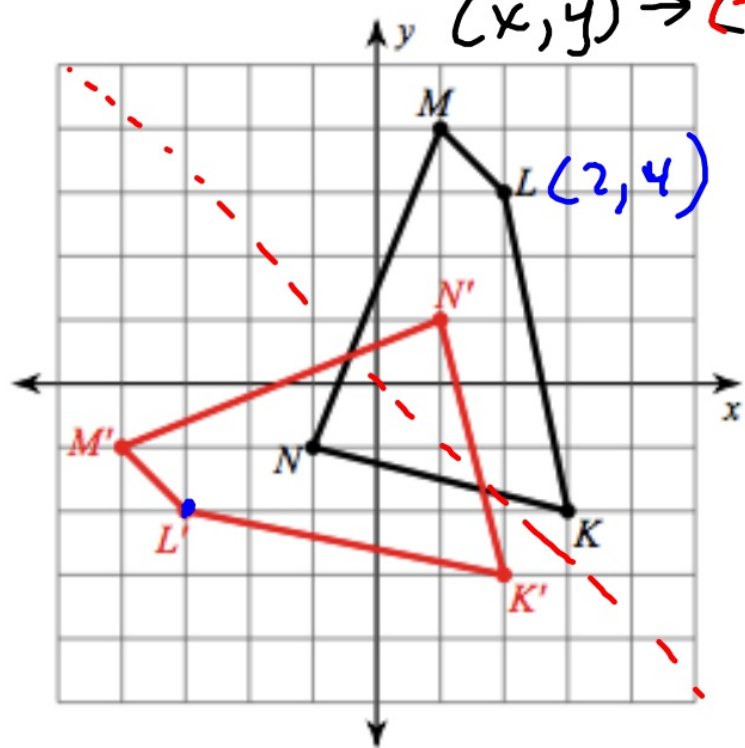
11)



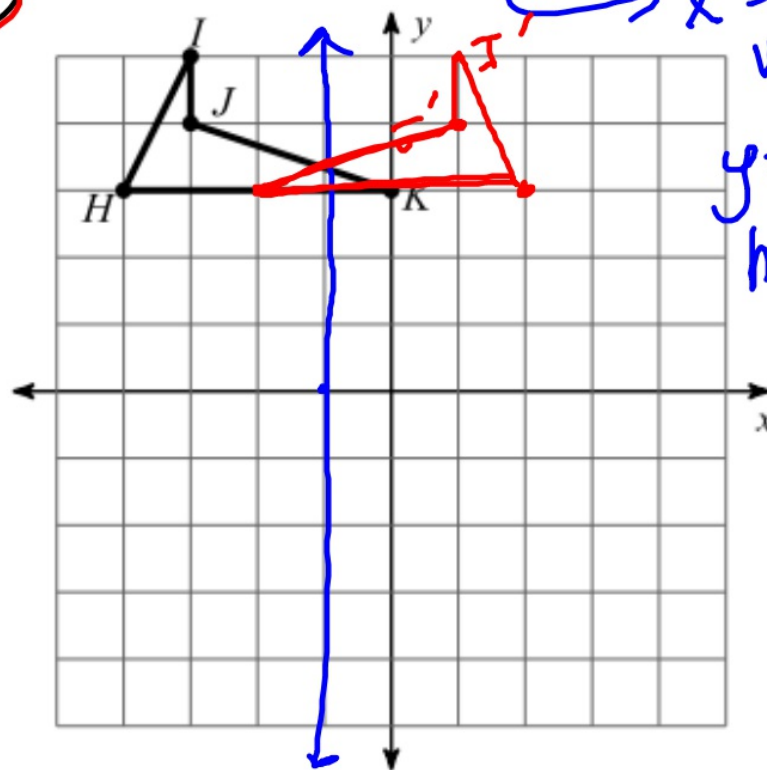
12)



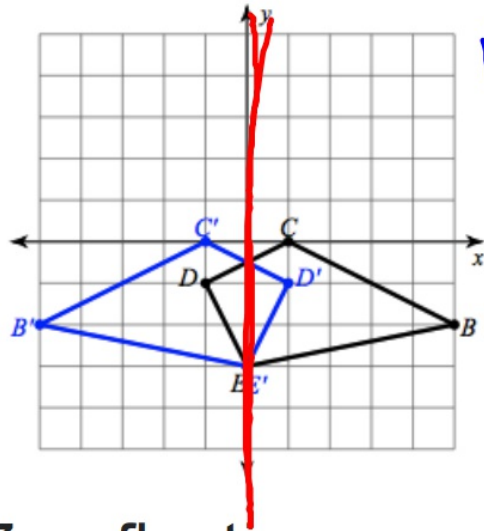
4) reflection across $y = -x$
 $(x, y) \rightarrow (-y, -x)$



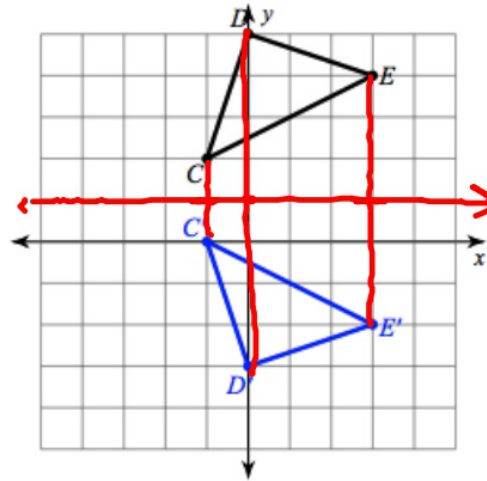
5) reflection across $x = -1$
 $x = \#$ vertical
 $y = \#$ horiz.



7)



reflection⁸⁾
y-axis



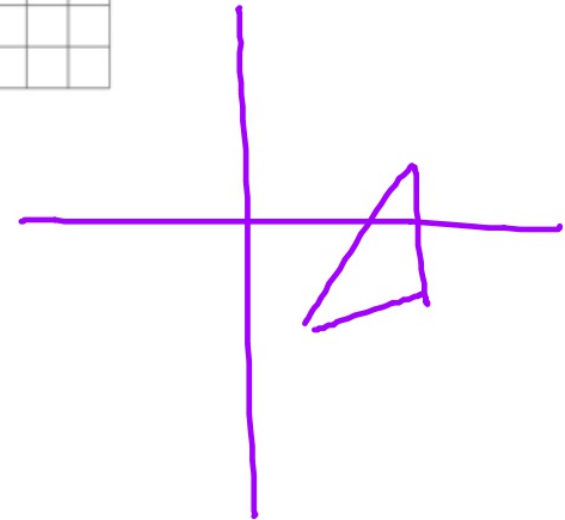
reflection
y=1

7. reflection across y-axis

8. reflection across $y=1$

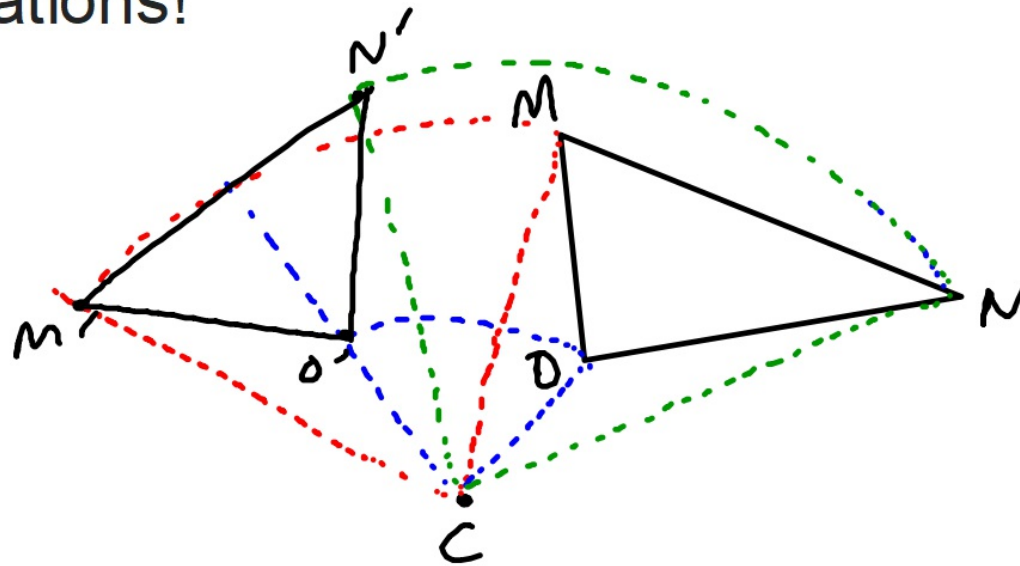
9. translation, $(x,y) \rightarrow (x-6, y+2)$

12. translation, $(x,y) \rightarrow (x, y+2)$



Rotations!

NOTES



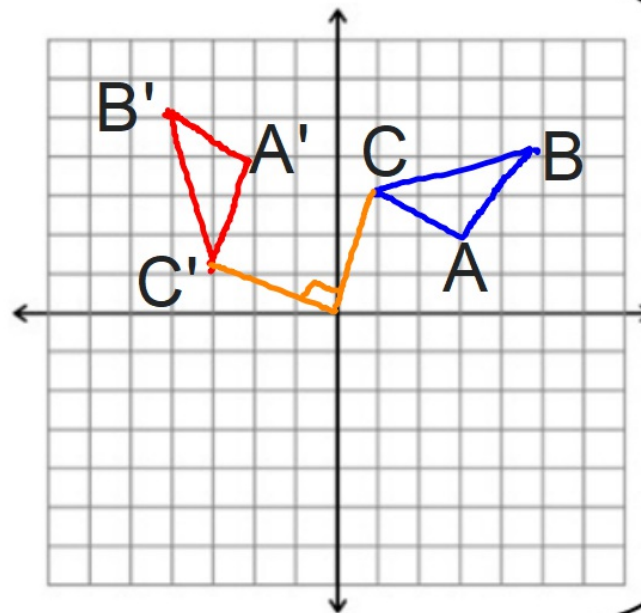
Rotations

A rotation is a turn around a fixed point (called the center of rotation) through a specified angle in a specified direction.

Rotation CCW 90° about origin

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

	Pre-image		Image	
A	$(3, 2)$	\rightarrow	$(-2, 3)$	A'
B	$(5, 4)$	\rightarrow	$(-4, 5)$	B'
C	$(1, 3)$	\rightarrow	$(-3, 1)$	C'



Rotation CCW 180° about origin

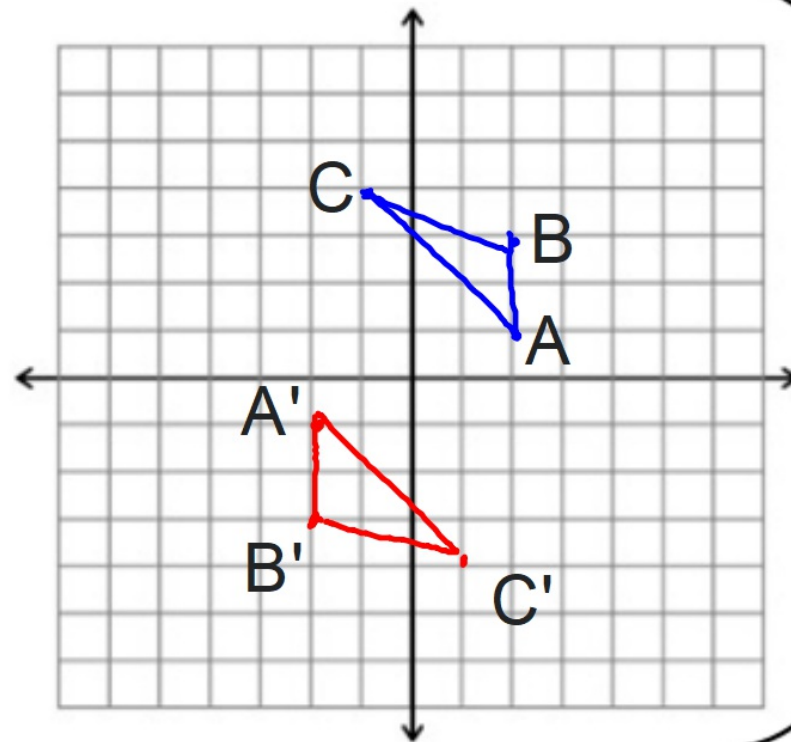
$$(x, y) \rightarrow (-x, -y)$$

Pre-image Image

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

$$B(2, 3) \rightarrow B'(-2, -3)$$

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

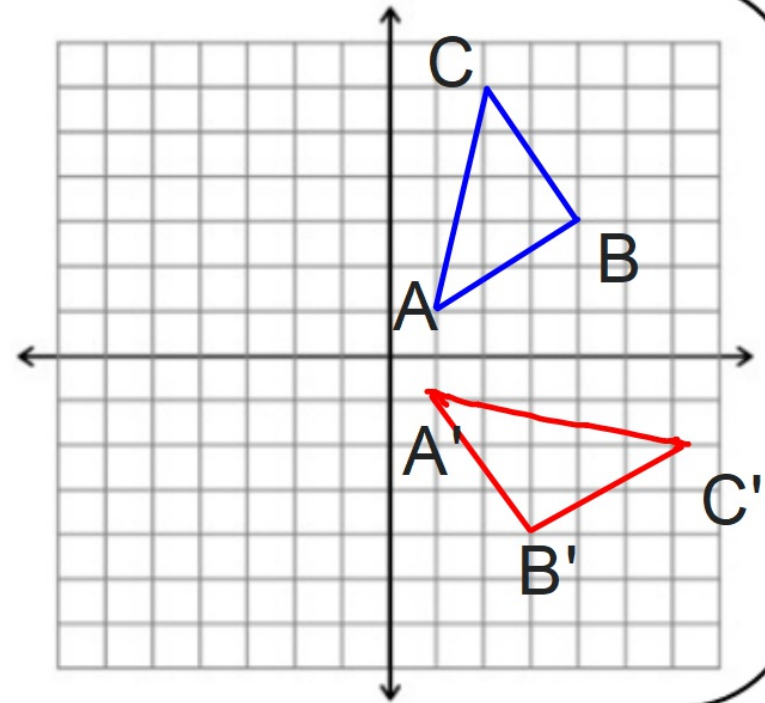


Rotation CCW 270° about origin

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

Pre-image Image

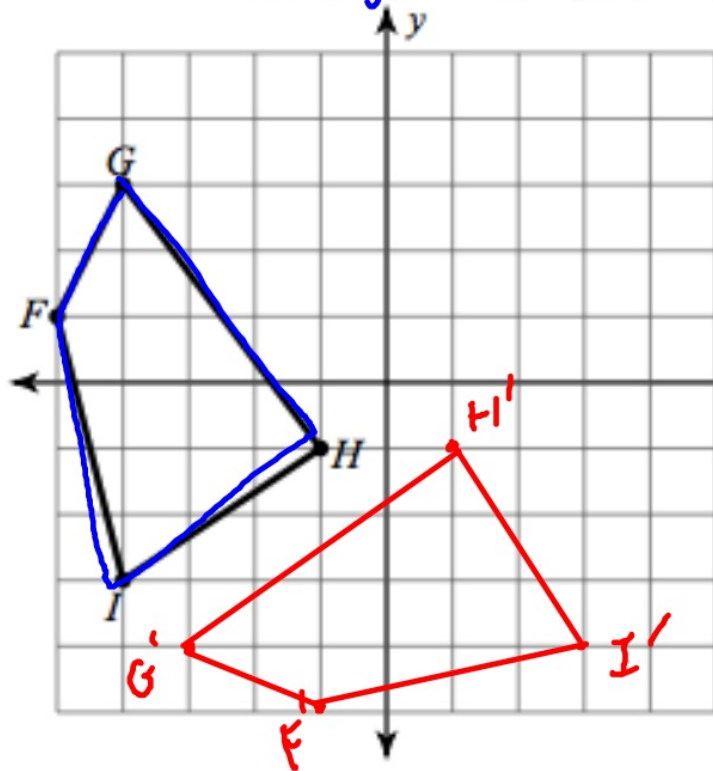
A	$(1, 1)$	$A(1, -1)$
B	$(4, 3)$	$B'(3, -4)$
C	$(2, 6)$	$C'(6, -2)$



From the hw handout assigned Thurs/Fri...

1) rotation 90° counterclockwise about the origin

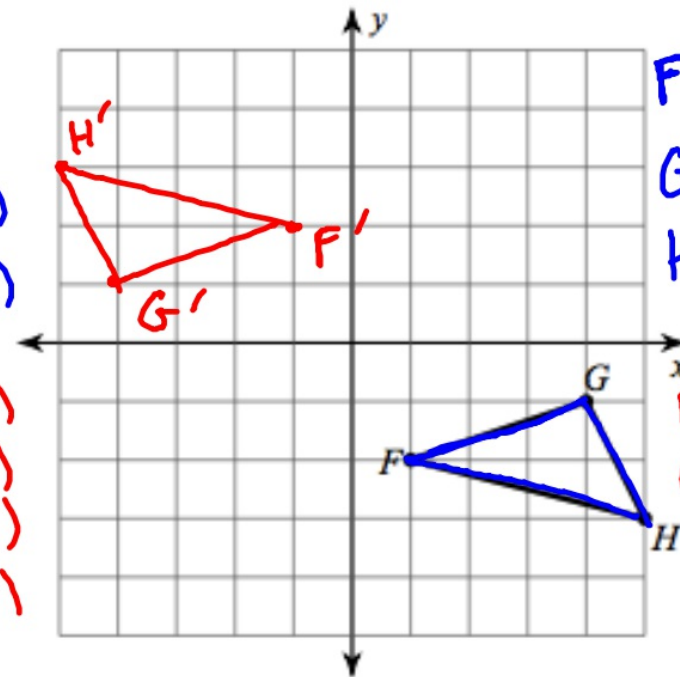
$$(x, y) \rightarrow (-y, x)$$



- F: $(-5, 1)$
- G: $(-4, 3)$
- H: $(-1, -1)$
- I: $(-4, -3)$
- F': $(-1, -5)$
- G': $(-3, -4)$
- H': $(1, -1)$
- I': $(3, -4)$

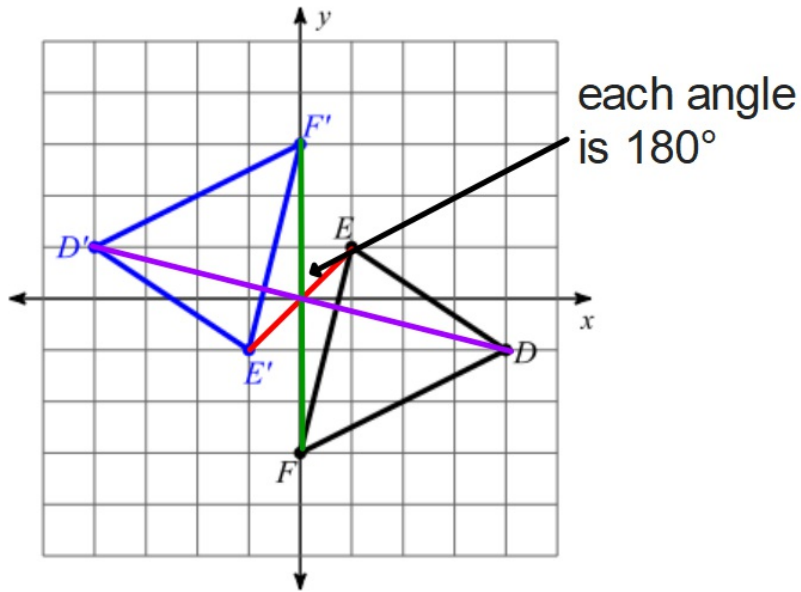
6) rotation 180° about the origin

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



- F: $(1, -2)$
- G: $(4, -1)$
- H: $(5, -3)$
- F': $(-1, 2)$
- G': $(-4, 1)$
- H': $(-5, 3)$

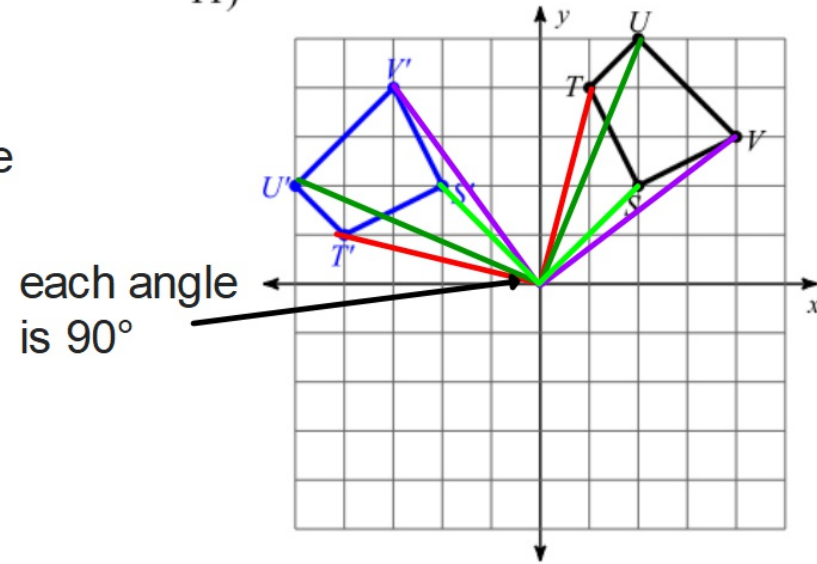
10)



Compare coordinates of E and E',
D and D', F and F'

Rule is $(x,y) \rightarrow (-x,y)$
so 180° CCW rotation about origin

11)



Compare coordinates of U and U',
T and T', S and S', V and V'

Rule is $(x,y) \rightarrow (-y,x)$
so 90° CCW rotation about origin

Project Update!

Theme?

Type?

Terms?

Questions?

<http://bit.ly/geoproj17>

Ask me for a paper version
****digital is preferred!!!****



Homework

#1-12 on new handout
answers posted to mgeo.weebly.com
(don't check until you're finished)

assessment will be similar!