Created by Mr. Lischwe

# Warmup $2/(4^2 + \sqrt{4} + 4^0)$

PLEASE DO TUESDAY'S WARMUP!!! Early finishers can try Friday.

1)

| x | y |
|---|---|
| 1 | 16 |
| 2 | 22 |
| 3 | 28 |
| 4 | 36 |
| 5 | 44 |

2)

| x | y |
|---|---|
| 0 | 35 |
| 3 | 30 |
| 6 | 25 |
| 8 | 20 |
| 10 | 15 |

3)

| x | y |
|---|---|
| -2 | -7 |
| -1 | -3 |
| 0 | 1 |
| 1 | 5 |
| 2 | 9 |

4)

| x | y |
|---|---|
| 2 | 5 |
| 4 | 10 |
| 6 | 15 |
| 8 | 20 |
| 10 | 25 |

5)

| x | y |
|---|---|
| 1 | 30 |
| 2 | 28 |
| 3 | 26 |
| 4 | 24 |
| 7 | 18 |

**6) One of these relationships is proportional. Which one is it, and how do you know?**

# Today is the deadline for Corrections/Extra Practice for the Exponents Test!

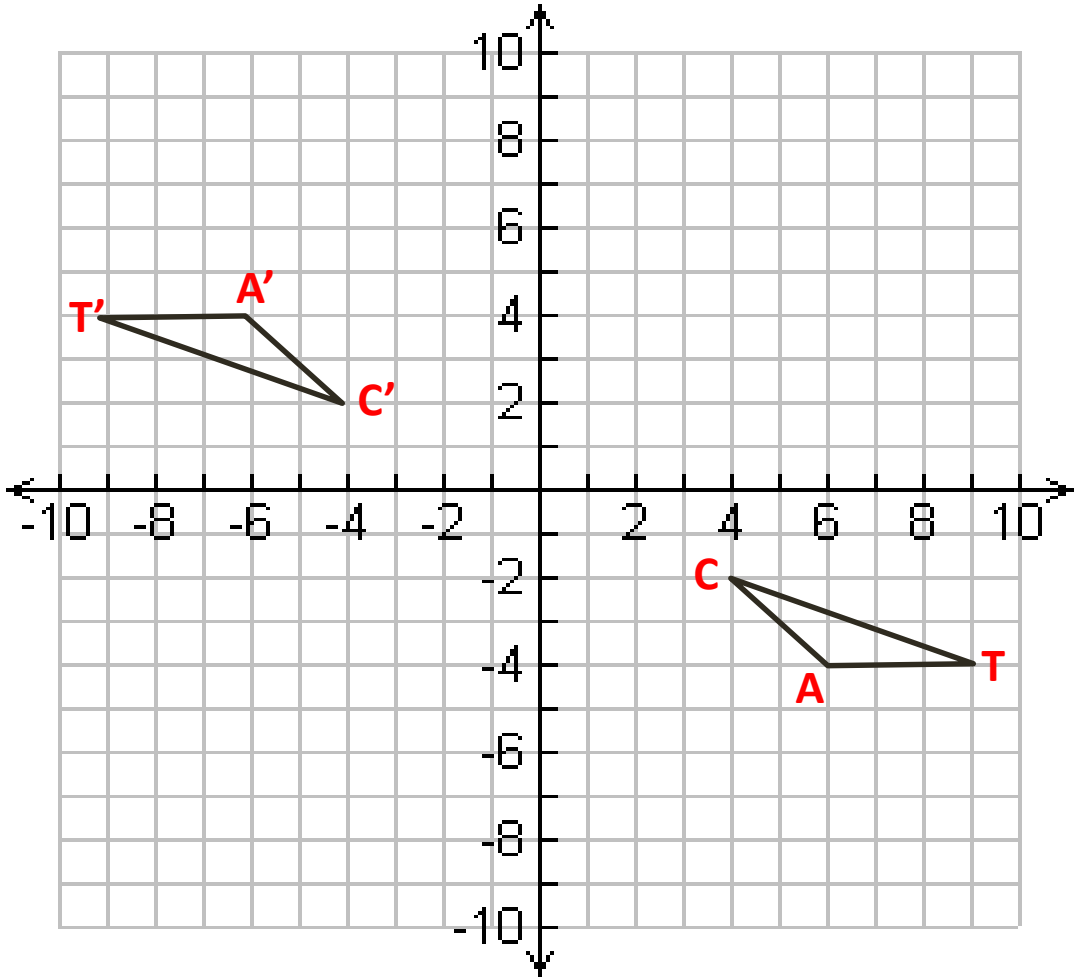
# Table of Contents (2nd Semester)



***GET OUT YOUR PIECE OF TRACING PAPER FROM YESTERDAY!!!***

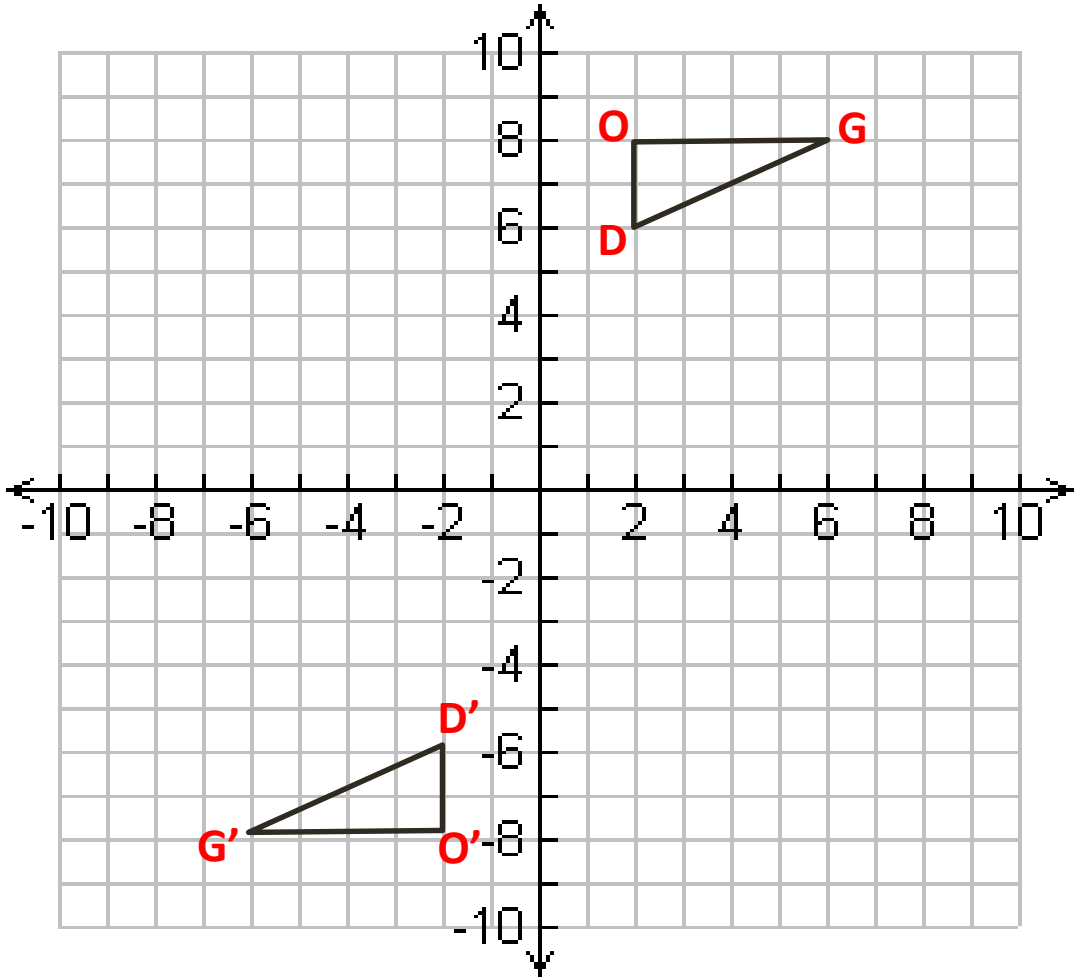
# Rotations on the Coordinate Plane – WITH Patty Paper

- **ON GRAPH 2:**
- Rotate triangle CAT 180$^{o}$ counterclockwise.
- Use patty paper to trace the triangle **and the x- and y-axis.**
- Turn the patty paper 180$^{o}$ counterclockwise until the x- and y-axis line up again.
- Write down the new coordinates of C', A', and T' somewhere or memorize their locations.
- Remove the patty paper and draw your new triangle using those coordinates.


10
8
6
4
2
-10
-8
-6
-4
-2
2
4
6
8
10
-2
-4
-6
-8
-10
T'
A'
C'
C
A
T

# Rotations on the Coordinate Plane – WITH Patty Paper

- **ON GRAPH #3:**
- Rotate triangle DOG 180$^{o}$ counterclockwise.
- **BEFORE YOU DO ANYTHING: predict where you think the triangle will end up! Draw in your prediction.**
- Use the patty paper to perform the rotation.


10
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2
-10
-8
-6
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-2
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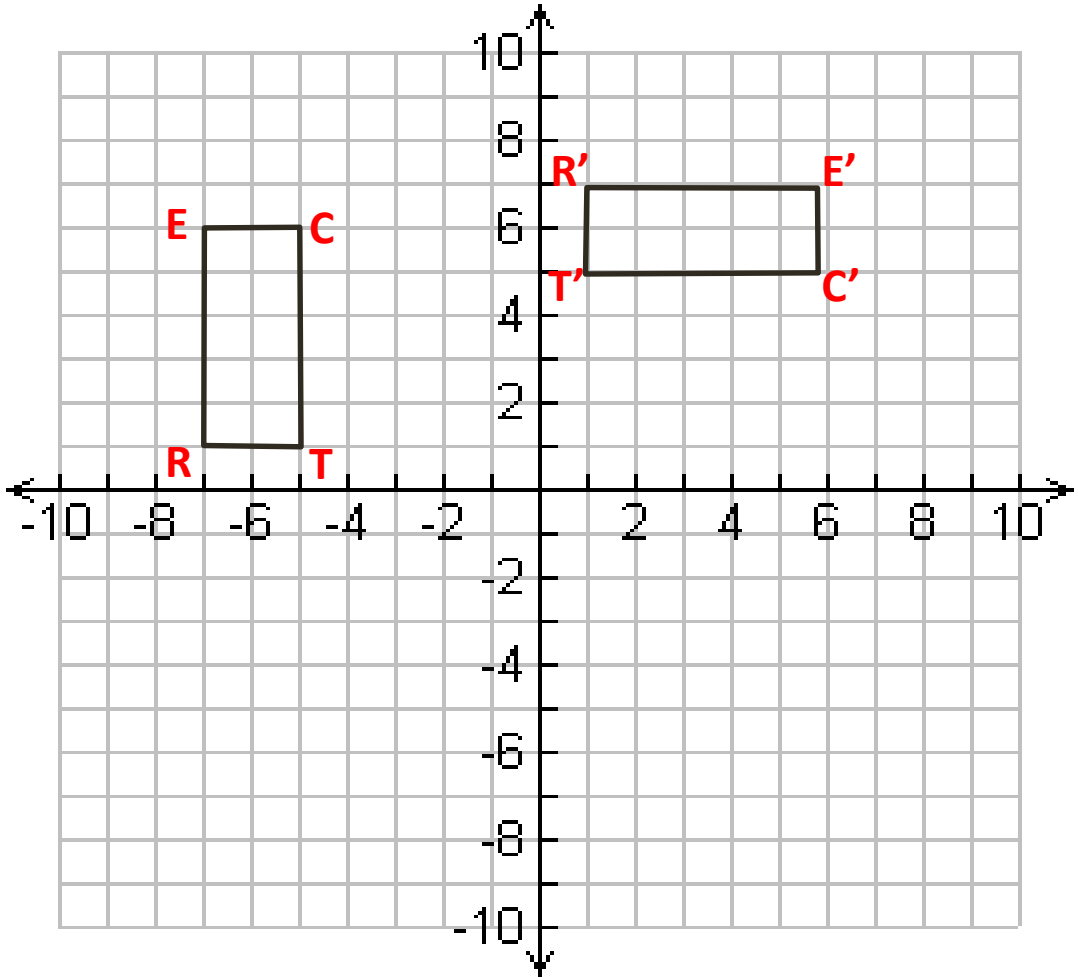
4
6
8
10
-2
-4
-6
-8
-10
O
G
D
D’
G’
O’

# Rotations on the Coordinate Plane – WITH Patty Paper

- **ON GRAPH #4:**
- Rotate rectangle RECT 270$^{o}$ counterclockwise.
- **BEFORE YOU DO ANYTHING: predict where you think the triangle will end up! Draw in your prediction.**
- Use the patty paper to perform the rotation.


E
C
R
T
R’
E’
T’
C’
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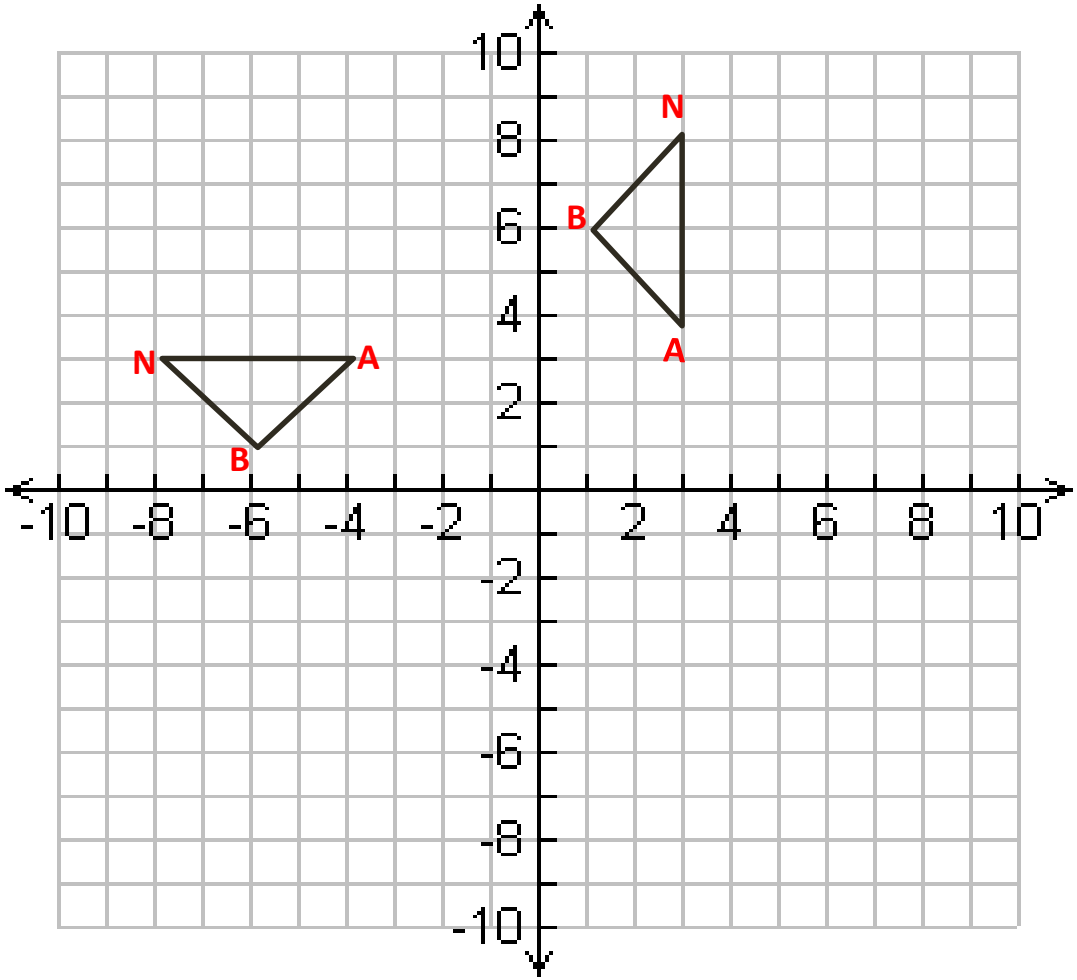
8
6
4
2
-2
-4
-6
-8
-10
-10
-8
-6
-4
-2
2
4
6
8
10

# Rotations WITHOUT Patty Paper

- **GRAPH #5**
- We are going to rotate triangle NBA 90$^{o}$ clockwise.
- ****Strategy: Physically turn your paper so you can visualize <u>exactly</u> where it will end up!*****

1. Turn your paper 90$^{o}$ clockwise.
2. Look at point B. It is up 6 spaces and right 1 space.
3. Turn the paper back to its original position.
4. Count up 6 and right 1 and plot point B'.
5. Repeat for points N and A.
6. Connect your new points and label them!


N
A
B
N
B
A
10
8
6
4
2
-2
-4
-6
-8
-10
-10
-8
-6
-4
-2
2
4
6
8
10

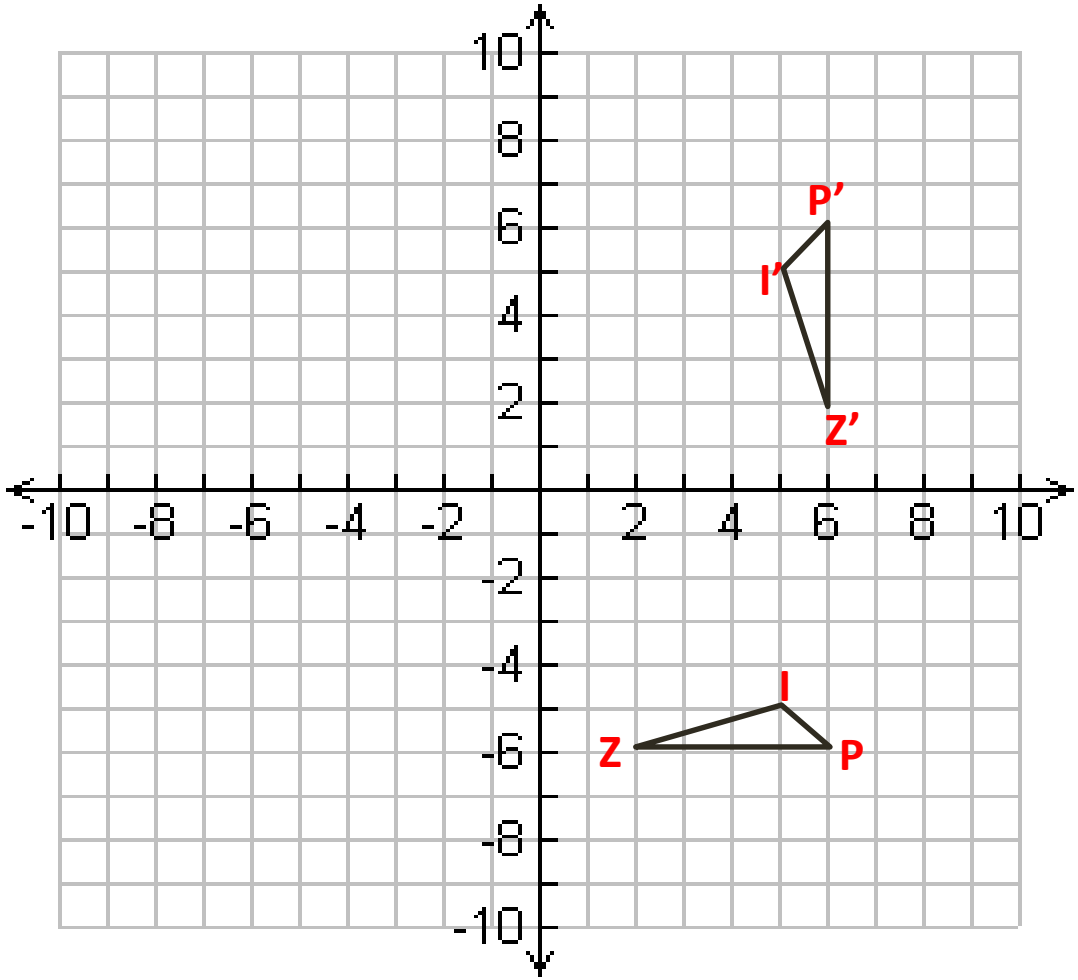
# General Strategy

- Physically turn the paper to visualize where the shape will be. Then turn the paper back and plot it exactly in that location!

# Rotations WITHOUT Patty Paper

- **GRAPH #6**
- Draw this triangle: **Z(2, -6); I(5, -5); P(6, -6)**
- We are going to rotate this figure 90$^{o}$ counterclockwise.
- ****Strategy: Physically turn your paper so you can visualize <u>exactly</u> where it will end up!*****

1. Turn your paper 90$^{o}$ counterclockwise.
2. Look at point Z. It is right 4 spaces and up 4 spaces.
3. Turn the paper back to its original position.
4. Count right 4 and up 4 and plot point Z'.
5. Repeat for points I and P.
6. Connect your new points and label them!


10
8
6
4
2
-10
-8
-6
-4
-2
2
4
6
8
10
-2
-4
-6
-8
-10
P’
I’
Z’
I
Z
P

# Rotation Strategy

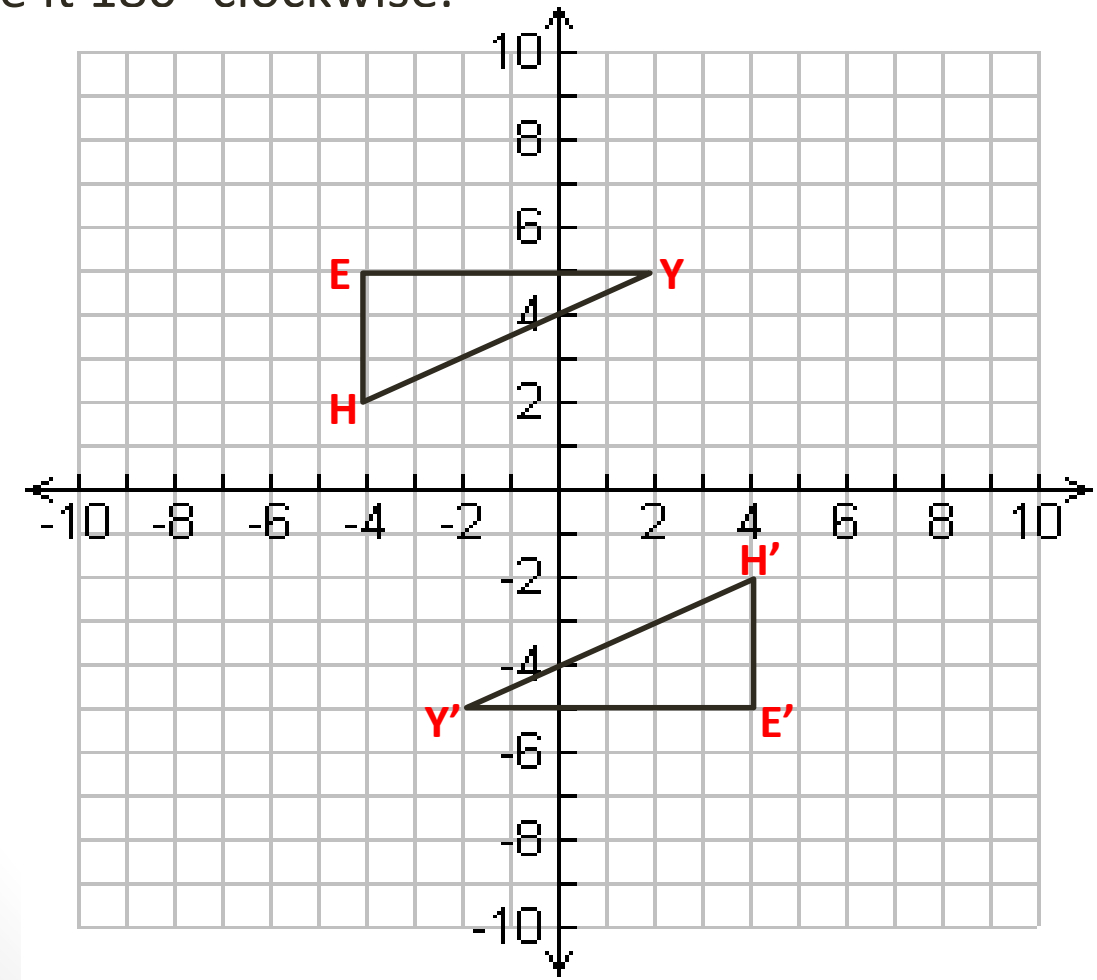
**Write these on your transformations notes page!**

1. **Turn the paper to see where the shape will end up.**
2. **Count squares from the origin to a vertex.**
3. **Turn the paper back to normal.**
4. **Count the same number of squares and plot the point.**
5. **Repeat for each vertex!**

**(There are several other strategies, but this is one of the easiest to understand!)**

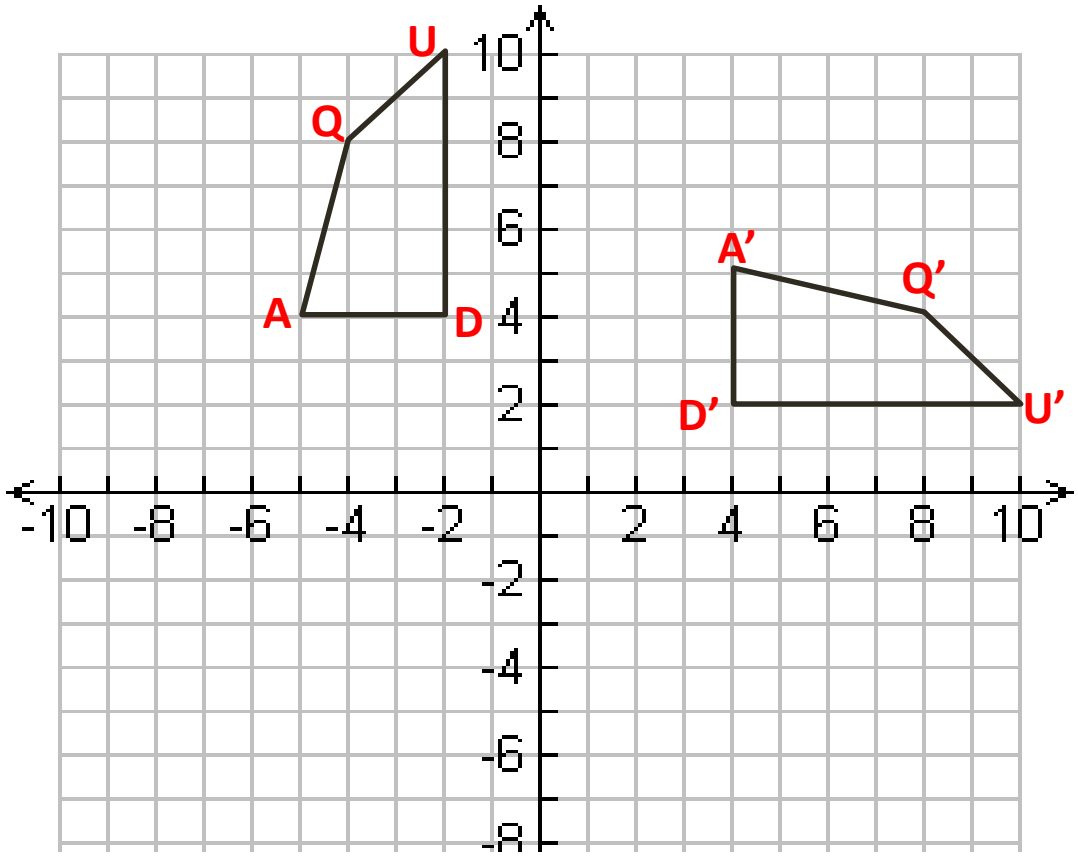
# Rotations WITHOUT Patty Paper

- **GRAPH 7:** Draw this triangle: **H(-4, 2); E(-4, 5); Y(2, 5)**
- Rotate it 180º clockwise.



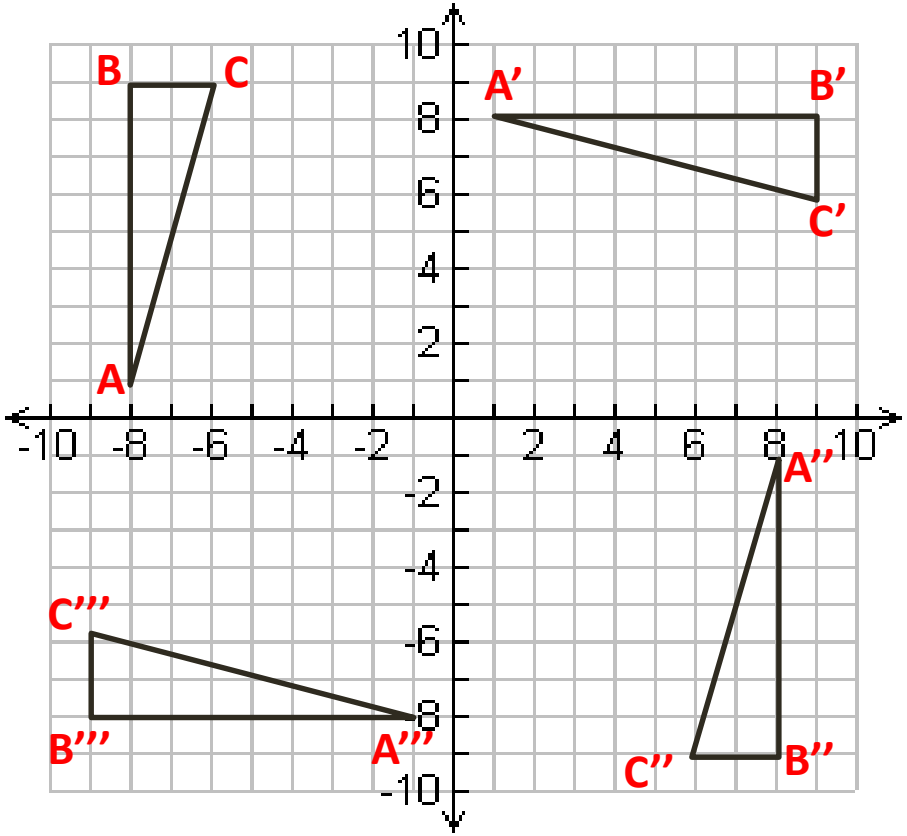
# Rotations WITHOUT Patty Paper

- **GRAPH 8:** Draw this quadrilateral: **A(-5, 4); U(-2, 10); Q(-4, 8); D(-2, 4)**
- Rotate it 270° counterclockwise.



- Draw this triangle:

1. Rotate it 90° clockwise about the origin. Label this triangle A'B'C'.
2. Rotate it 90° MORE clockwise. Label this A''B''C''.
3. Rotate it 90° MORE clockwise. Label this A'''B'''C'''.



# Homework

*****COPY THESE INSTRUCTIONS BELOW THE GRAPHS*****

**Do all WITHOUT patty paper.**

1) **Rotate the trapezoid 90$^{o}$ counterclockwise.**

2) **Rotate the triangle 270$^{o}$ counterclockwise.**

3) **Rotate the figure 180$^{o}$.**