Created by Max Robinson WARMUP $2/\left(\frac{\pi}{\pi} + \frac{100\sqrt{3}}{100\sqrt{3}} + \frac{\text{SIN }x}{\text{SIN }x} + \infty - \infty + 16\right)$

1. Copy this basic coordinate plane and put a "1, 2, 3, 4" in each correct quadrant:

- 2. If a figure starts in quadrant 2 and it rotates 90° clockwise, where does it end up?
- 3. If a figure starts in quadrant 4 and it rotates 270° clockwise, where does it end up?
- 4. If a figure starts in quadrant 1 and it rotates 180° counterclockwise, where does it end up?
- 5. If a figure starts in quadrant 3 and it rotates 540° counterclockwise, where does it end up?
- 6. If you rotate a shape 270° counterclockwise, this is the same as rotating it how many degrees clockwise?

CHECK 3 PROBLEMS

BACK TO YOUR ROTATION NOTES (PAGE 10)

 You will also have to write one more thing on the page 9 "Trasformations Notes"

GENERAL ROTATION 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

Draw this triangle: H(-4, 2); E(-4, 5); Y(2, 5)

Rotate it 180° counterclockwise.



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!

ROTATIONS WITHOUT PATTY PAPER

Draw this quadrilateral: A(-6, 2); U(-3, 8); Q(-5, 6); D(-3, 2)

Rotate it 270° counterclockwise.



ALTERNATE STRATEGY

Rotate 270° CCW:

- In this quadrilateral, the "A" and the "D" are two squares above the -3 and the -6.
- The arrow shows where the shape will go (270° CCW = 90° CW)
- A' and D' will now be two squares away from the 3 and the 6 on the <u>vertical</u> axis.
- You can find Q' and U' a similar way.



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'''.



CHECK FOR UNDERSTANDING

- Just do what you can!
- No patty paper.
- Hold it up when done!