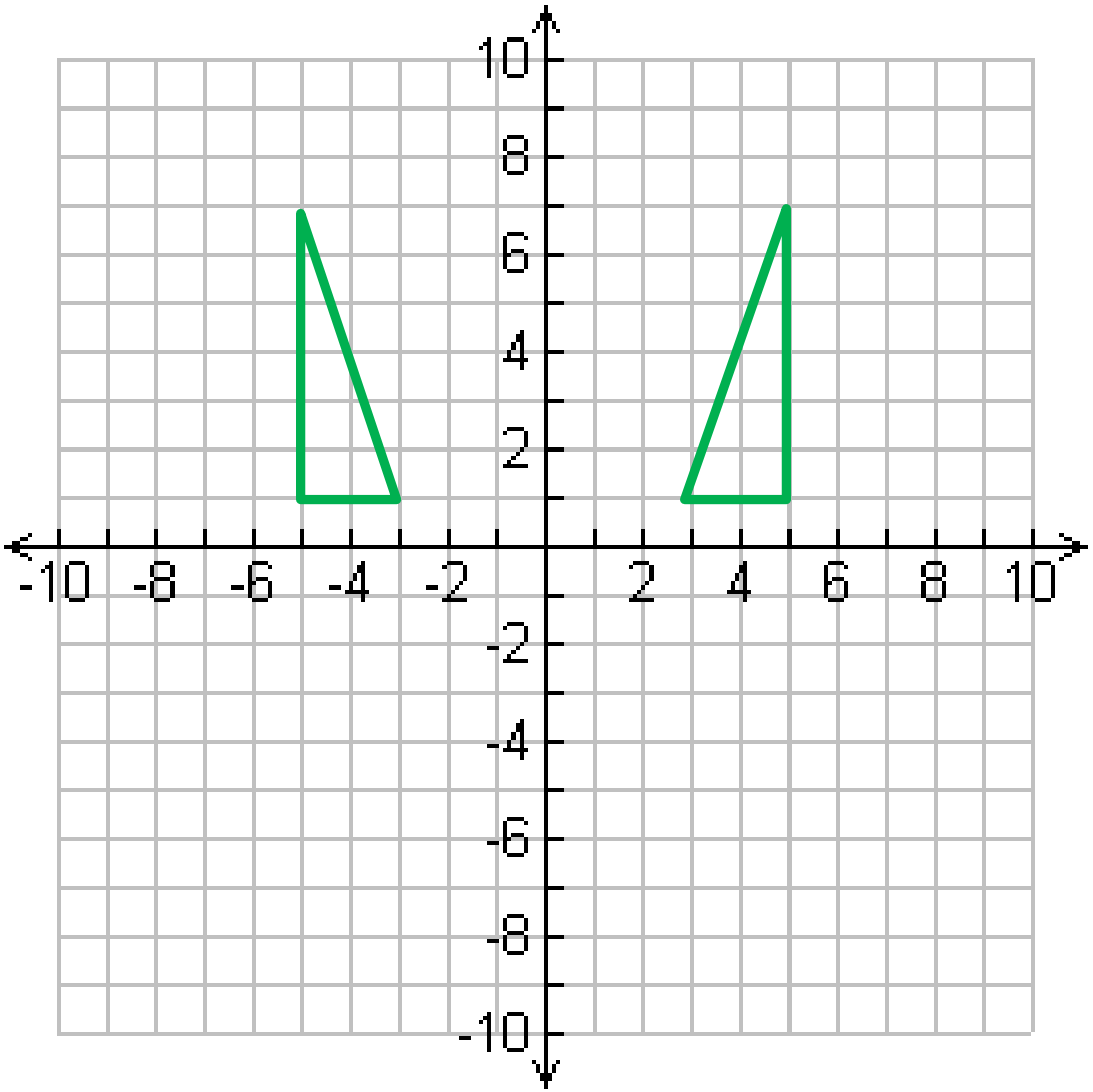
Created by Mr. Lischwe

Warmup 2/ (4!)

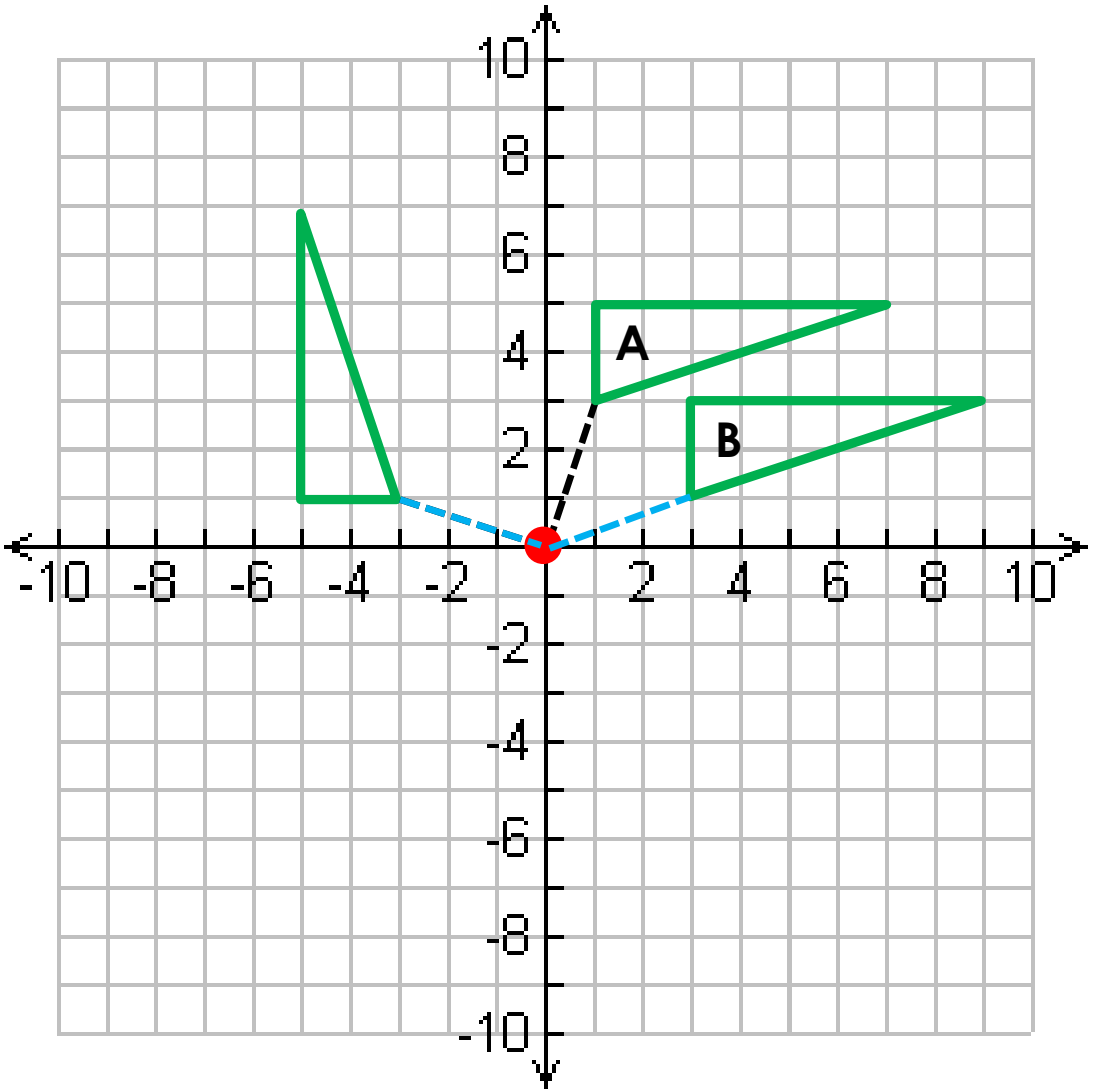
Solve the equation:

$$4 + 2(6x - 10) - 9x = -4(3x - 3x + 12 - 8)$$

Don’t turn your rotations into reflections…



Which one is the correct rotation around the origin?



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Reverse Transformations

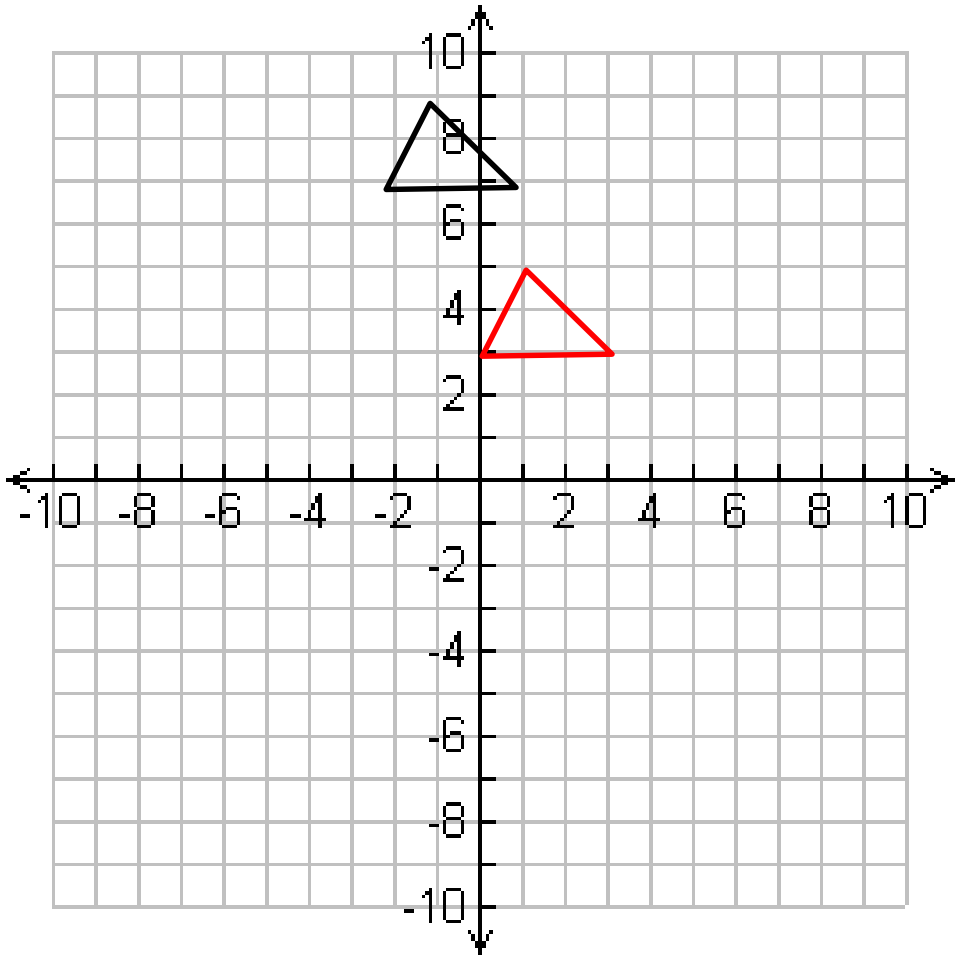
Today's Objectives:

- Perform translations, reflections, and rotations in reverse!

More transformation problems…

ON GRAPH 1

- A triangle was translated **4 units up** and **2 units left**. The image is **A'(-2, 7) B'(-1, 9) C'(1, 7).** Draw the original triangle **ABC**.
- **In reverse: 2 right and 4 down**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-6
-8
-10

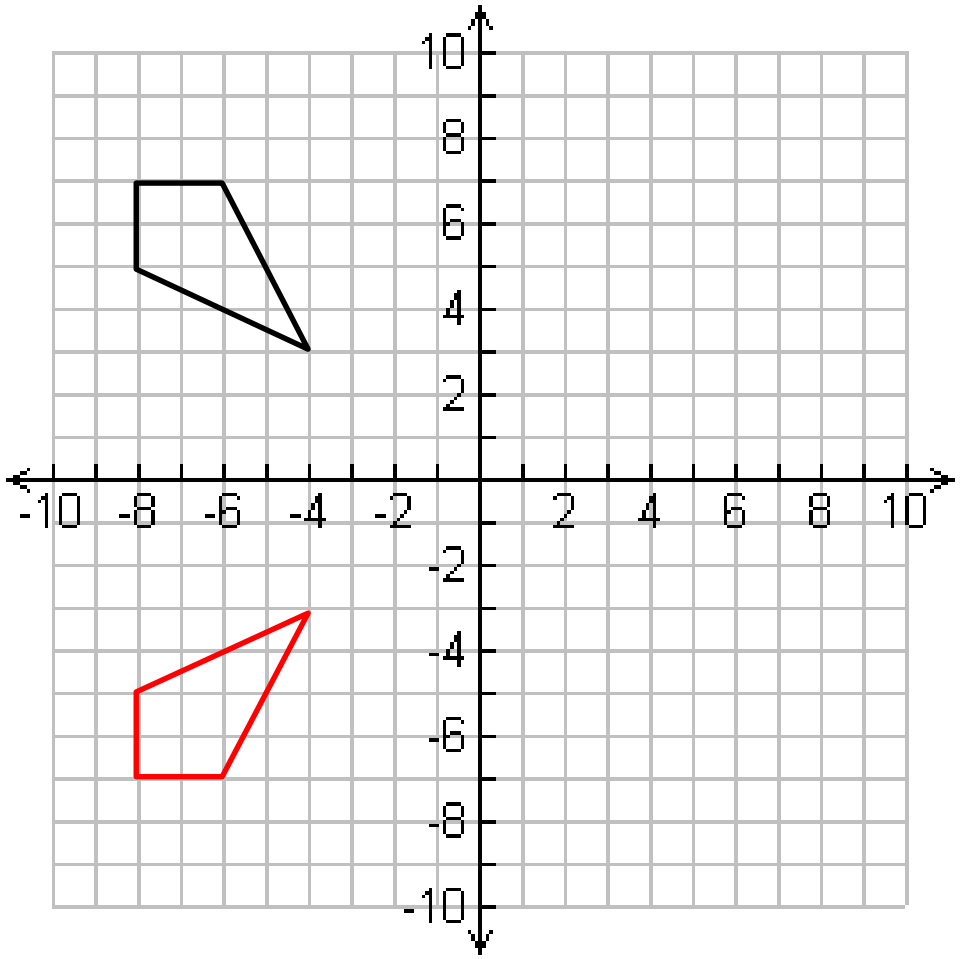
More transformation problems…

ON GRAPH 1

- A triangle was translated **4 units up** and **2 units left**. The image is **A'(-2, 7) B'(-1, 9) C'(1, 7).** Draw the original triangle **ABC**.
- **In reverse: 2 right and 4 down**

ALSO ON GRAPH 1

- A quadrilateral was reflected across the x-axis. The image is **D'(-8, 5) E'(-8, 7) F'(-6, 7) G'(-4, 3).** Draw the original quadrilateral **DEFG**.
- **In reverse: reflect back across the x-axis**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Counterclockwise and clockwise…

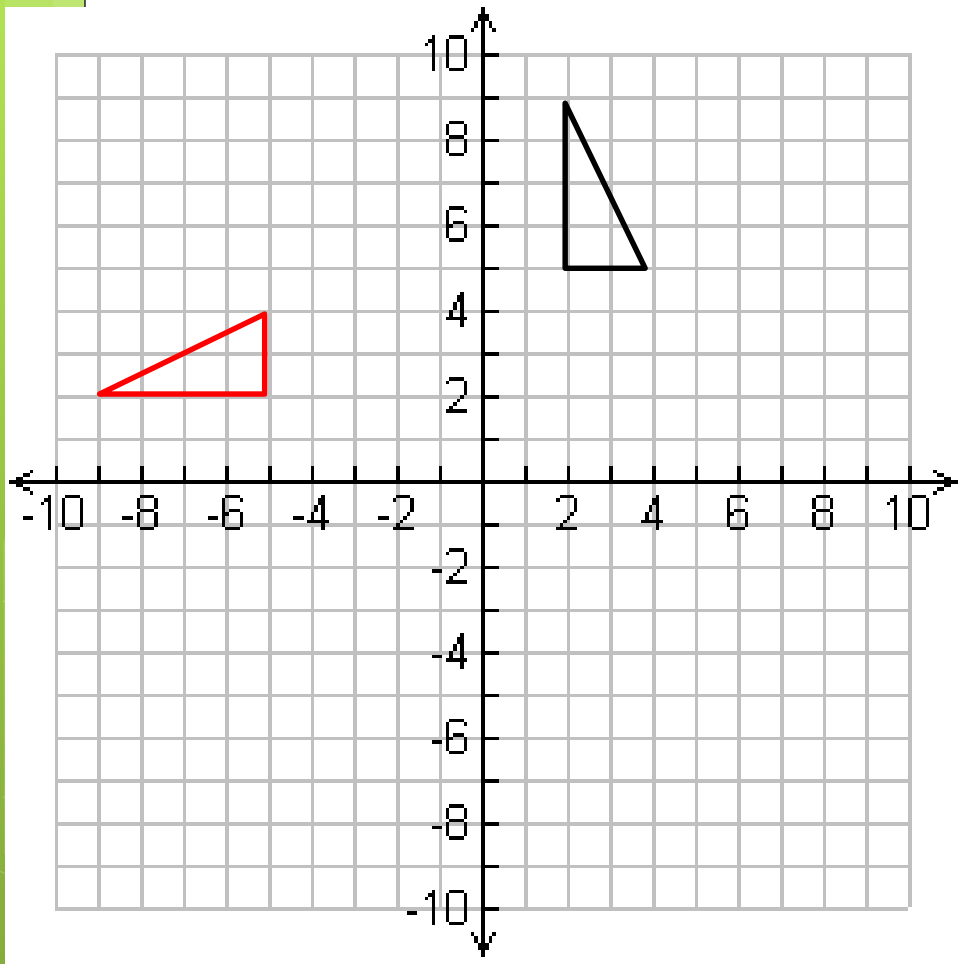
- **It's very easy to mix these up if you're not careful.**
- **PICTURE A CLOCK!!!**

More transformation problems…

ON GRAPH 2

- A triangle was rotated **90° clockwise.** The image is **A'(2, 5) B'(2, 9) C'(4, 5).** Draw the original triangle **ABC**.
- **In reverse: 90° counterclockwise**

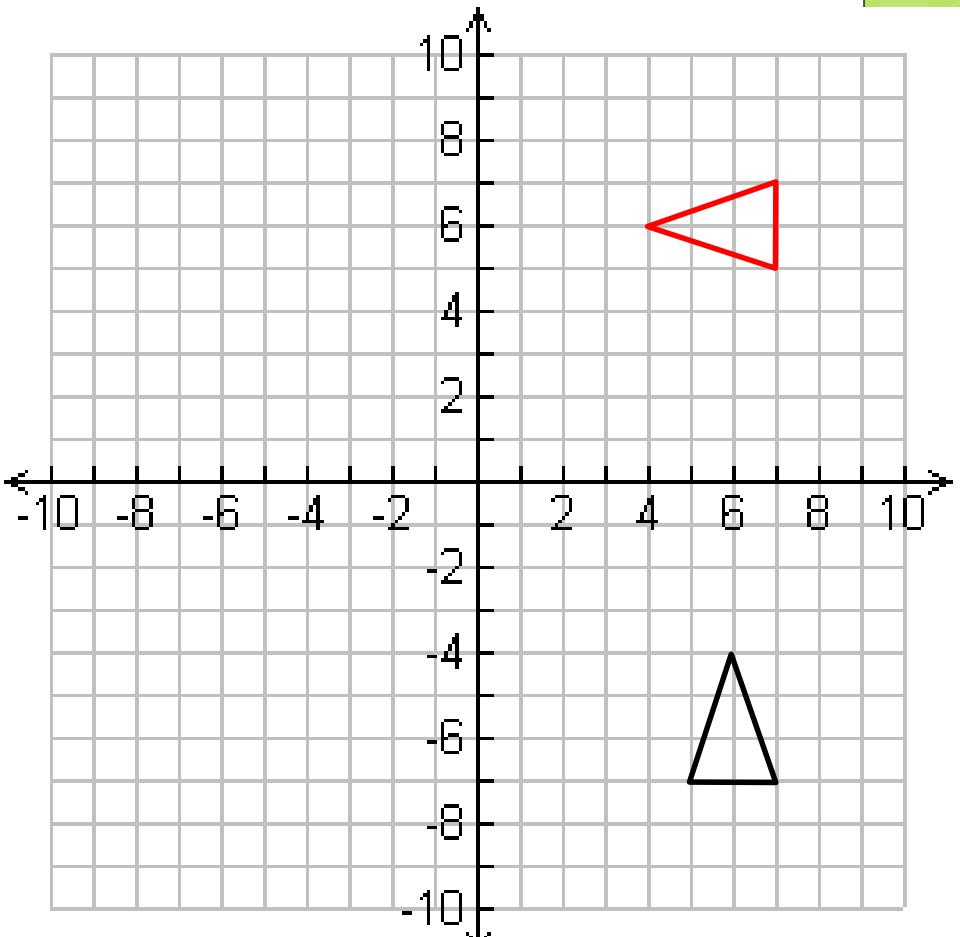
A triangle was rotated **90° clockwise.**



More transformation problems…

ON GRAPH 3

- A triangle was rotated **270° counterclockwise**. The image is **D'(5, -7) E'(6,-4) F'(7, -7).** Draw the original triangle **DEF.**
- **In reverse: 270° clockwise**



A triangle was rotated **270° counterclockwise**.

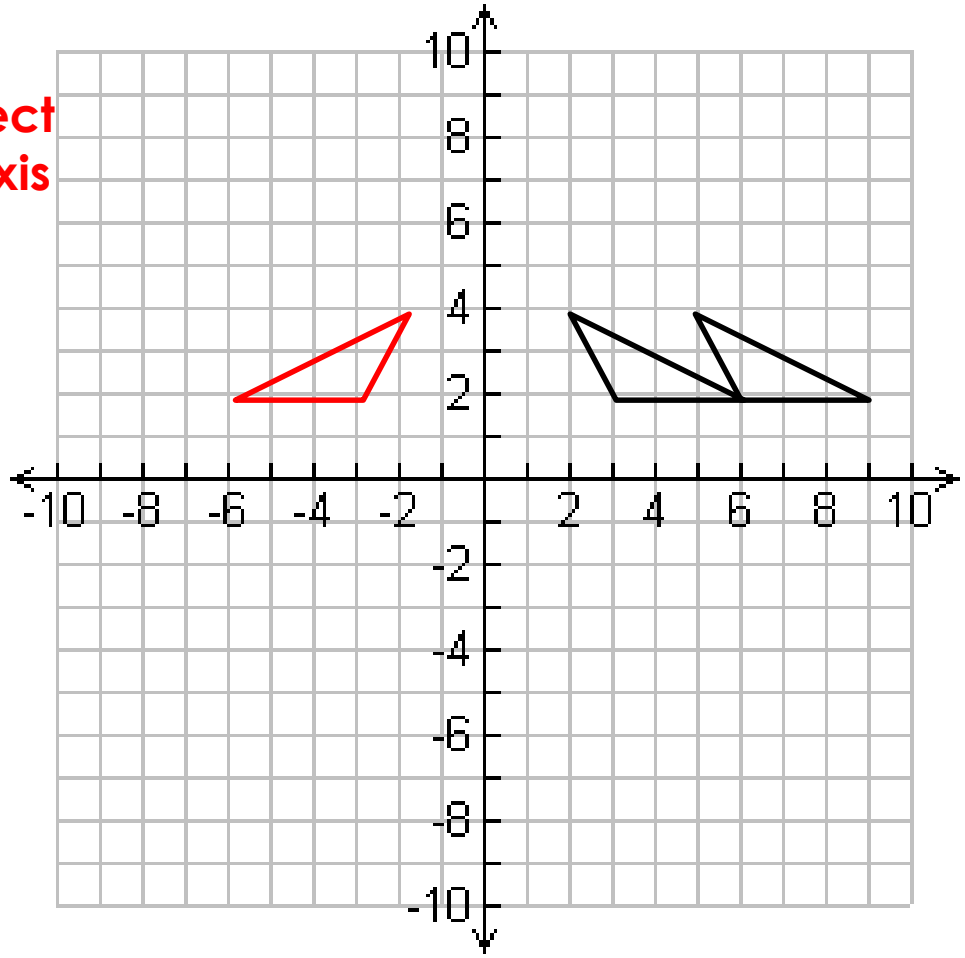
More transformation problems…

ON GRAPH 4

- A triangle was **reflected across the y-axis** and then **translated right 3 units.** The image is **A'(5, 4) B'(6, 2) C'(9, 2).** Draw the original triangle **ABC**.
- **In reverse: translate left 3 units, then reflect across the y-axis**

A triangle was **reflected across the y-axis** and then **translated right 3 units.**

In reverse: translate <u>left</u> 3 units, then reflect across the y-axis



Doing Directions in Reverse

- **Start with the last step and do all steps in the opposite direction!**

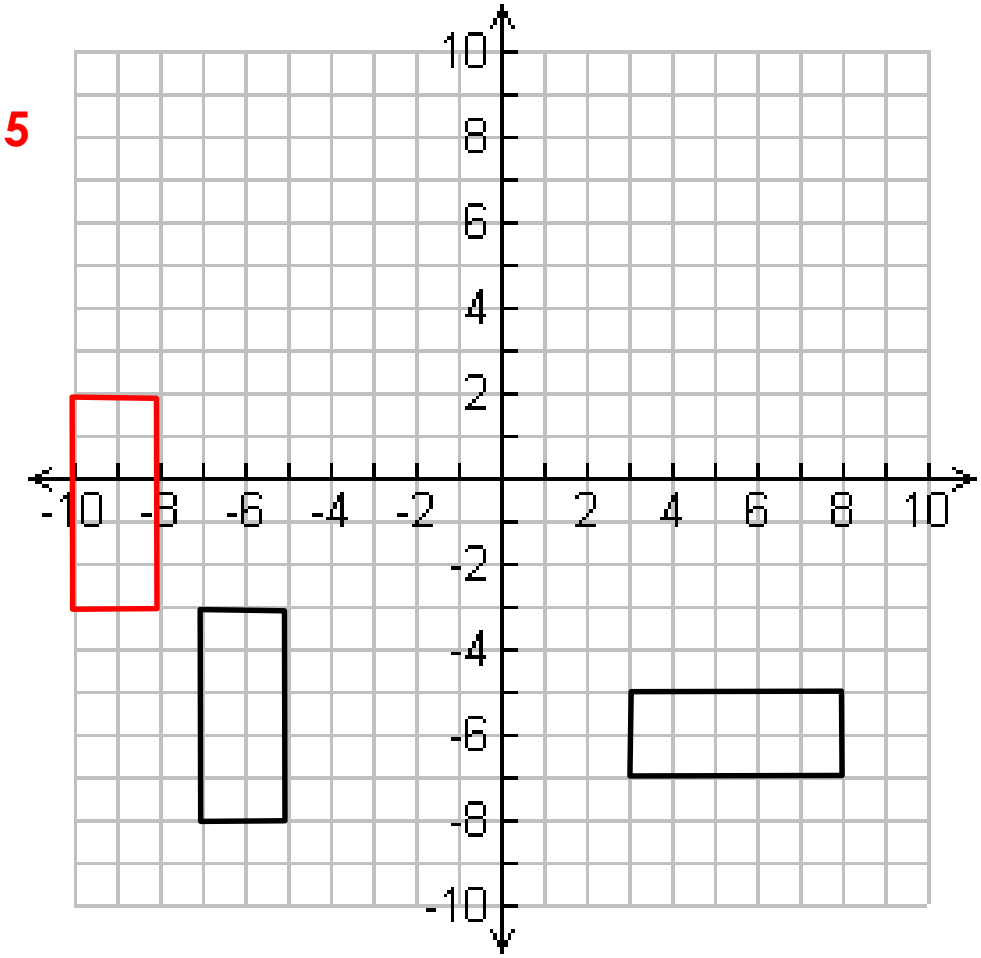
More transformation problems…

ON GRAPH 5

- A rectangle was translated **3 units right and 5 units down**, and then **rotated 90° counterclockwise**. The image is **D'(3,-7) E'(8,-7) F'(8, -5) G'(3, -5).** Draw the original rectangle **DEFG.**
- **In reverse: rotate 90° clockwise, then translate 5 up and 3 left**

A rectangle was translated **3 units right and 5 units down**, and then **rotated 90° counterclockwise**.

In reverse: rotate 90° clockwise, then translate 5 up and 3 left



More transformation problems…

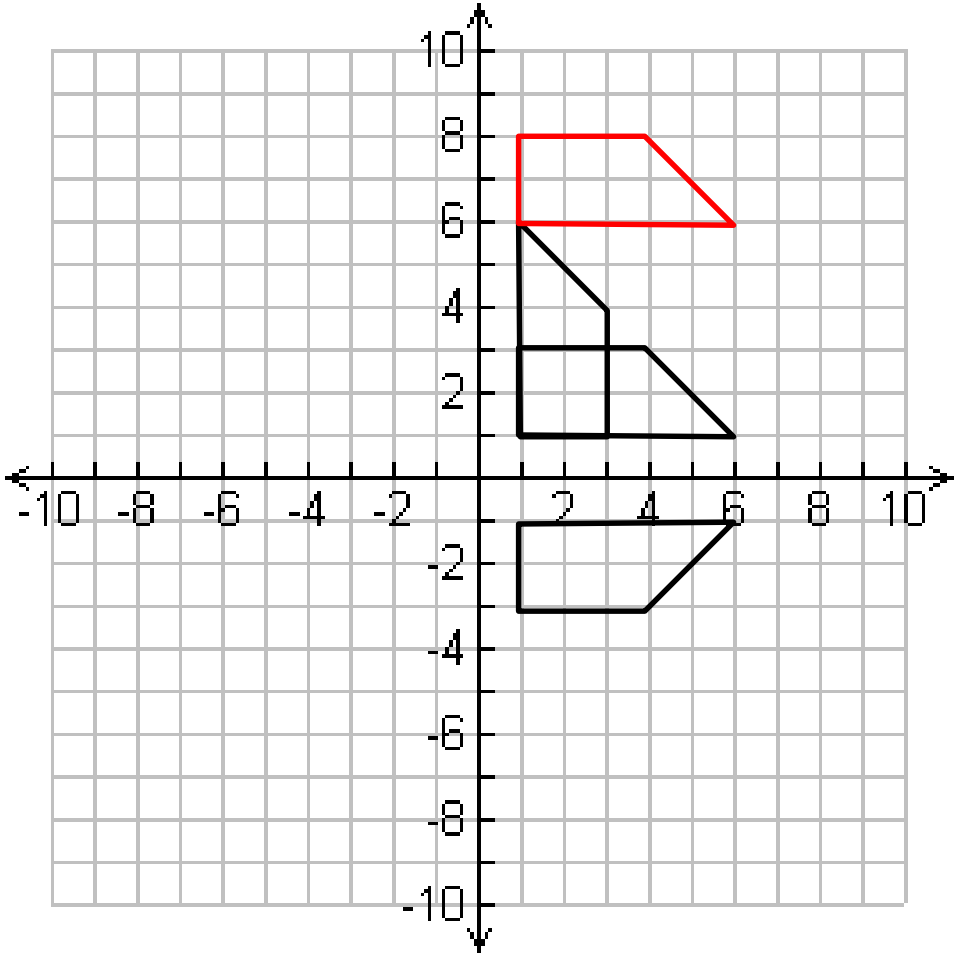
ON GRAPH 6

- A trapezoid was **translated 5 units down**, then **reflected across the x-axis** and then **rotated 270° clockwise.** The image is **A'(1, 6) B'(1, 1) C'(3, 1) D'(3, 4).** Draw the original trapezoid **ABCD**.
- **In reverse: rotate 270° counterclockwise, then reflect across the x-axis, then translate 5 units up.**

In reverse:

- **rotate 270° counterclockwise**
- **then reflect across the x-axis**
- **then translate 5 units up.**

A trapezoid was **translated 5 units down**, then **reflected across the x-axis** and then **rotated 270° clockwise**.



HOMEWORK:

- Do graph #6