

## Warm - Up

If point A (4,2) is transformed to A'(-4,-2) what transformation(s) occurred?

A rotation of  $180^\circ$  about the origin.

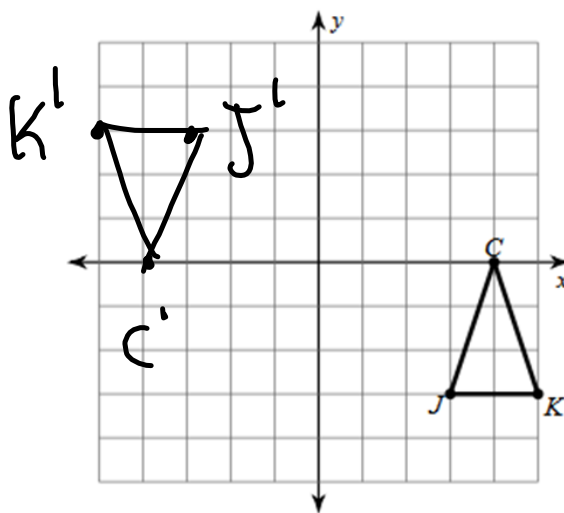
Factor the following:  $3x^2+2x-16$

$$(3x-8)(x+2)$$

## Goals for today

- Be able to rotate figures or points from a center not at the origin.
- Be able to reflect figures or points over any horizontal or vertical line.

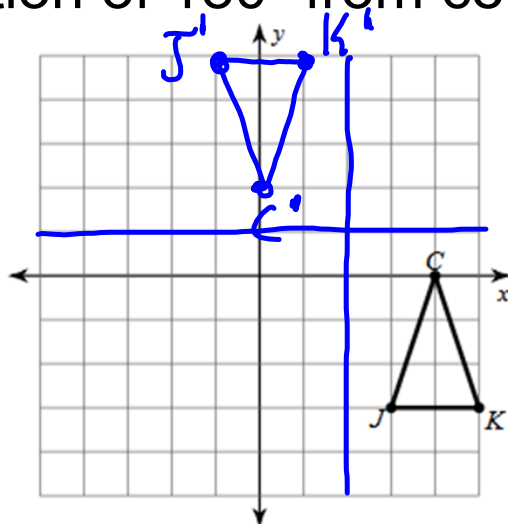
Rotate the following figure 180 degrees with center at the origin.



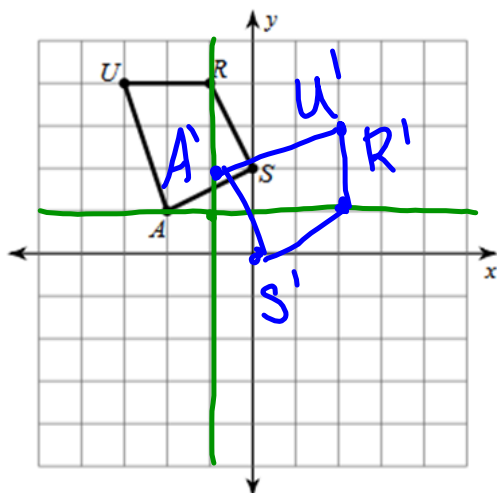
What if the rotation is not  
about the origin?!?!

# Rotational from a point

Rotation of  $180^\circ$  from center  $(2,1)$



Rotation of  $270^\circ$  CCW  
with origin at  $(-1,1)$



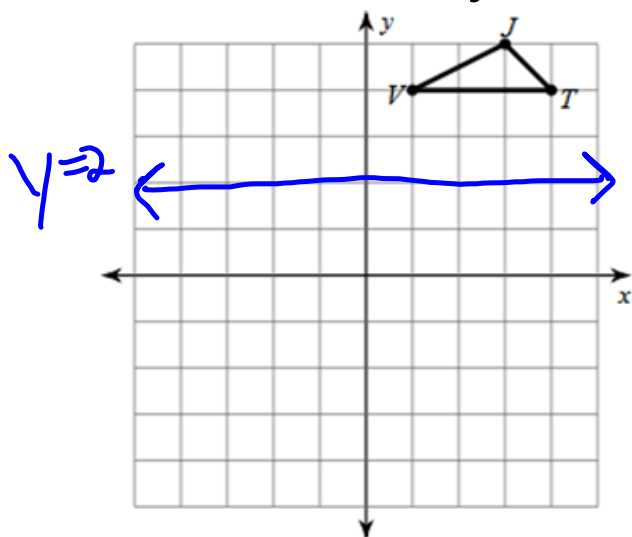
Practice:

1 and 3

What if a reflection is not  
over an axis?!?!?



Reflection over given line  
Reflect over  $y = 2$



Reflection over given line  
Reflect over  $x = 2$

