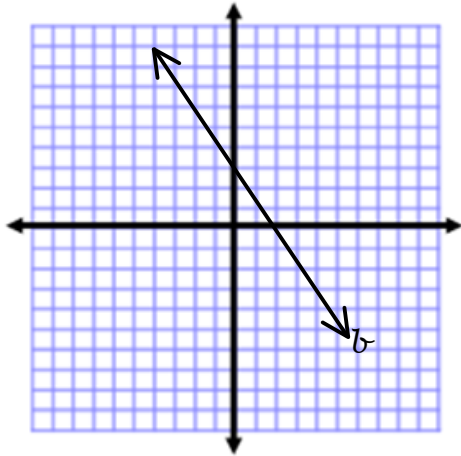I can write equations of parallel and perpendicular lines.
Using what you remember about transformations:
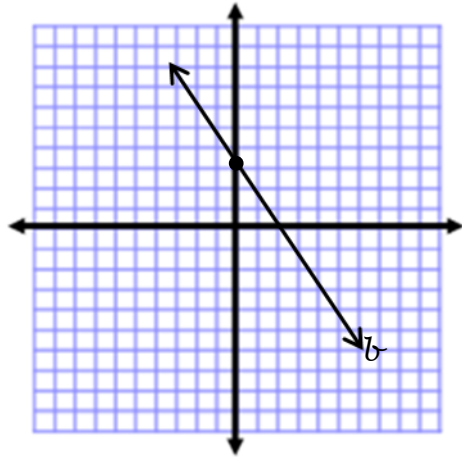
1. Translate the graphed line 3 units to the right.
   Label your new line a.

Find the slope of line b: _____
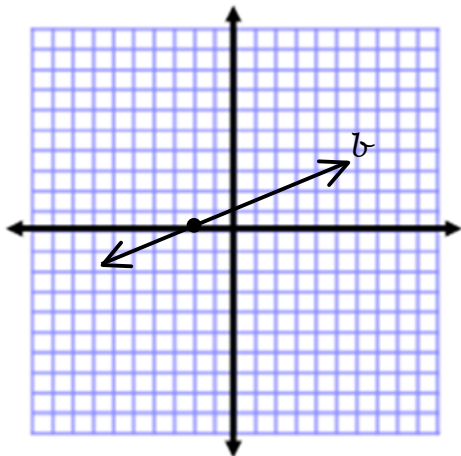
Find the slope of line a: _____

2. Rotate the line 90° clockwise about the origin.
   Label the new line a.

Find the slope of line b: _____

Find the slope of line a: _____

3. Rotate the line 90° counter-clockwise about the origin.
   Label the new line a.

Find the slope of line b: _____

Find the slope of line a: _____

Summarize:

The slopes of _____ lines are _____.

The slopes of _____ lines are _____

_____.

The symbol for slope is _____.

The formula for slope is _____.

The symbol for the y-intercept is _____.

I can write equations of parallel and perpendicular lines.

Using Slope to write the Equation of the Line

Write the equation of the line through (0, 9) and (1, 5).

Write the equation of the line through the points (-3, 2) and (-4, 5).

Writing Equations of Parallel and Perpendicular Lines

Example: Write the equation for a line parallel to one with m = 2 and passing through the point (3, 7).

Example: Write the equation for a line perpendicular to one with $m = \dfrac{3}{2}$ and passing through the point (3, 5).

Example: Write the equation for a line through the point (-9, 5):

     a. parallel to y = 9x + 3   b. perpendicular to y = 9x + 3

Example: Are the following lines parallel, perpendicular, or neither? $7x - 5y = 10$ and $y = \dfrac{5}{7}x + 4$