5.1 & 5.2 Write Equations in Slope-Intercept Form

Slope-Intercept Form: Ex:)

(solved for y, and the term with an x comes first on the right side of the equal sign)

To write the equation of a line in slope-intercept form, we NEED to know/find:

- The
- The

We will be given info about the line that we're being asked to write the equation of. Our job is to figure out _____ and the _____ using the info we're given. Sometimes, we're given one of these right off the bat!

Right away, write $y = mx + b$ to remind yourself that your final answer must be an equation in this form.

Write $m =$ and $b =$ to remind yourself what you need to find in order to write the equation. Fill in what m equals and what b equals as you figure them out.

There are 2 different combinations of information that can be given.....

When you're given **the slope**, and **a point** that the line passes through (another way to word it is to say "a point on the line)

Steps:	Example: Write the equation of the line in slope-intercept form that passes through the point and has a slope of
1.) Write $y = mx + b$ to remind yourself that your final answer must be an equation in this form Also write $m =$ and $b =$ And fill in the slope that you're given for m	
2.) Label the numbers in the given coordinate point –> the first number is x and the second is y	
3.) Plug the slope (m), x, and y into the equation $y = mx + b$ and solve for b. above (from info for step 1) fill in what b equals	
4.) Write your equation by plugging m and b into $y = mx + b$	

When you're given **2 points** that the line passes through:

Steps:	Example: Write the equation of the line in slope-intercept form that passes through the points
1.) Write $y = mx + b$ to remind yourself that your final answer must be an equation in this form Also write $m =$ and $b =$	
2.) Find the slope of the line first: a.) Label the numbers in each coordinate point: first coordinate point (x_1, y_1) Second coordinate point (x_2, y_2) b.) Plug into the formula for slope $m = \frac{y_2 - y_1}{x_2 - x_1}$ and simplify	
3.) Pick one of the two coordinate points. Plug in the slope (m), the x value of the coordinate point, and the y value of the coordinate point into the equation $y = mx + b$ and solve for b. above (from info for step 1) fill in what b equals	
4.) Write your equation by plugging m and b into $y = mx + b$	