Section 6.6 -Equation of a Line Given Two Points

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Remember: You can write the equation of a line once you know the slope and y-intercept.

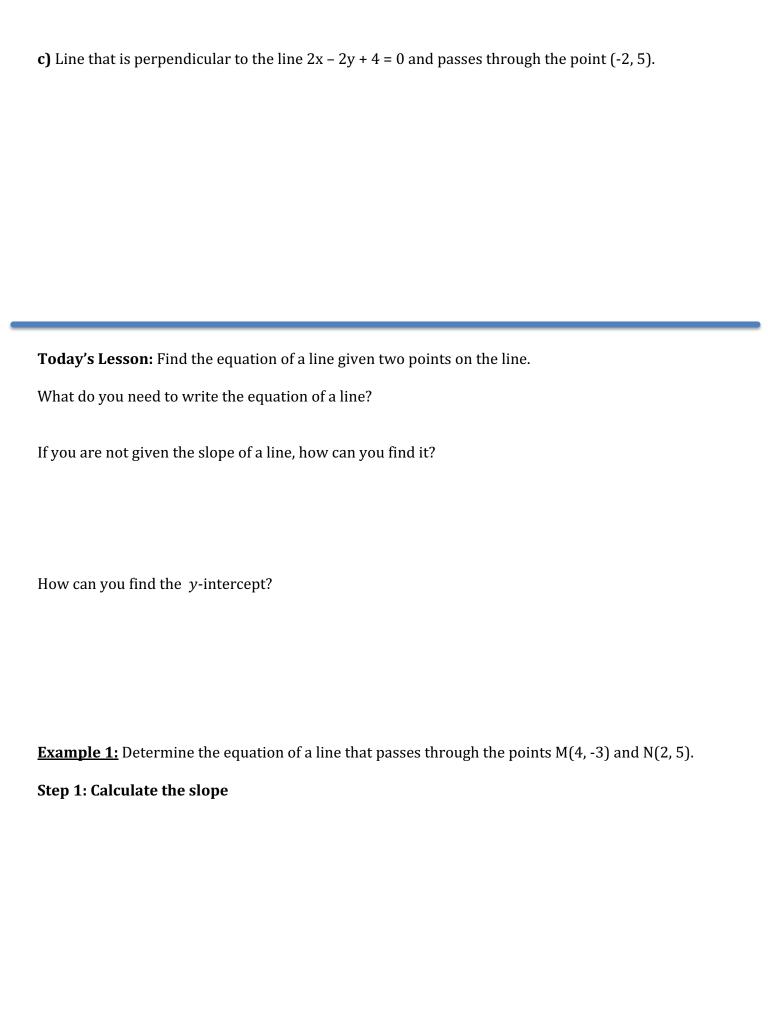
$$y = mx + b$$
Slope y-intercept

DO IT NOW!

Instructions: Write the equation of the following lines:

a) Line with a slope of $\frac{3}{5}$ that passes through the point B(-5, 4).

b) Line that is parallel to the line y = 2x-7 and passes through the point (1, -3).



Step 2: Find the y-intercept	Note: to find the y-intercept you can use any point that is on the line for your x and y values.
Step 3: Write the equation of the line	
Example 2: Determine the equation of a line that passes through the points P((0, 4) and Q(7, 0).
Step 1: Calculate the slope Step 2: Find the y-int	ercept

Step 3: Write the equation of the line

Example 3: Determine the equation of a line that passes through the points A(-4, 2) and B(8, 11).	
Step 1: Calculate the slope	Step 2: Find the y-intercept
Step 3: Write the equation of the line	
Example 4: On your own determine the equation of the line that passes through the points $A(2,-4)$ and $B(5,5)$	
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Example 5:

a) An appliance repair company charges \$205 for a repair that takes 3 hours. The same company charges \$505 for a repair that takes 8 hours. Determine an equation that represents the cost of a repair based on the number of hours that the repair takes.		
Hint: you can write two coordinate points with the information given. (ind. variable, dep. variable)		
b) What is the cost of a repair that takes 7 hours?		
c) If a repair costs \$385, how many hours does it take?		
Consolidate:		
To write the equation of a line you need the and		
If you are not given the slope you can find it if you have on the line by using the		
Formula:		