Exploring Lines

Recall that the equation of a line has the standard form $Ax + By = C$, where A, B, and C are all constant numbers and x and y are variables. For example, $3x - 7y = -12$ is the equation of a line. In this particular case, A = 3, B = -7, and C = -12.

Another way of writing the equation of a line is in **slope-intercept** form. This form looks like this: $y = mx + b$. In this case, m is the slope of the line and b is the y-intercept (where the line crosses the y-axis). It should be noted at this point that the "b" in this equation and the B is the previous equation. The slope-intercept form is generally more useful for what we do in algebra.

Equation of line	**A**	**B**	$\frac{A}{B}$	**Slope of the line**
$2x + y = 5$				
$3x - y = 2$				
$-x + 3y = 6$				
$-2x + 5y = 7$				
$5x + 2y = 11$				
$5x - 15y = -6$				
$y - x = 4$				

1) In terms of A and B, what is the slope of the line determined by $Ax + By = C$?

2) What do the slope and the constant C have to do with each other, if anything?

3) Given the equation $2x - 3y = -7$, use what you've discovered to find the slope of this line.