Graph Slope-Intercept Form Script

To graph an equation that's given in the slope-intercept form, it's simply a matter of identifying two or three points on the graph so I can connect them with a line. The slope-intercept equation gives me enough information to do this. I'm going to first start with the intercept. The intercept of three is three units up on the y-axis, so I already have one point. Now, I need to find at least one other and sometimes two to make sure that you get the line correct. To do that, I'm going to take the slope. Remember, the slope is equal to rise over run and a negative four slope as saying negative four over one. But, remember, a negative tells me in the rise, a negative tells me to go down. And, so in this case, I need to go down four and over one, the positive tells me to go right. So, this is the next point. And, I can continue to do this, down four, over one until I feel I have enough points. I have three points now, I can connect this line. So, I have graphed the equation y equals negative four x plus three using the intercept and the slope, rise over run, to find several points on the graph.

Let's try this one. First, start with the y-intercept. The y-intercept in this equation is negative four. So, I down four units on the y-axis and plot a point. And my rise over run, or my slope, is actually given to me in fraction form, so the rise is three, and the run is five. They're both positive, so I need to go up and to the right. So, I go up three and to the right five and plot a point. I can go up three and to the right five and plot another point. And, now I have enough points on my graph to draw my line.

And one more, but this one is not in slope-intercept form, so the first thing I need to do is isolate y so that I can get it in slope-intercept form. So, I'm going to subtract four x from both sides—I get negative two y is equal to ten minus four x. I divide by negative two—I get y is equal to, ten over negative two is five, four over two is two, plus two x, because my two negative signs make positive. And so, I'm going to just re-write this, switch the order, so that my equation is in slope intercept form. So, now, I'm going to use the intercept of negative five, which is five units down on the y-axis and the slope of two, rise over run, is equal to two over one. So, rise two, up two, run one; rise two, run one. And, now I have enough points to connect and draw my line.