Slope/Equation/Chart/Graph/Definition Extravaganza

Connecting to… Producing…	Two points as for an *x-y* chart	Equation	Graph of line	Slope = *m*
Starting with… Two points for an *x-y* chart		With the two points in chart, add a third general point (*x*,*y*). Write slope two ways, and set those equal. Solve for *y*.	Graph the points and connect with a line.	Chose either first or second *y*; subtract other. Divide result by difference of two *x* values, subtracted in the same order.
Starting with… Equation of line	Make *x-y* chart, select two *x* values, and compute corresponding *y* values.		Generate the two sets of coordinates as described to the left, graph, and connect with a line.	Solve for *y*, writing *x* term and constant term distinctly. Coefficient of *x* is slope *m*.
Starting with… Graph of line	Choose two points on line, and write these in *x-y* chart.	With two points in chart (see cell to left), add general point (*x*,*y*). Write slope two ways; set equal. Solve for *y*.		Choose two points on line, and write these in *x-y* chart. Follow instructions in the cell atop this column.
Starting with… Slope = *m** and point P = (x_1,y_1).	Graph point. Move pencil up/down for *y* change, then left/right for *x* change, then mark new point.	Put (x_1,y_1) in chart. Add second general point (*x*,*y*). Set $\frac{y-y_1}{x-x_1}$ equal to given *m*. Cross-multiply	Graph point. Move pencil up/down for *y* change, then left/right for *x* change, then mark new point. Connect two points with a line.	

*If *m* is negative, assign negative sign to either numerator or denominator (never both) to start.