

Section 4.1 / Problem 4: Example of Graphing Inequalities in WebAssign Graphing Tool

Section 4.1 / Problem 4: Graph the region given by the set of inequalities

- (1) $x + 2y \leq 48$; (2) $x + y \leq 30$;
 (3) $2x + y \leq 50$; (4) $x \geq 0$; (5) $y \geq 0$

STEP 1: Graph a line for EVERY inequality. In this example you will graph 5 lines. You need to find a couple points on each line that are in the graphing window. We will discuss in lecture how you can quickly find these....

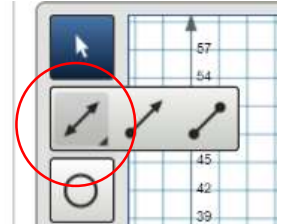
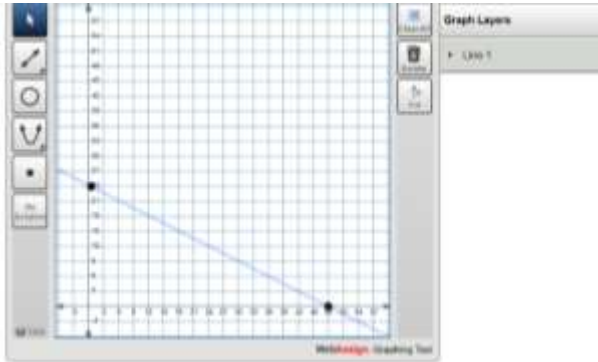
$x+2y = 48$ goes thru $(0,24)$ and $(48,0)$; $x + y = 30$ goes thru $(0,30)$ and $(30,0)$;
 $2x + y = 50$ goes thru $(0,50)$ and $(25,0)$; $x = 0$ goes thru $(0,0)$ and $(0,10)$. $y = 0$ goes thru $(0,0)$ and $(5,0)$.

Plot each line with 3 clicks as follows:

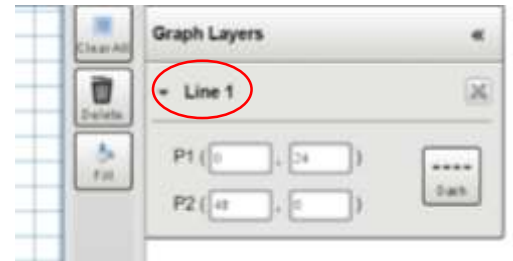
(a) 1 Click - Click on the double-arrow line (do not click "ray" or "line segment").

(b) 2 More Clicks - Click on the two points.

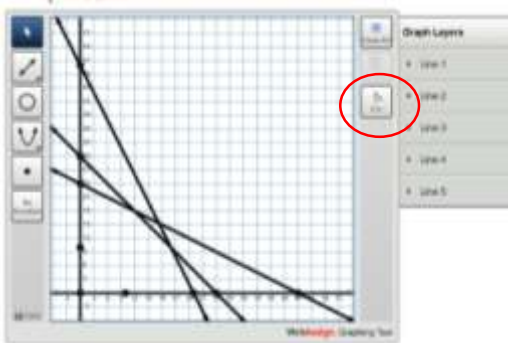
Here I clicked on $(0,24)$ and $(48,0)$ and the line appeared...



NOTE: If you click on the link that says "Line 1" you can see and adjust the points you clicked, it looks like this... (please check this for each line)



Here is what it looks like after I plotted all 5 lines...



STEP 2: Click "Fill" (shown circled above) and click any point in the region that satisfies all the inequalities.

In this case $(1,1)$ works in all the inequalities you click any point the region containing $(1,0)$. Here is the answer with a "Green Check" for correct, success!

