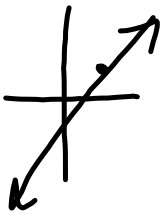
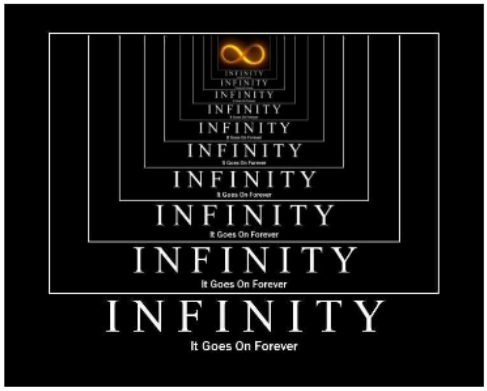
∞ Possibilities

A 'Region' of Correct Answers



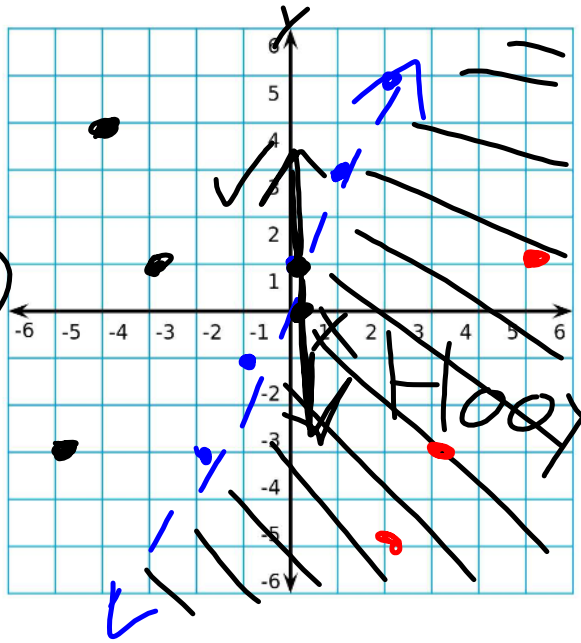
A line ($y - mx + b$) is defined as the solution set to the equation. Ie: every possible solution to the equation is a dot (3, 2). All of the dots that satisfy the equation look like a line.



When we are working with inequalities ($y \leq mx - b$) we have a boundary that separates the cartesian plane into two halves. We need to distinguish which side of the line (and if the line $<, \leq$) contains valid solutions.

$y > 2x + 1$ m = 2 b = 1

We need to decide which side of the line contains valid solutions.



1) TEST (0,0)

$0 > 2(0) + 1$

$0 > 1$

2) look at y.

Hooyey

In basketball you score 2 points for a field goal and 1 point for a free throw. Suppose that you have scored at least 3 points in every game this season, and have a season high score of at most 15 points in one game. How many field goals and free throws could you have made in any one game?

A. Write the system of equations
B. Graph (showing the solution region)
C. Write one reasonable solution in sentence form.

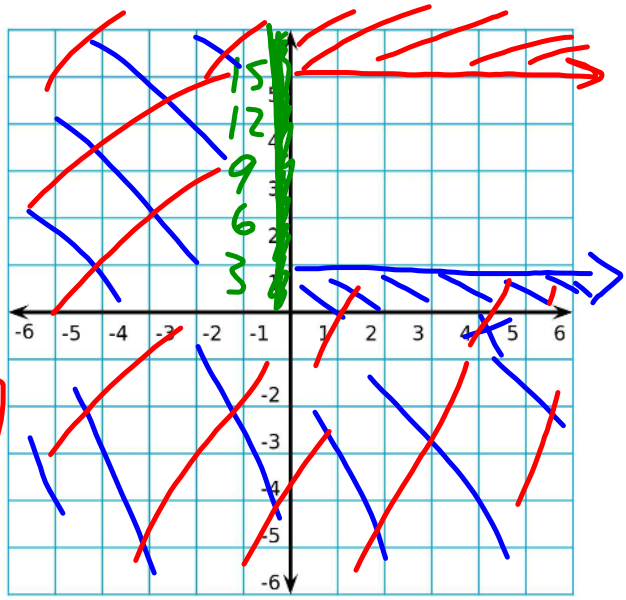
$p \geq 3$

$p \leq 15$

$2b + f = p$

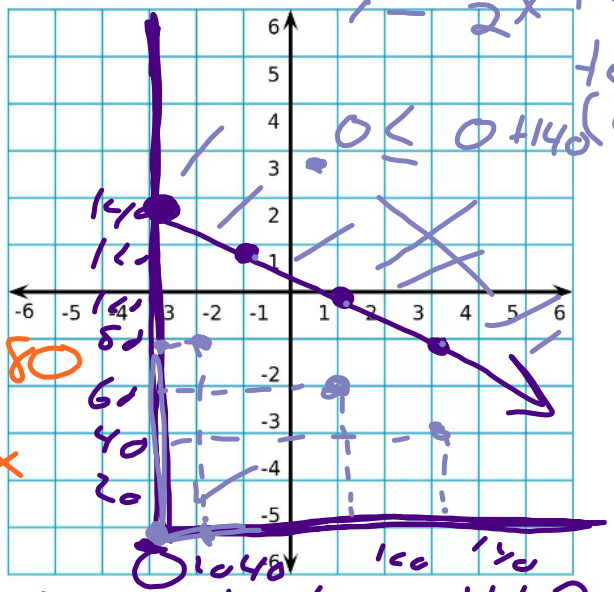
$2b + f \leq 15$

$f \leq 15 - 2b$



A radio station is giving away tickets to a play. They plan to give away tickets for seats that cost $10 and $20. They want to give away at least 20 tickets. The total cost of all the tickets they give away can be no more than $280.

A. Write the system of equations
B. Graph (showing the solution region)
C. Write one reasonable solution in sentence form.



$y \leq -\frac{1}{2}x + 140$

test (0,0)

$0 \leq 0 + 140$

$10x + 20y \leq 280$

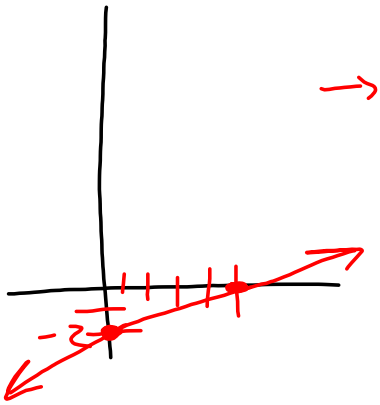
$20y \leq 280 - 10x$

$y \leq \frac{280 - 10x}{20}$

$y \leq 140 - \frac{1}{2}x$

$m = -\frac{1}{2}$ $b = 140$

Assigned Work: 6.3 page 317
#1, 2, 4-8, 10



$y = mx + b$

$2x - 5y \leq 10$

$-5y \leq 10 - 2x$

$\frac{-5y}{-5} \leq \frac{10 - 2x}{-5}$

$y \geq -2 + \frac{2}{5}x$

$m = \frac{2}{5}$

$b = -2$

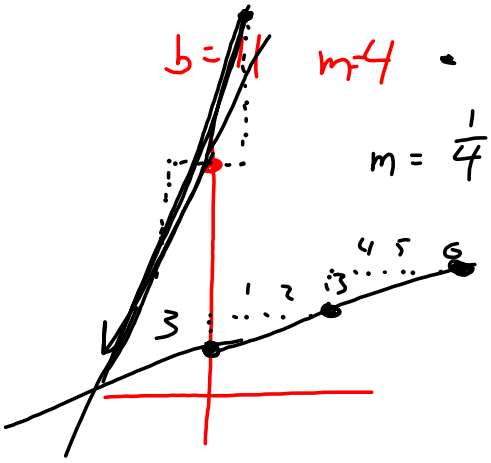
$3x - 2y + 1 > 2$

$-2y + 1 > 2 - 3x$

$\frac{-2y}{-2} > \frac{1 - 3x}{-2}$

$y < \frac{-1}{2} + \frac{3x}{2}$

$m = \frac{3}{2}$ $b = -\frac{1}{2}$



$b = 1$ $m = 4$

$m = \frac{1}{4}$ $b = 3$