5.6

January 9

Skills:

Solve the equation for x:

$3x - 2(x+5) = x + 12$

$3x - 2x - 10 = x + 12$

$1x - 10 = x + 12$

$-x \quad -x$

$-10 \neq 12$ no solution

What is a system of inequalities? (not equal → >, <, ≥, ≤)

- A set of two or more inequalities that need to be satisfied simultaneously (at the same time)

What is the solution to a system of inequalities?

- A point where all of the inequalities true.
- All points in the region where the half planes intersect (where the shaded areas are crossing)

To make a profit: (more)

$\begin{cases} 15c + 10d \geq \$320 \\ +20c + 8d \geq \$320 \\ 10c + 12d \geq \$320 \end{cases}$

$8c + 20d \leq \$320$

(15, 10)
(20, 12)
(10, 12)

This is not a solution

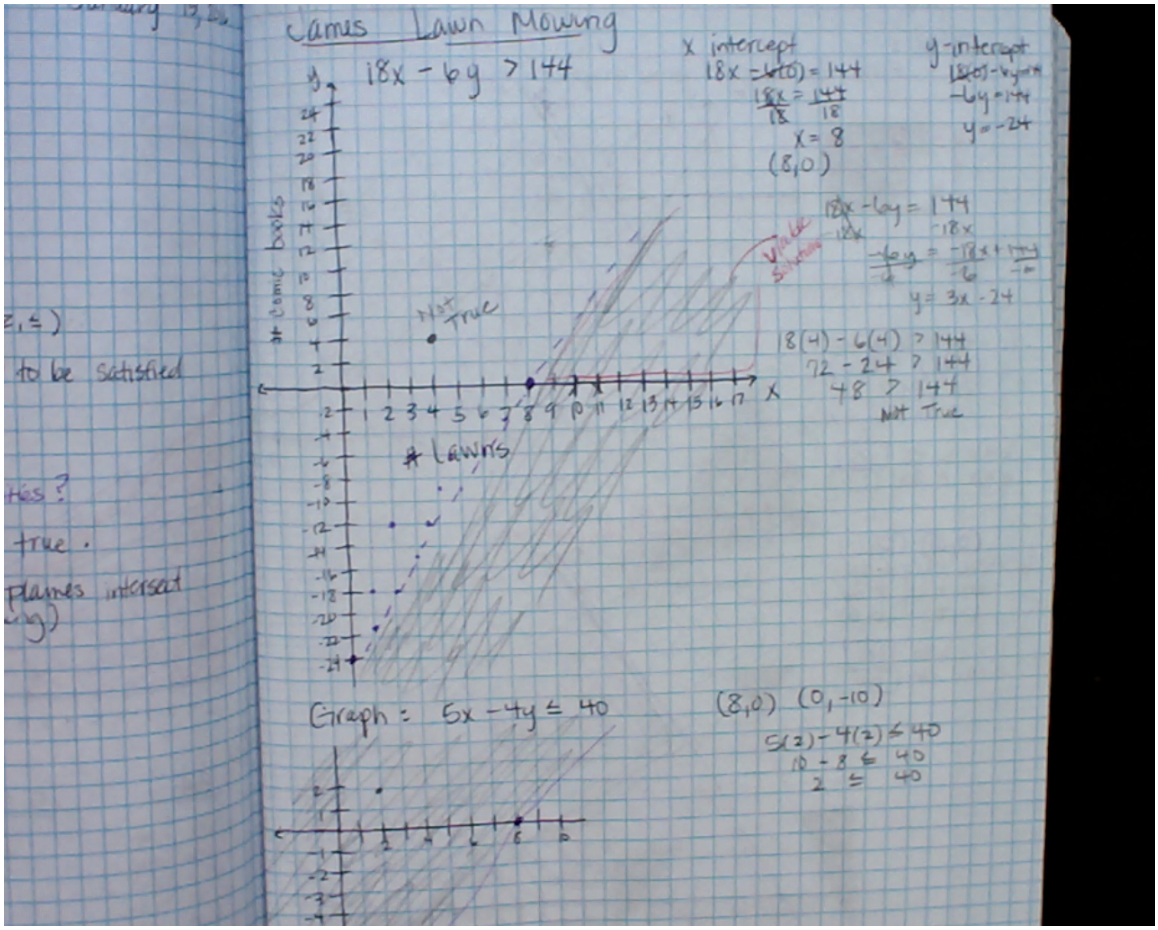
They need to be points

James

$18x -$

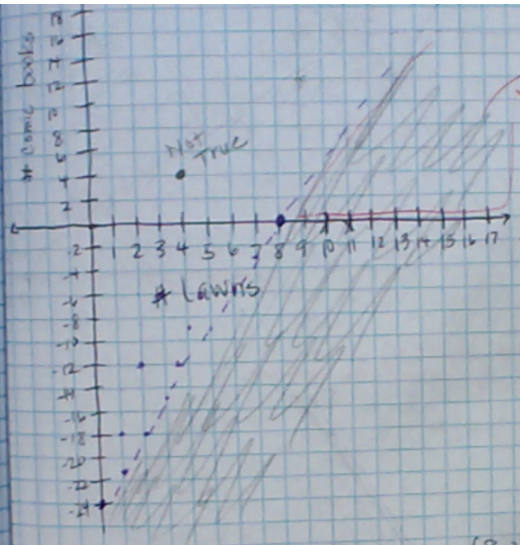
# comic books

Graph:


Games Lawn Mowing
18x - 6y > 144
x intercept
18x - 6(0) = 144
18x/18 = 144/18
x = 8
(8,0)
y-intercept
18(0) - 6y = 144
-6y = 144
y = -24
18x - 6y = 144
-18x -18x
-6y = -18x + 144
y = 3x - 24
Yellow Shading
18(4) - 6(4) ? 144
72 - 24 ? 144
48 ? 144
Not True
#1st True
# Comic books
# Lawns
Graph: 5x - 4y ≤ 40
(8,0) (0,-10)
5(2) - 4(2) ≤ 40
10 - 8 ≤ 40
2 ≤ 40

satisfied

intersect




$18x - 6y = 144$
$-18x \quad -18x$
$\frac{-6y}{-6} = \frac{-18x + 144}{-6}$
$y = 3x - 24$

Double Solution

$18(4) - 6(4) > 144$
$72 - 24 > 144$
$48 > 144$
Not True

1st True

Graph: $5x - 4y \leq 40$

(8,0) (0,-10)

$5(2) - 4(2) \leq 40$
$10 - 8 \leq 40$
$2 \leq 40$