System of Inequalities Word Problems

D. i. R. T.
Do   I   remember this

Graph the following inequalities.
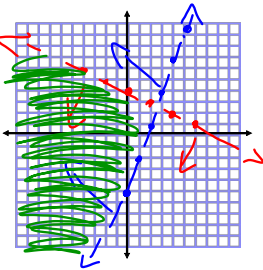
$y > 3x - 5$ $m = 3$ $b = -5$

$y < -1/2 x + 4$ $m = \frac{1}{2}$ $b = 4$

Solve

$2x^2 + 8x + 8 = 0$

$\frac{2}{3}x - 2x^2(2x + (x-4))$

Mar 28-2:44 PM

Unit F Part 2 Day 5 Application of Systems of Inequalities

Objective: Write an inequality to represent the given situation.
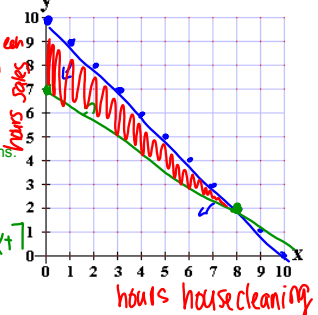Solve applications of linear systems of inequalities.

Aug 31-5:55 PM

You can work a total of no more than 10 hours each week at your two jobs. Housecleaning pays $5 per hour and your sales job pays $8 per hour. You need to earn at least $56 each week to pay your bills. Write a system of inequalities that shows the various numbers of hours you can work at each job.

a. Define the variables.
let $x = $ # hours housecleam
let $y = $ # hours sales

b. Find the statement sentences
$x + y \leq 10$
$5x + 8y \geq 56$

c. Find the solutions to the equations.
$y \leq -x + 10$
$\frac{8y}{8} \geq \frac{-5x + 56}{8}$ $y \geq -\frac{5}{8}x + 7$

Choose >, <, ≥, ≤
depending on what makes sense
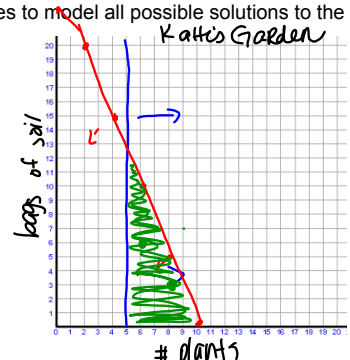BE SMART!

hours housecleaning

Mar 28-2:47 PM

Katte is buying plants and soil for her garden. The soil cost $4 per bag, and the plants cost $10 each. She wants to buy at least 5 plants. She cannot spend more than $100. Write and graph a system of linear inequalities to model all possible solutions to the situation.

Katte's Garden

let $x = $ # plants
let $y = $ bags soil

$4y + 10x \leq 100$

$x \geq 5$

$\frac{4y}{4} \leq \frac{-10x}{4} + \frac{100}{4}$

$y \leq -\frac{5}{2}x + 25$

plants

Mar 28-2:52 PM

Kelly can work for her dad and make $6.00 per hour, or she can work for Jana's Mowing Service and make $14.00 per hour. If she needs to make at least $84, and can only work 10 hours total. She can work at most 5 hours for Jana's Mowing Service. Write and graph a system of equations that represents all the possible solutions.

Kelly's Jobs

a. Write and graph a system of linear inequalities that describes the information given above.

let $x = $ # hours w/ dad
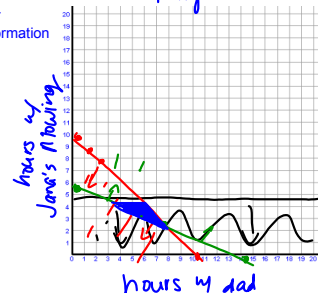let $y = $ # hours w/ JMS

$x + y \leq 10$
$6x + 14y \geq 84$
$y \leq 5$
$y \leq -x + 10$
$\frac{14y}{14} \geq \frac{-6x + 84}{14}$
$y \geq \frac{-3}{7}x + 6$

hours w/ dad

Mar 28-2:55 PM

You are selling pizzas to raise money for a school field trip. Cheese pizza cost $8 and pepperoni pizza cost $9. You need to sell at least two of each kind of pizza, and you want to sell at least $180 worth of pizza.

a. Write and graph a system of linear inequalities that represent the information given above.

let $x = $ # cheese
let $y = $ # pepperoni

$8x + 9y \geq 180$
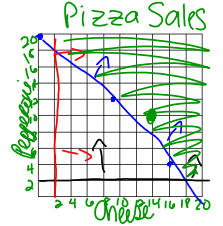$x \geq 2$
$y \geq 2$
$\frac{9y}{9} \geq \frac{-8x + 180}{9}$
$y \geq -\frac{8}{9}x + 20$

Pizza Sales

Cheese

b. You sell 14 cheese pizzas and 10 pepperoni pizzas. Did you reach your sales goal? Explain how you know.

Yes, b/c it falls in the shaded area

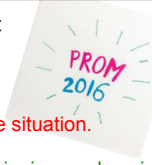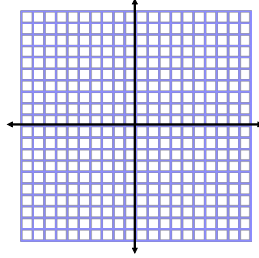Jan 28-6:24 PM

System of Inequalities Word Problems

The Junior-Senior Prom Committee must consist of 5 to 8 representatives from the junior and senior classes. The committee must include at least 2 juniors and at least 2 seniors.

PROM 2016

a. Write a system of inequalities to represent the situation.
b. Graph the system you wrote in part a.
c. Give two possible solutions for the number of juniors and seniors on the prom committee.

Aug 31-6:19 PM