Pick Up the Solutions
½ check answers

Let me know about HW Questions

Pick Up The Warm Up

4-87 a

$x - 3(y+2) = 6$
$-x \qquad\qquad -x$

$-3(y+2) = 6 - x$

$-3y - 6 = 6 - x$
$+6 \qquad +6$

$-3y = 12 - x$

$y = \frac{12 - x}{-3}$

$y = \frac{12}{-3} - \frac{x}{-3}$

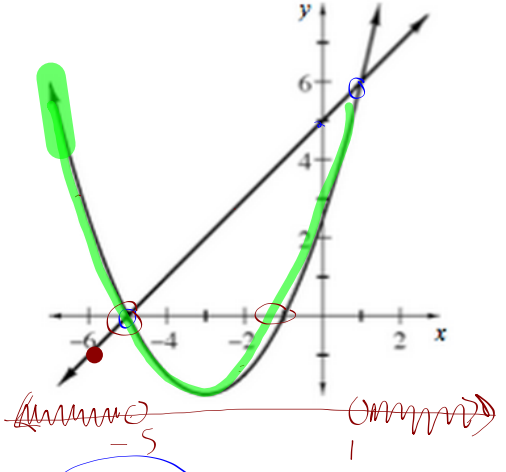
$y = -4 + \frac{x}{3}$

$\frac{1}{3}x$

4-87
b

a) **The equation of the parabola is:** $y = \frac{1}{2}(x+3)^2 - 2$

b) **Determine the equation of the line:** $y = x + 5$



c. Use your graph to solve $x+5 = \frac{1}{2}(x+3)^2 - 2$.

$x = -5$
$x = 1$

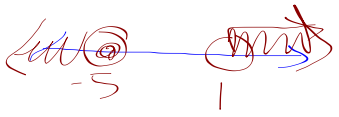
d. Use your graph to solve the system:

$y = \frac{1}{2}(x+3)^2 - 2$
$y = x + 5$

m=
t=
(-5,0) (1,6)
1
m=

e. Use your graph to solve the inequality $x+5 < \frac{1}{2}(x+3)^2 - 2$.

LINE Low Parab



$x < -5$ OR $x > 1$

f. Use your graph to solve $\frac{1}{2}(x+3)^2 - 2 = 0$.

Where does the parabola touch the x-axis

$x = -5$
1

I will not be available before or after school tomorrow.

I will be available before school on Thursday starting at 7:15 am.

[I'll also be available after school Thurs]

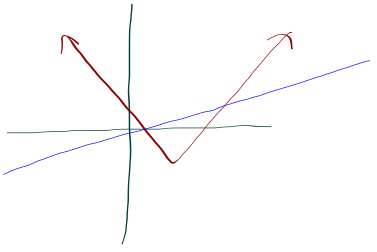
The faulty LCQ

Originally Question 3 was going to be about solving an absolute value equation

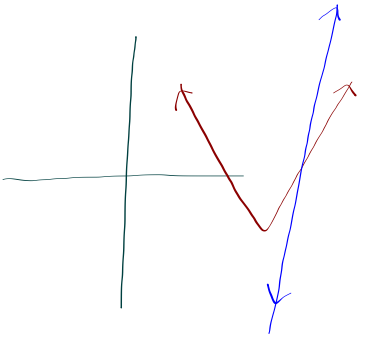
$|x-3| = 2x-12$ $|x-5| \geq 2x-7$

then I decided to change it to solving an inequality but I forgot to check out the solution first

$|x-3| \geq 2x-12$



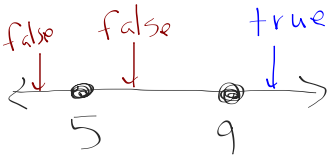
I thought I had ....



but instead I had

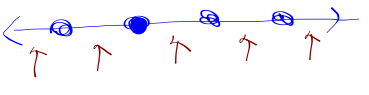
We did not spend enough time and look at them in depth enough for that situation

Boundary Point Method



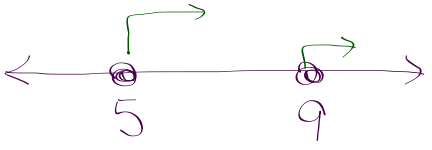
in more complex inequalities, all regions have to be checked

$x \geq 9$



directly

$x \geq 5$ and $x \geq 9$



then there is a misunderstanding about "solutions"

proving if $n = 3$ is a solution to an inequality

$6n^2 + n \leq 3n^2 + 7n$

$6(3)^2 + 3 \leq 3(3)^2 + 7(3)$

$57 \leq 48$

false

So $n = 3$ is not a solution

$n \neq 3$?

- See how systems of inequalities are used by businesses to help maximize profits.

(obviously a simplified version)

AIM → Use inequality constraints to solve a problem

← start at the top of a sheet
- Need space

Read through

p. 191

notes

4-79 The Toy Factory

cars
4 wheels
2 seats
1 gas tank

trucks
6 wheels
1 seat
3 gas tanks

36 wheels
14 seats
15 gas tanks

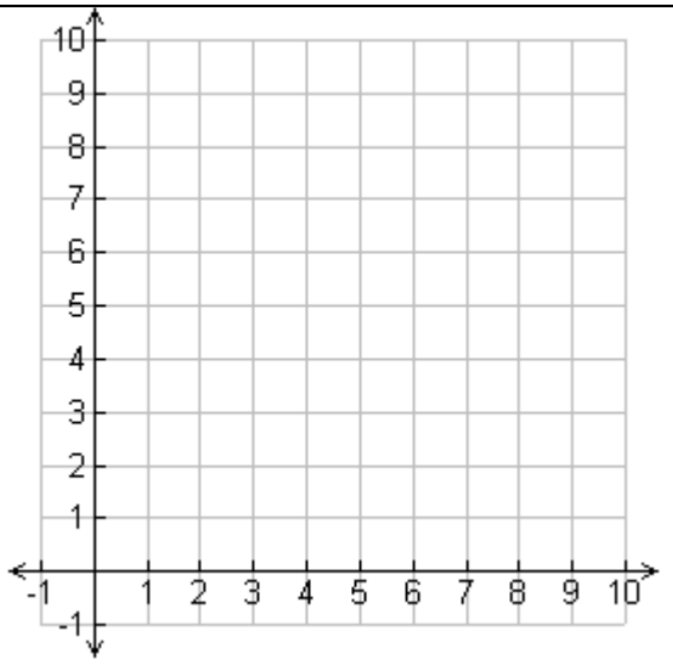
5 trucks 1 car

Make a list of ALL possible outcomes

Is it possible to make

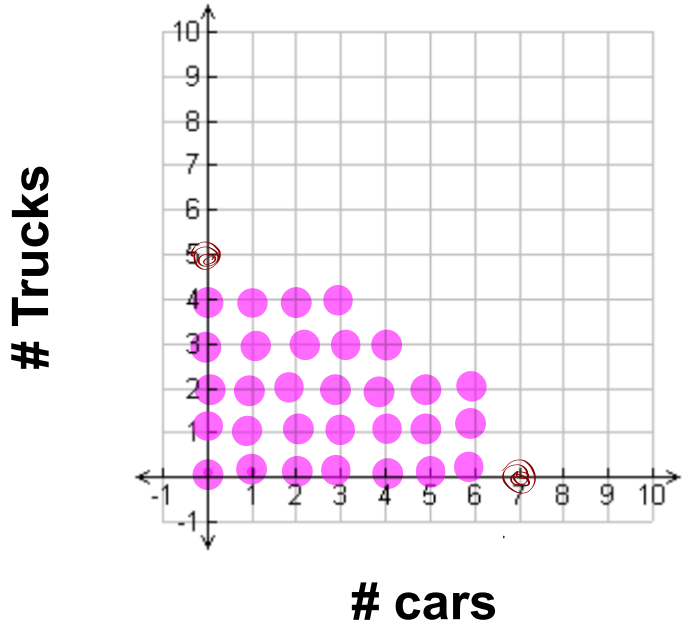
5 trucks and 1 car ?

cars, trucks
(,)



There is no obvious choice for the dependent and independent variable. The decision is arbitrary.

Go to question 4-80 b
(skip a)



3. The market has changed, and Otto can now make $2 for each truck but only $1 for each car. What is his best choice for the number of cars and the number of trucks to make in this situation? How can you be sure? Explain.

(cars, trucks)

(3, 4)

(3, 2)

(7, 0)

...

Profit $1 per car $2 per truck

1(3) + 2(4) = 11

1(3) + 2(2) = 7

1(7) + 2(0) = 7

don't need to do all - find highest profit

Move to 4-81 a and b

(a) CONSTRAINTS

Wheels: $4x + 6y \leq 36$

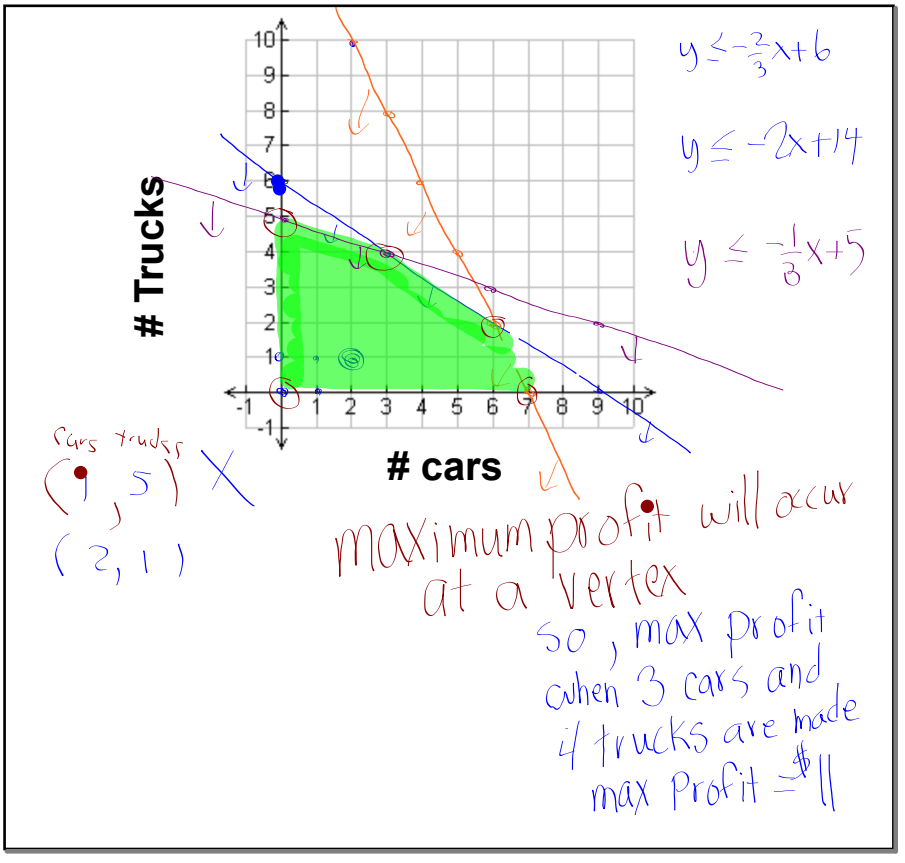
$6y \leq -4x + 36$

$y \leq -\frac{4}{6}x + 6$

$y \leq -\frac{2}{3}x + 6$

Seats: $2x + y \leq 14$

Tanks: $x + 3y \leq 15$



4.... 83, 85,95, 97