STEP 1 - Declare Variables
State Restrictions

STEP 2 - Create Linear Inequalities

STEP 3 - Graph Solution Set

STEP 4 - Answer question(s)

EXAMPLE #1:

To raise funds for π- day, the PI Committee has 500 T-shirts to sell.

They have two varieties:

#1. 'I 8 Sum π' or #2.'π- DAY 2018'.

They expect to sell at least twice as many of the first as the second. 1st depends on 2nd

* Independent vs Dependent

(What depends on what?)

$X \rightarrow$ Independent
$y \rightarrow$ dependent

shots on goal
vs
goals scored

(goals depends on shots)

a) Define the variables and restrictions. Write a system of linear inequalities that models the situation.

$X \rightarrow$ # of π day 2018 shirts
$y \rightarrow$ # of i 8 $\sum \pi$ shirts

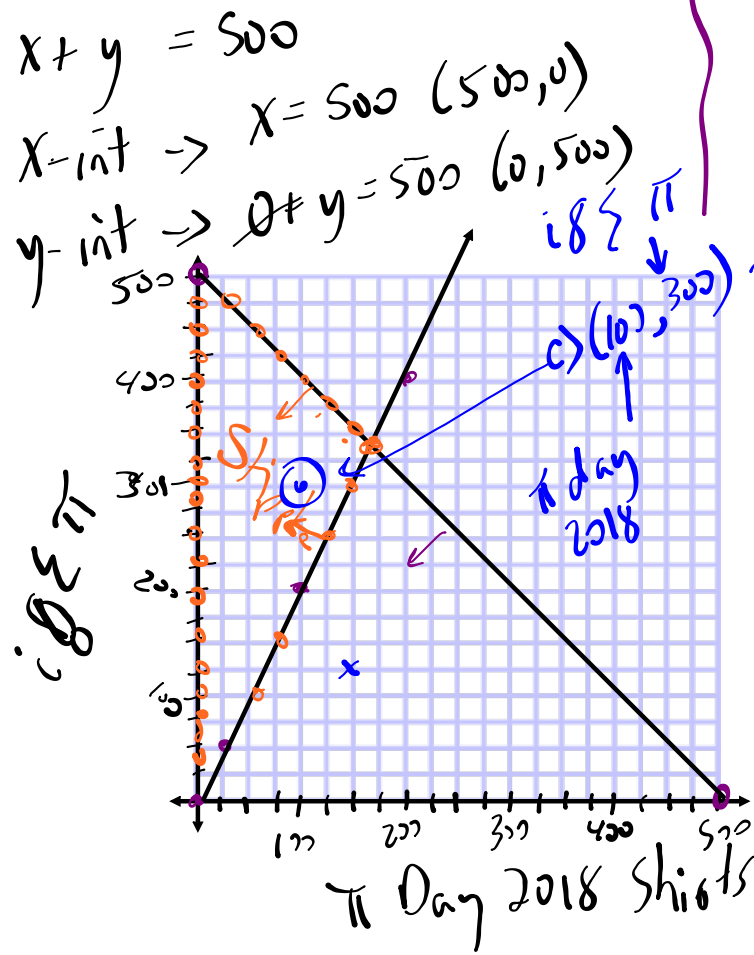$X \in W$ $y \in W$

b) Graph the system of inequalities. *at least ($\geq$) $y = 2x$

$X + y \leq 500$
$y \geq 2x$

c) State a combination of T-shirt sales.

x	y
10	20
100	200
200	400

$y = 2x$

$X + y = 500$

X-int $\rightarrow$ $X = 500$ $(500, 0)$

y-int $\rightarrow$ $0 + y = 500$ $(0, 500)$

i8$\sum \pi$

c) (10, 300) Test (150, 125)

π day 2018

$y \geq 2x$

$LS \geq RS$

$125 \mid 2(150)$

$125 \geq 300$ No

π Day 2018 Shirts

i8$\sum \pi$

QUIZ TIME - When Finished...

HOMEWORK...

Graphing a system of inequations

p. 225: #1 & 2

p. 235: #2, 5 & 6 *Word problem*