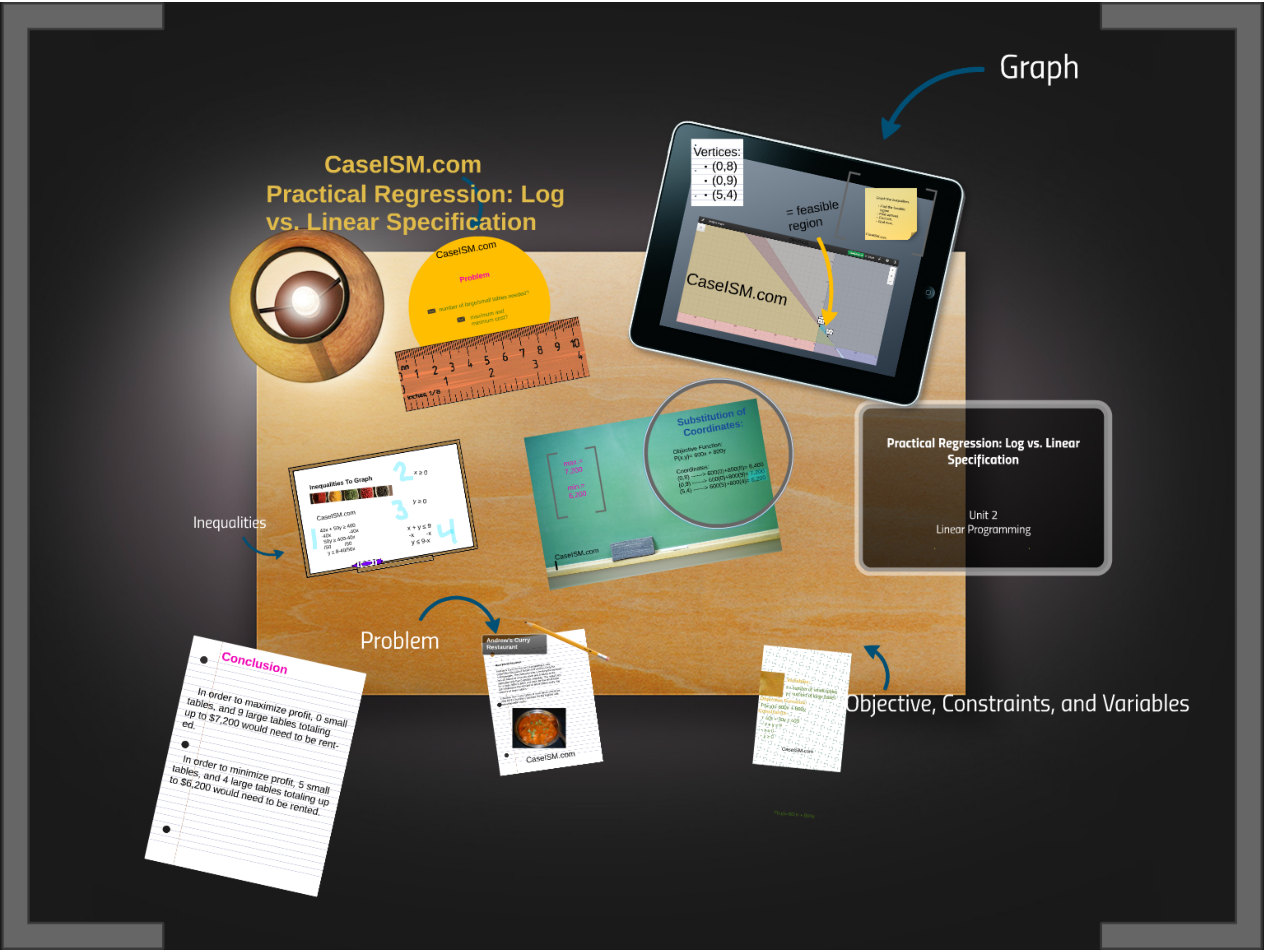
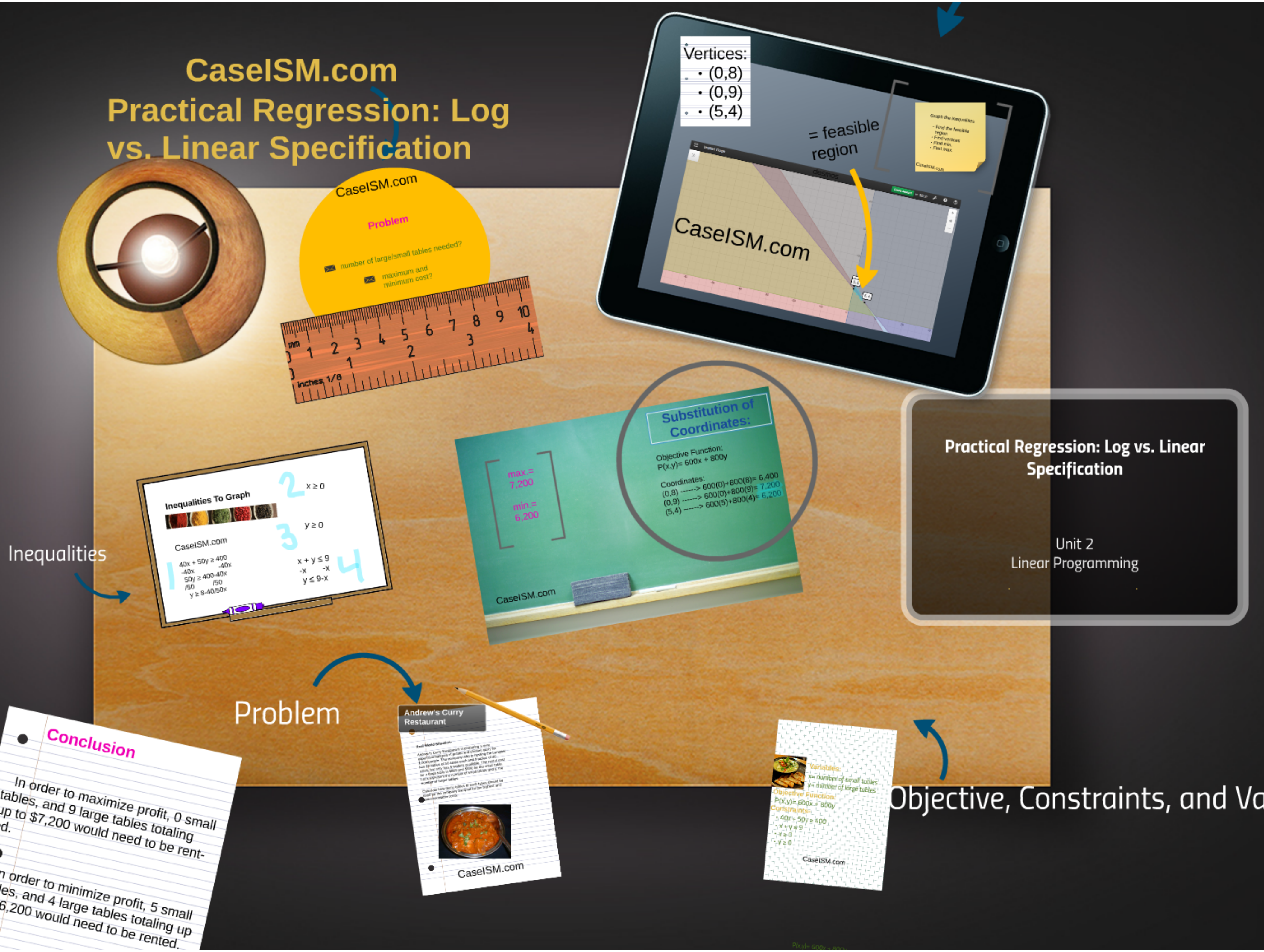


CaseISM.com
Practical Regression: Log vs. Linear Specification
Graph
Vertices:
• (0,8)
• (0,9)
• (5,4)
= feasible region
CaseISM.com
CaseISM.com
Problem
Practical Regression: Log vs. Linear Specification
Unit 2
Linear Programming
Inequalities
Inequalities To Graph
CaseISM.com
x ≥ 0
y ≥ 0
x + y ≤ 9
Substitution of Coordinates:
Objective Function:
P(x,y)= 600x + 800y
max.= 7,200
min.= 6,200
CaseISM.com
Problem
Andrew's Curry Restaurant
CaseISM.com
Objective, Constraints, and Variables
Conclusion
In order to maximize profit, 0 small tables, and 9 large tables totaling up to $7,200 would need to be rented.
In order to minimize profit, 5 small tables, and 4 large tables totaling up to $6,200 would need to be rented.



CaseISM.com
Practical Regression: Log vs. Linear Specification
CaseISM.com
Problem
number of large/small tables needed?
maximum and minimum cost?
Vertices:
• (0,8)
• (0,9)
• (5,4)
= feasible region
CaseISM.com
Inequalities To Graph
CaseISM.com
40x + 50y ≥ 400
y ≥ 8-40/50x
x ≥ 0
y ≥ 0
x + y ≤ 9
y ≤ 9-x
Inequalities
max = 7,200
min.= 6,200
Substitution of Coordinates:
Objective Function:
P(x,y)= 600x + 800y
Coordinates:
(0,8) ------> 600(0)+800(8)= 6,400
(0,9) ------> 600(0)+800(9)= 7,200
(5,4) ------> 600(5)+800(4)= 6,200
CaseISM.com
Practical Regression: Log vs. Linear Specification
Unit 2
Linear Programming
Problem
Andrew's Curry Restaurant
CaseISM.com
Conclusion
In order to maximize profit, 0 small tables, and 9 large tables totaling up to $7,200 would need to be rent-ed.
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Objective, Constraints, and Va
CaseISM.com

Andrew's Curry Restaurant

Real World Situation-

Andrew's Curry Restaurant is preparing a very expensive banquet of potato and chicken curry for 1,000 people. The company who is hosting the banquet has 10 tables of 50 seats each and 8 tables of 40 seats, but only has 9 waiters available. The rental cost for a large table is $800 and $600 for the small table. Let x represent the number of small tables and y, the number of larger tables.

Calculate how many tables of each types should be used for the company banquet for the highest and lowest possible costs.

Variables:

x= number of small tables

y= number of large tables

Objective Function:

$P(x,y)= 600x + 800y$

Constraints-

- $40x + 50y \geq 400$
- $x + y \leq 9$
- $x \geq 0$
- $y \geq 0$

Inequalities To Graph

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1

$40x + 50y \geq 400$
$-40x \qquad -40x$
$50y \geq 400-40x$
$/50 \qquad /50$
$y \geq 8-40/50x$

2

$x \geq 0$

3

$y \geq 0$

4

$x + y \leq 9$
$-x \qquad -x$
$y \leq 9-x$

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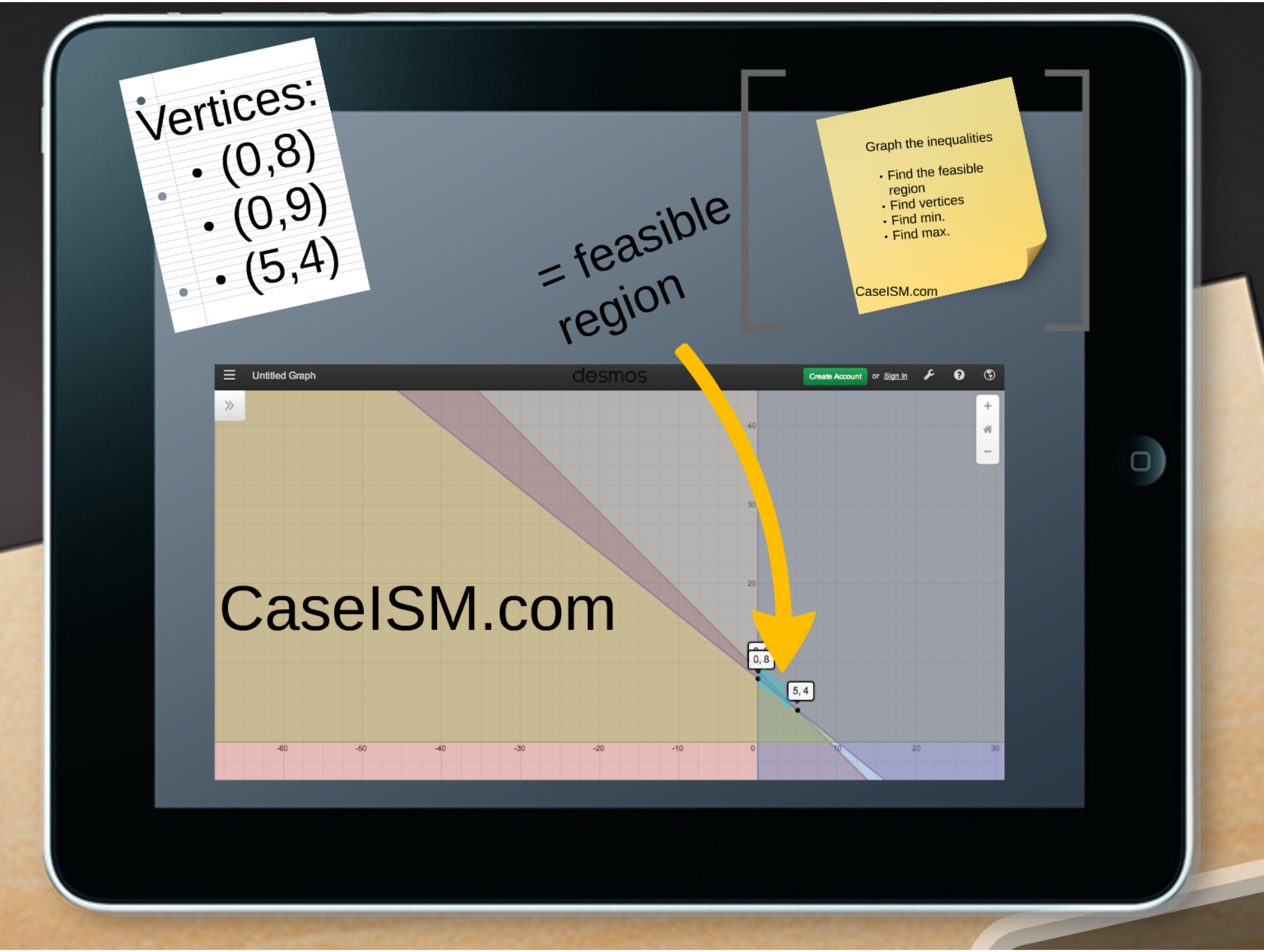
Problem

- number of large/small tables needed?
- maximum and minimum cost?


Vertices:
• (0,8)
• (0,9)
• (5,4)
= feasible region
Graph the inequalities
• Find the feasible region
• Find vertices
• Find min.
• Find max.
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Untitled Graph
desmos
Create Account
or Sign In
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0, 8
5, 4
40
30
20
-60
-50
-40
-30
-20
-10
0
10
20
30

Graph the inequalities

- Find the feasible region
- Find vertices
- Find min.
- Find max.

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Substitution of Coordinates:

Objective Function:
P(x,y)= 600x + 800y

Coordinates:
(0,8) ------> 600(0)+800(8)= 6,400
(0,9) ------> 600(0)+800(9)= 7,200
(5,4) ------> 600(5)+800(4)= 6,200

max.= 7,200

min.= 6,200

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