Algebra 2 Bellwork Wednesday, October 15, 2014

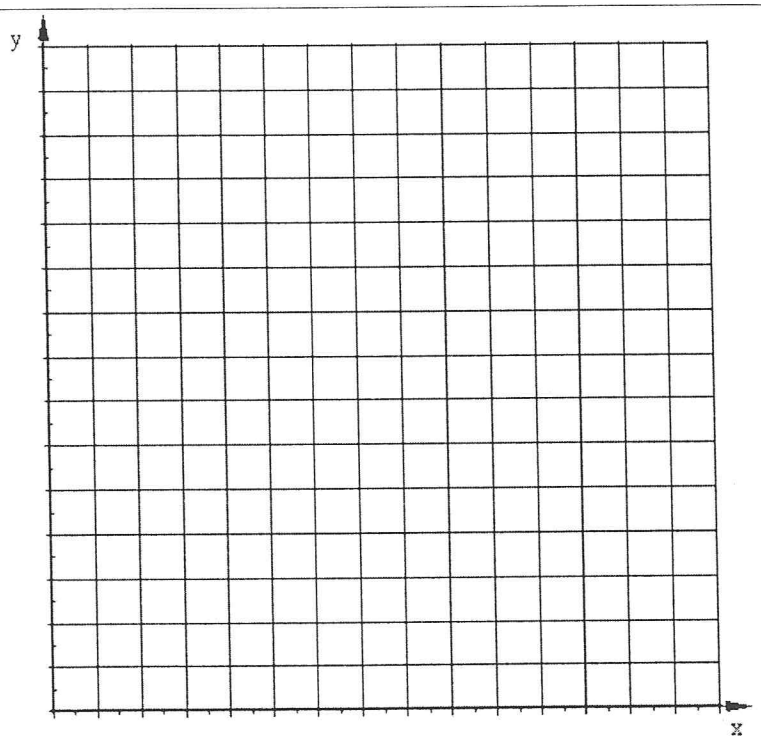
You need to buy some filing cabinets for the office. Blue cabinets cost $10 each, require 6 ft^2 of floor space, and hold 8 ft^3 of files. Green cabinets cost $20 each, require 8 ft^2 of floor space, and hold 12 ft^3 of files. You have been given $140 for this purchase. The office has room for no more than 72 ft^2 of cabinets.

Write and graph a system of inequalities to model all these constraints.

How many of each model should you purchase in order to maximize the amount of files you can store?

Constraints:

Objective Function:



Algebra 2 Bellwork Wednesday, October 15, 2014

You need to buy some filing cabinets for the office. Blue cabinets cost $10 each, require 6 ft^2 of floor space, and hold 8 ft^3 of files. Green cabinets cost $20 each, require 8 ft^2 of floor space, and hold 12 ft^3 of files. You have been given $140 for this purchase. The office has room for no more than 72 ft^2 of cabinets.

B = # Blue Cabinets G = # Green Cabinets

Write and graph a system of inequalities to model all these constraints.

How many of each model should you purchase in order to maximize the amount of files you can store?

$B \geq 0$

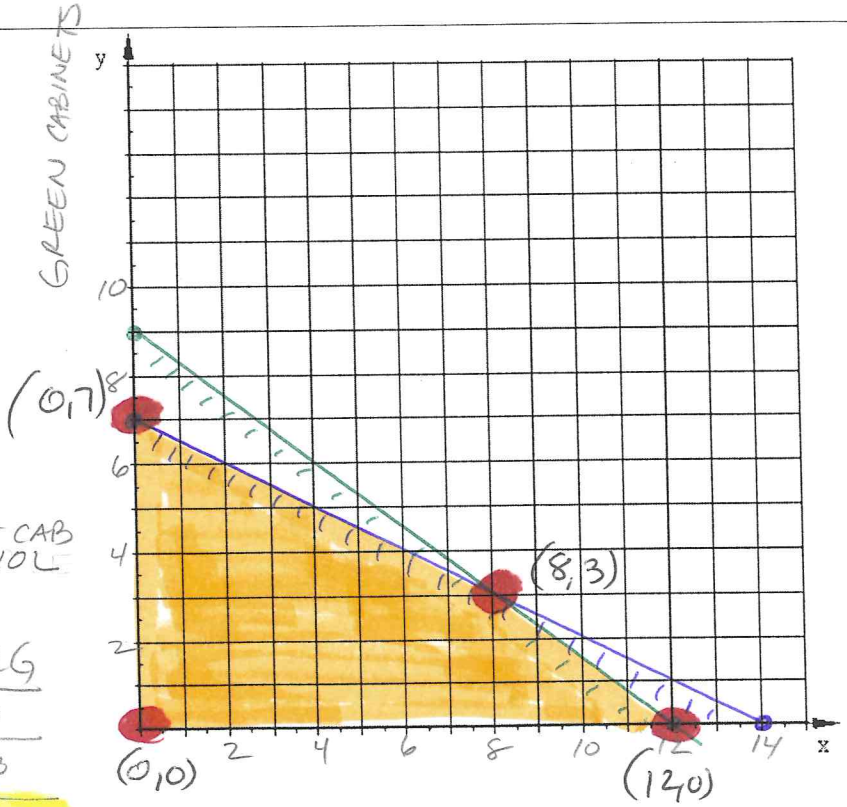
$G \geq 0$

$10B + 20G \leq 140$ B-INT = 14, G-INT = 7

$6B + 8G \leq 72\ ft^2$ B-INT = 12, G-INT = 9

Max volume occurs when you purchase 8 blue cabinets & 3 green cabinets

Constraints:



Objective Function:

$8B + 12G =$ TOT CAB VOL

(B,G)	8B + 12G
0,0	0 ft^3
12,0	96 ft^3
8,3	100 ft^3
0,7	84 ft^3