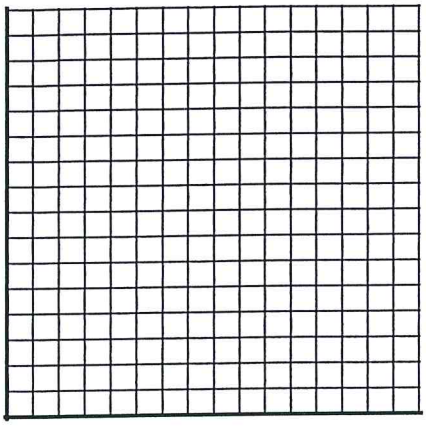
Bellwork Alg 2A Thursday, December 8, 2016

Basketballs cost $9 and footballs cost $24 each. You can spend no more than $144 on the balls for the two teams. You only have enough room on the equipment cart for 11 more balls.

a) Write a system of Four inequalities to represent the constraints given.

b) Graph this system of inequalities.



c) Find the coordinates of the vertices of the solution region.

d) If your players autograph the balls and you sell them you can get $15 for each basketball and $40 for each football. Write an equation that models the amount of money you can make by selling these balls.

e) How many of each should be signed and sold in order to maximize the amount of money raised?

Bellwork Alg 2A Thursday, December 8, 2016 ANSWERS

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a) Write a system of Four inequalities to represent the constraints given.

B = # Basketballs F = # Footballs

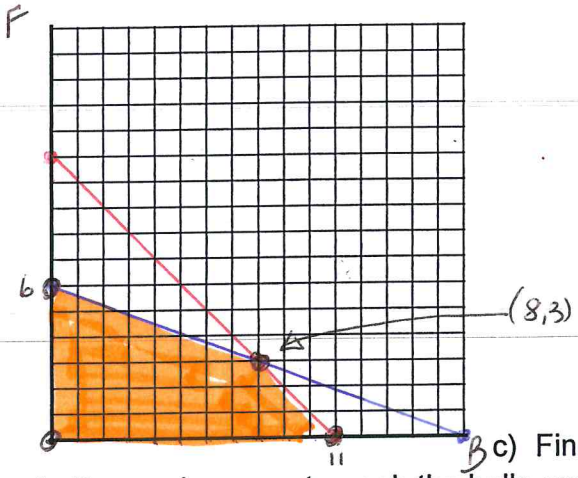
$9B + 24F \leq 144$ → B-int = 16, F-int = 6

$B + F \leq 11$ → B & F-int = 11

$B \geq 0$

$F \geq 0$

b) Graph this system of inequalities.



(B,F)	15B + 40F
(0,0)	0
(11,0)	165
(8,3)	240
(0,6)	240

(0,0) (11,0) (8,3) (0,6)

c) Find the coordinates of the vertices of the solution region.

d) If your players autograph the balls and you sell them you can get $15 for each basketball and $40 for each football. Write an equation that models the amount of money you can make by selling these balls.

$15B + 40F = T$

e) How many of each should be signed and sold in order to maximize the amount of money raised?

8 BASKETBALLS & 3 FOOTBALLS OR JUST 6 FOOTBALLS WILL RAISE A MAXIMUM OF $240