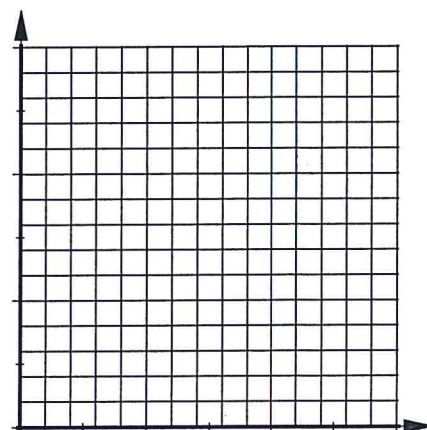


Algebra 2 Bellwork Friday, October 30, 2015

An artist is going to make some coffee mugs and some flower vases to sell. It takes 4.5 hours to make a coffee mug and 3 hours to make a flower vase. The artist has only 36 hours to spend making these items. The artist also only has enough clay to make up to 10 items to sell.

1. Write a system of inequalities that models this situation.

2. Graph this system of inequalities



3. Find the coordinates of the corners of the feasible region.

4. The artist is going to sell each coffee mug for \$25 and each flower vase for \$20.

a. Write the Objective Function

b. How many of each item should the artist make in order to maximize their income?

Algebra 2 Bellwork Friday, October 30, 2015

ANSWERS

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1. Write a system of inequalities that models this situation.

2. Graph this system of inequalities

$C = \# \text{ coffee mugs}$ $F = \# \text{ flower vases}$

$$\boxed{C \geq 0 \quad F \geq 0}$$

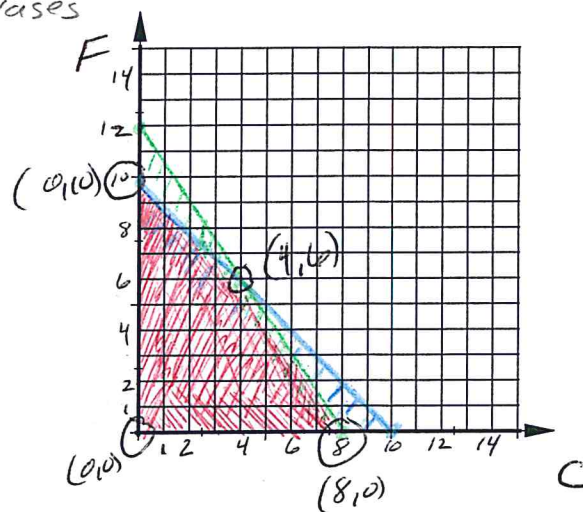
1ST QUADRANT

$$\boxed{4.5C + 3F \leq 36}$$

$C\text{-int} = 8 \quad F\text{-int} = 12$

$$\boxed{C + F \leq 10}$$

$C\text{-int} = 10 \quad F\text{-int} = 10$



3. Find the coordinates of the corners of the feasible region.

$(0,0)$ $(8,0)$ $(4,6)$ $(0,10)$

4. The artist is going to sell each coffee mug for \$25 and each flower vase for \$20.

a. Write the Objective Function

$$25C + 20F = I$$

b. How many of each item should the artist make in order to maximize their income?

C	F	$25C + 20F$
0	0	0
8	0	200
4	6	220
0	10	200

THE ARTIST WILL EARN
A MAXIMUM OF \$220
BY MAKING
4 coffee mugs & 6 flower vases