1.3 Re-Teach Worksheet Name _____

Intermediate Algebra

1. A lumber company converts logs into baseball bats. In a week, the company can turn out 400 bats, of which 100 deluxe bats and 150 regular bats are required on a regular basis. The profit of a deluxe baseball bat is $20 and the profit on a regular baseball bat is $30. How many of each type should the lumber company make to have maximum profit?

a) Define the variables:

b) Constraints Given:

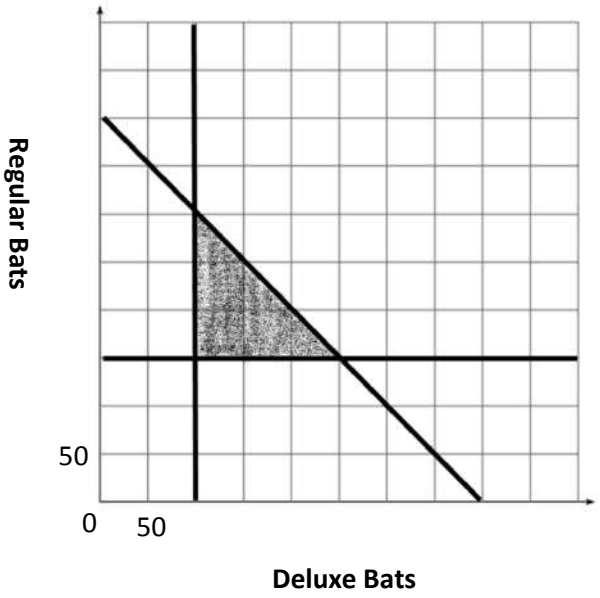
$X \geq 100$

$Y \geq 150$

$x + y \leq 400$

c) Objective Function (profit):

d) List the Vertices:



e) What is the maximum profit?

f) Number of deluxe bats for max profit:

g) Number of regular bats for max profit:

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Intermediate Algebra

2. A window manufacturing company makes two types of windows, regular and heavy duty. Each regular window takes approximately 3 hours to cut and 2 hour to finish. The heavy-duty windows take 2 hours to cut and 4 hours to finish. There are 48 hours available for cutting and 72 hours available for finishing. Each regular window makes a net profit of $80 and the heavy-duty window makes a net profit of $200. How many of each window should be made for the company to make a maximum profit?

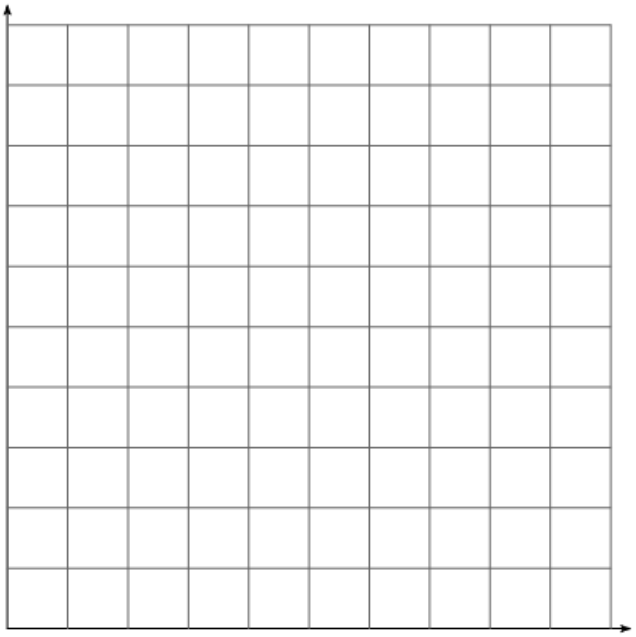
a) Define the variables:

b) Objective function:

c) Constraints:

hours to cut:

hours to finish:



d) Graph the constraints and shade.

e) List the vertices and find the profit for each:

f) Make a recommendation. (How many of each type should be planted and what is the max profit?)