Baker’s Choice

A Linear Programming Project

My Group Members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Your group is a business consulting team. The Woos have come to you for help. Not only should you give them an answer, but you should also explain to them clearly how you know that your solution is the best so that they will hire your group in the future. Since the Woos are from another country, you must make a digital presentation to send to them overseas. A pitch in the business world is meant to be a quick showcase of the quality of your work and communication skills so it must not last longer than 5 minutes and must include all group members.

“Hello! We are Abby and Bing Woo and own a small bakery shop that specializes in cookies. We only make two kinds of cookies – plain and iced. We need to decide how many dozens of each cookie to make for tomorrow.

Here are the numbers:

One dozen of our plain cookies requires 1 pound of cookie dough while one dozen of our iced cookies requires 0.7 pounds of cookie dough and 0.4 pounds of icing. It will take us 0.1 hours of prep time to make a dozen plain cookies and 0.15 hours of prep time to make a dozen iced cookies. We only have 110 pounds of cookie dough and 32 pounds of icing. Our oven only has room to bake 140 dozen cookies tomorrow and we only have 15 hours to make all of the cookies for the day. We charge $6 for a dozen plain cookies and $7 for a dozen iced cookies but spend $4.50 on each dozen of plain cookies and $5 on each dozen of iced cookies.

You should also know that everything we make will sell since our cookies are the very best!

We obviously want to make as much money as possible and appreciate your help deciding what to bake tomorrow.”

You will report back to the Woos:

1. An answer to the Woos’ dilemma, including a summary of how much cookie dough, icing, preparation time, and oven space they must use.
2. A 5 minutes or less digital presentation that includes graphs, charts, diagrams, equations, etc. that you used to support your answer.

Your presentation must include:

1. A summary of the original problem with all of the important info (5 points)
2. Clearly defined constraints and an objective function (5 points)
3. A graph with the feasible region clearly marked (5 points)
4. At least 5 test points to find the maximum profit (show work!) (5 points)
5. A final explanation describing how much cookie dough, icing, prep time, and oven space was used. (5 points)

Good luck!