Show Me the Dough!

**Purpose:** 1 To use systems of equations and inequalities in a real-life setting. 2 To design an advertisement and a commercial for your product.

You are the owners of a cookie company. Your company makes two different kinds of cookies. See each basic recipe below.

![MMj02237830000[1]]()

Cookie #2 Yield: 1 batch

4 cups of flour

1 cup of sugar

Cookie #1 Yield: 1 batch

2 cups of flour

1/4 cups of sugar

As the owners of a small but successful business, you want to minimize costs, maximize profit and keep customers satisfied by filling orders promptly. Be sure to read each task carefully. Be sure to answer all questions completely. Remember **each** member is responsible for understanding **ALL** concepts covered!

**Task 1: Getting Started**

As a group, decide on a company name, names for your two cookies (be creative) and individual roles. List this information under task 1. *Each member must participate in all aspects of the project!*

# Task 2: Maximizing Profit\*

* You are going to make and sell cookies using the partial recipes above. You have 16 cups of flour and 3 cups of sugar. You will make a profit of $1.50 on Cookie #1 and $4 on Cookie #2. How many of each kind of cookie should you make and sell to maximize your profit? What is the maximum profit?
* Kay’s Garden grows and sells wheat and sugar cane for your company. It costs $1 to grow a bundle of wheat, and it takes 1 yd2 of land. It costs $3 to grow a bundle of sugar cane, and it takes 6 yd2 of land. Kay’s budget is $15, and she has 24 yd2 of land available. If she makes $1 profit on each bundle of wheat and $4 profit on each bundle of sugar cane, how many bundles of each should she grow in order to maximize profits?
* The factory that makes your cookies uses two processes. The hours of unskilled labor, machine labor, and skilled labor and the maximum hours allowed are given in the table. For each unit of a product made by Process A, you make $50 profit. For each unit of a product made by Process B, you make $55 profit. How many units should you make by each process to obtain a maximum profit?

|  |
| --- |
| Assembly Hours |
|  | Process A | Process B | Maximum Hours |
| Unskilled Labor | 1 | 6 | 2700 |
| Machine Time | 3 | 1 | 1500 |
| Skilled Labor | 1 | 1 | 700 |

**Task 6: Presenting: Video-CAMERA!**

* Create a commercial, using the flip cam, phone, etc…. for at least one of your cookies. **Each group member must participate in the commercial**. The commercial should be at least 2 minutes long, but no more than 4 minutes long. The commercial should be as informative as interesting. **The commercial must be pre-recorded and uploaded to one group member’s blog!** Remember you are trying to sell your product and your company! You should include information about your company and the ingredients of your cookies. Be creative!! No Math!

**Point Breakdown**

* **Task 1: 5 points**
* **Task 2: 30 points**
* **Task 3: 10 points**
* **Blog post quality (grammar, organization): 5 points**

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 **50 points**

**DUE WEDNESDAY, SEPTEMBER 24 AT 11:59 PM!**