

DAY 1 (Keep this sheet for your information.)

Fill out the half -sheet with this information and turn in. Keep a record of what you turned in on this sheet.

1. Company name.
2. Give a description of two candy bars that Grandpa Willy Wonka says must include chocolate and one other common ingredient. Then choose two additional ingredients per bar from the list. These do not have to be the same in both bars. Remember that you must have **10** units of ingredients per candy bar and you must have **4** ingredients per bar, one being chocolate and one other being another common ingredient. . (A standard order will be placed for you in the ratio of 10,000 units ordered to 1 needed.)

INGREDIENTS

PEANUTS

CARAMEL

NOUGAT

PEANUT BUTTER

FRUIT (your choice)

COCONUT

CRISPY WAFERS

CRISPY RICE

ENGLISH TOFFEE

Candy Bar 1 _____

Candy Bar 2 _____

After you have completed steps 1-2, turn in the first half of your sheet. You will then be provided with the cost factors for each ingredient. Complete the following:

3. Calculate the cost of making each of your candy bars. **DO NOT ROUND.**

Cost - Candy Bar 1 _____

Cost - Candy Bar 2 _____

4. Set the price of your candy bar. Remember that you do want to sell a few.

Price - Candy Bar 1 - _____

Price - Candy Bar 2 - _____

5. Write your profit equation to be maximized. **DO NOT ROUND.**

P = _____

After you have completed steps 3-5, turn in your second half sheet.

Begin work on the following: (Due with the final project.)

7. A name for each candy bar.
8. A wrapper for each candy bar.
9. An advertising slogan leading into creating a commercial spot.

DAY 1-TURN IN SHEET

COMPANY NAME _____

BOARD OF DIRECTORS

Give a description of your two candy bars that Grandpa Willy Wonka says must include chocolate and one other **common** ingredient from the list. Then choose two or three additional ingredients per bar from the list. These do not have to be the same in both bars. Remember you must have **10** units of ingredients per candy bar and you must have **at least 4** ingredients per bar, one being chocolate and one being another common ingredient. (A standard order will be placed for you in the ratio of 10,000 units ordered to 1 needed.)

CANDY BAR 1 - Description of ingredients and the number of units of the ingredient.

CANDY BAR 2 - Description of ingredients and the number of units of the ingredient.

NAMES _____

Calculate the cost of each of your candy bars using the information below on price per ingredient.

COST PER UNIT OF INGREDIENTS:

CHOCOLATE	\$.030	FRUIT	\$.035
PEANUTS	\$.023	COCONUT	\$.032
CARAMEL	\$.027	CRISPY WAFERS	\$.024
NOUGAT	\$.026	CRISPY RICE	\$.022
PEANUT BUTTER	\$.025	ENGLISH TOFFEE	\$.029

SHOW YOUR CALCULATIONS. DO NOT ROUND.

COST PER BAR - CANDY BAR 1 –

COST PER BAR - CANDY BAR 2 –

Set a price that you want to sell your candy bars for.

PRICE TO CHARGE - CANDY BAR 1 - _____

PRICE TO CHARGE - CANDY BAR 2 - _____

Calculate the profit you would get on each candy bar and write your profit expression.

COMPANY NAME _____

DAY 2 – TURN IN SHEET

As stated yesterday, your ingredients were ordered in a 10000:1 ratio. However, because of a possible terrorist threat any ingredients that come from overseas suppliers did not get through. Fortunately, most products from overseas also have domestic suppliers, so some of your order arrived. Also a severe drought in Georgia has affected peanut crops, but we were able to scramble for other suppliers and find a large percentage of the necessary ingredients. The following should be your guideline:

NUMBER OF UNITS AVAILABLE:

CHOCOLATE, CARAMEL, FRUIT AND CRISPY WAFERS
 COCONUT, NOUGAT, ENGLISH TOFFEE, CRISPY RICE
 PEANUTS, PEANUT BUTTER

10,000 times the number of total units in your bars
 5,000 times the number of total units in your bars
 7,500 times the number of total units in your bars

1. Write the constraints using the above information.

Ingredient	Units in Bar 1	Units in Bar 2	Total Units Available	Constraint

2. Graph your feasible set on the graph paper on back. Label each line with equation and ingredient. Make sure to also label your axes and title your graph.

3. Calculate your corner points.

4. Calculate your maximum profit assuming that you sold all your candy bars produced.

5. Calculate your leftover ingredients. This involves your maximum point and your constraints. Show your work.

Ingredient	Leftovers

6. Place an order for the number of units of each ingredient you want delivered to your factory tomorrow. (**200,000 UNITS MAXIMUM PER INGREDIENT**).

Ingredient	Order

7. Turn in your sheet to the teacher.

COMPANY NAME _____

Day 3 – TURN IN SHEET

Due to a truckers strike supplies of various ingredients were not able to be shipped. **The number of units you ordered of chocolate and caramel are cut in half.**

Use this new information to:

1. Write your constraints. **(Don't forget to use your order and your leftover ingredients from Day 2.)**

Ingredient	Leftovers	Amt. Ordered	Amt. Received	Total Available	Constraint

2. Graph your feasible set on the graph paper on back. Label each line with equation and ingredient. Make sure to also label your axes and title your graph

3. Calculate your corner points.

4. Calculate your maximum profit assuming that any candy bars which include caramel sold 90% and all others sold only 75%.

5. Calculate your leftover ingredients. Remember to refer to what was produced, not what was sold. Show your work.

Ingredient	Leftovers

6. Calculate the number of each candy bar you did not sell.

7. Place an order for the number of units of each ingredient you want delivered to your factory tomorrow. **(200,000 UNITS MAXIMUM PER INGREDIENT)**

Ingredient	Order

8. Turn in your sheet and graph to the teacher.

COMPANY NAME _____

DAY 4 – TURN IN SHEET

Today the number of units of **crispy rice** you ordered is reduced by **25%** and the number of units of **peanut butter** you ordered is reduced by **10%**. Also, there was a late ice storm, so the supply of the **fruit** ingredient you ordered was reduced by **30%**.

Use this new information to:

1. Write the constraints using the above information. **(Don't forget to use your order and your leftover ingredients from Day 3).**

Ingredient	Leftovers	Amt. Ordered	Amt. Received	Total Available	Constraint

2. Graph your feasible set on the graph paper on back. Label each line with equation and ingredient. Make sure to also label your axes and title your graph

3. Calculate your corner points.

4. Add in the leftover candy bars from Day 3 to each corner point.

5. Grandpa Willy Wonka also informs you that a recent market study shows the following relationship between the price of a candy bar and the percentage of manufactured actually sold.

PRICE OF BAR	PERCENTAGE SOLD	PRICE OF BAR	PERCENTAGE SOLD
< \$0.40	100%	\$0.91-\$1.00	40%
\$0.40-\$0.50	90%	\$1.01-\$1.25	30%
\$0.51-\$0.60	80%	\$1.26-\$1.50	20%
\$0.61-\$0.70	70%	\$1.51-\$1.75	10%
\$0.71-\$0.80	60%	> \$1.76	5%
\$0.81-\$0.90	50%		

Calculate your maximum profit using the percentages of your maximum point as listed above. Note in the above chart where each of your candy bars lies by circling the price and writing the bar name next to it.

6. Calculate your leftover ingredients. Remember to refer to what was produced today. Show your work.

Ingredient	Leftovers

7. Calculate your leftover candy bars.

8. Turn in your sheet and graph to the teacher.

COMPANY NAME _____

DAY 5 – TURN IN SHEET

By the end of the period you should turn in the following:

1. Day 2, 3, 4 **only if** you need the teacher to check corrections.
2. The following four things must be turned in today:
 - a. Outline, detailed description or script of your commercial.
 - b. Outline, detailed description, or script of your presentation.
 - c. Rough drafts of your candy bar wrappers.
 - d. Slogan(s).
3. Calculate your gross profit for the three days. (Simply show the addition of each day's profit).

4. Calculate the profit lost with your leftover candy bars from day 4. Show all work.

5. Calculate the cost of your leftover ingredients from day 4. Show all work.

COST PER UNIT OF INGREDIENTS:

CHOCOLATE	\$.030	FRUIT	\$.035
PEANUTS	\$.023	COCONUT	\$.032
CARAMEL	\$.027	CRISPY WAFERS	\$.024
NOUGAT	\$.026	CRISPY RICE	\$.022
PEANUT BUTTER	\$.025	ENGLISH TOFFEE	\$.029

7. Calculate your **Final Net Profit** for the project. Show all work.