Grocery Store Takedown   Name _____ Date _____

Ever notice how things downtown are so much more expensive than anywhere else? Don't you think people would pay less for something if given the choice?

In this project you will have to choose an item that you think you think you can sell your house at a price that is lower than a nearby store. You will compare that stores prices to the prices at a Sam's Club, which is a store that sells items for a lot cheaper than regular stores, and in much larger quantities. In this project you will have to use ratios, percents, and fractions in order to explain how you could make a profit selling an item. Don't worry, you don't have to actually sell anything or talk to anyone, in order to do well in this project, don't actually try to sell people stuff.

 Part I. Choose a product from Sams Club

Go to www.samsclub.com and look for a product that people would like which you think you can sell at a lesser price, than at your local store.   If it asks for an address, use the store in Elmsford, NY whose zip code is 10523.

What is your product? _____

What size do they sell it in at most local stores? _____
Why did you choose this product:

_____

_____

How much does it cost for a box at Sams Club? _____

How many items come in one box? _____ What is the size of each item? _____

 What is the Sams Club cost per item? _____ (The cost of the box relate d to the items in the box)

Part I b. Finding Your Competitor Store
_____

If you don't have a store in mind, Go to google maps maps.google.com and look at your neighborhood. Find a store you can visit on the way home today. It could be a bodega, a cvs, or keyfood, or anything else.

What is the name of your store? _____

Where is it located? Building, Street address or Intersection _____

_____

Grocery Store Takedown   Name _____ Date _____

Part II. Research your store and estimate your sales

Take this piece of paper with you to the local store that you want to compare prices. If possible please bring along a smart phone, tablet, or camera. If it is a chain (CVS, Duane Reade, etc) get started with their website.

What price does your item sell for at the store? _____

What size is the item at the store? _____ Is it the same size as at Sams Club? _____

How does the price at your store compare to the cost at Sams Club? _____

Researching you store. Choose ONE method to estimate how much of your product gets sold

A. How many of the items are on the shelf at the store? _____
If you can, take a picture of all your items on the shelf, along with the price tag, if it is marked
Assuming your store sells the whole shelf each day, estimate their daily sales. Explain your thinking.

_____

_____

B. Ask an employee for an estimate of how many get sold each day

_____

_____

C. In five minutes, how many people walked past the item? _____
Use that to make an estimate of how many people would possibly walk past the item in a day:

_____

_____

Based on what you found in your research, how many items do you plan to sell each day? _____.

Explain your reasoning _____

_____

If you were off by 5% how much would you sell each day?

Low Estimate (5% Less) _____ High Estimate (5% More) _____

Part III. Setting a price to sell your product

When you sell something you need to decide a price, and that price could depend on a lot of things. You want your price to be lower than the store you are trying to takedown, otherwise people will just walk to the store and buy it. You also want the price to be higher than your costs, so you don't lose money on it.

Write an inequality statement that describes the lowest and the highest possible price you can sell your product at: (remember < is less than, and > is greater than)

_____

Based off of the scenario decide an ideal unit price for selling one product that you think people will pay and

Unit Price: _____
Explain why you chose that price.

_____

_____

Next come up with a price that gives people a volume discount if they buy more of the product. Sellers do this to encourage someone to buy 2 or more items when they would have only bought just one item. this should be something easy for people to understand, so you should try to use whole numbers like "3 for 7"

Volume discount price: _____   Break that down to the unit price: _____
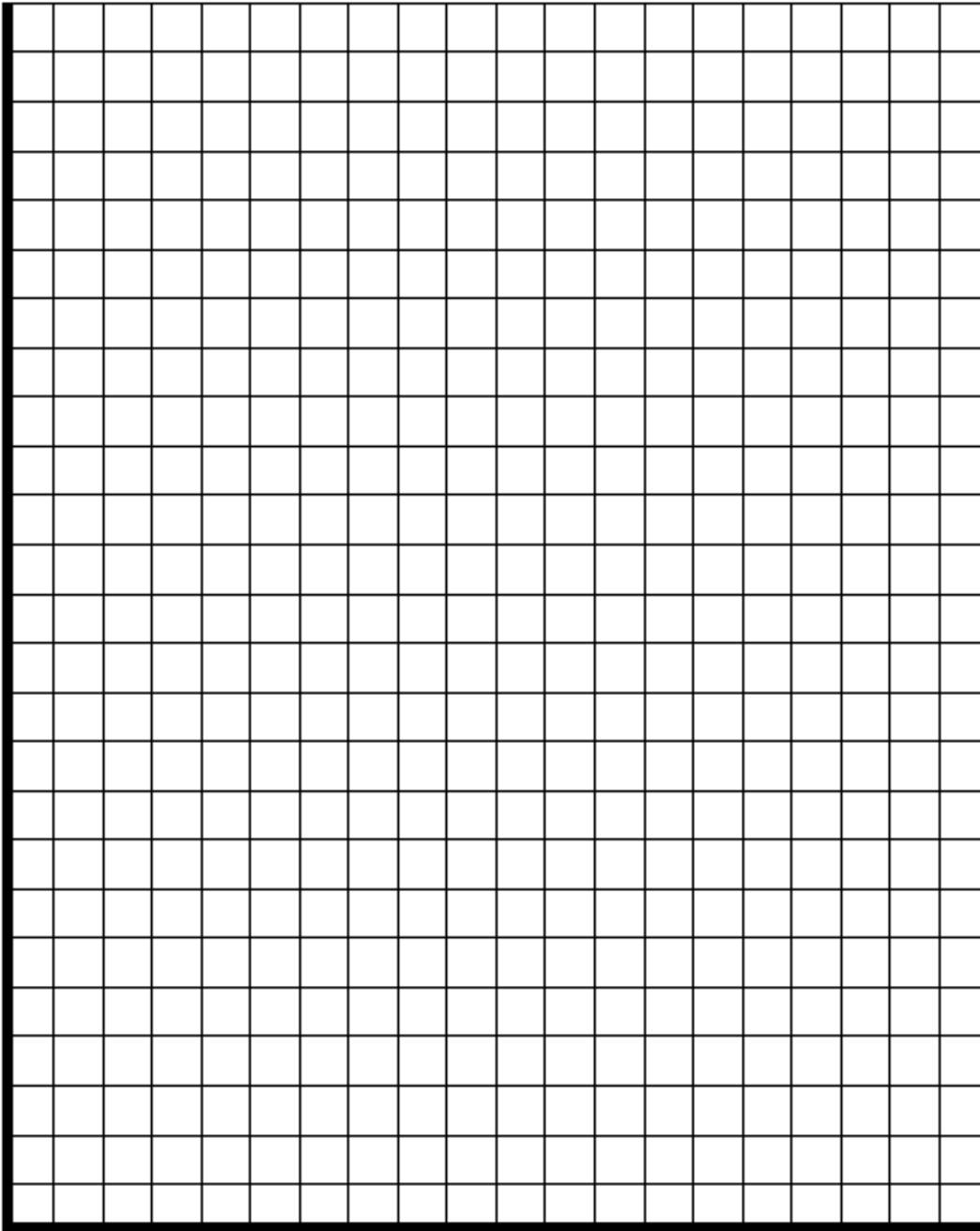Explain why you chose that price.

_____

_____

Use your tables to come up with an idea of how much money you would make after you getyour first five customers using each pricing plan

Unit Price Earnings		Volume Price Earnings	
Customer	Earnings	Customer	Earnings
0		0	

Use the graph below to make a graph of both of your pricing plans:

What is significant about your graph?

_____

_____

Using variables, write two equations that can be used to calculate the earnings you would have given any number of sales.

_____

_____

Part IV. Determine if you will make a profit   Name _____ Date_____

WHAT IS PROFIT??? When working with money, you need to think about profit. Profit takes your earnings and the money you have spent. To find profit, take the earnings and subtract your costs from them..

Use you estimate in Part II to figure out how many boxes you need for each month. Explain your thinking:

Boxes needed each month? _____ Cost each month's boxes? _____ Explain below:

_____

_____

_____

Use the tables below and to show how much profit would have made from each day. (Hint: your profits will be negative early on) Start with the first 3 days, then put 10, 20 and 30 days

Profit = Earnings - Cost It will be Profit = .75*1 - 873

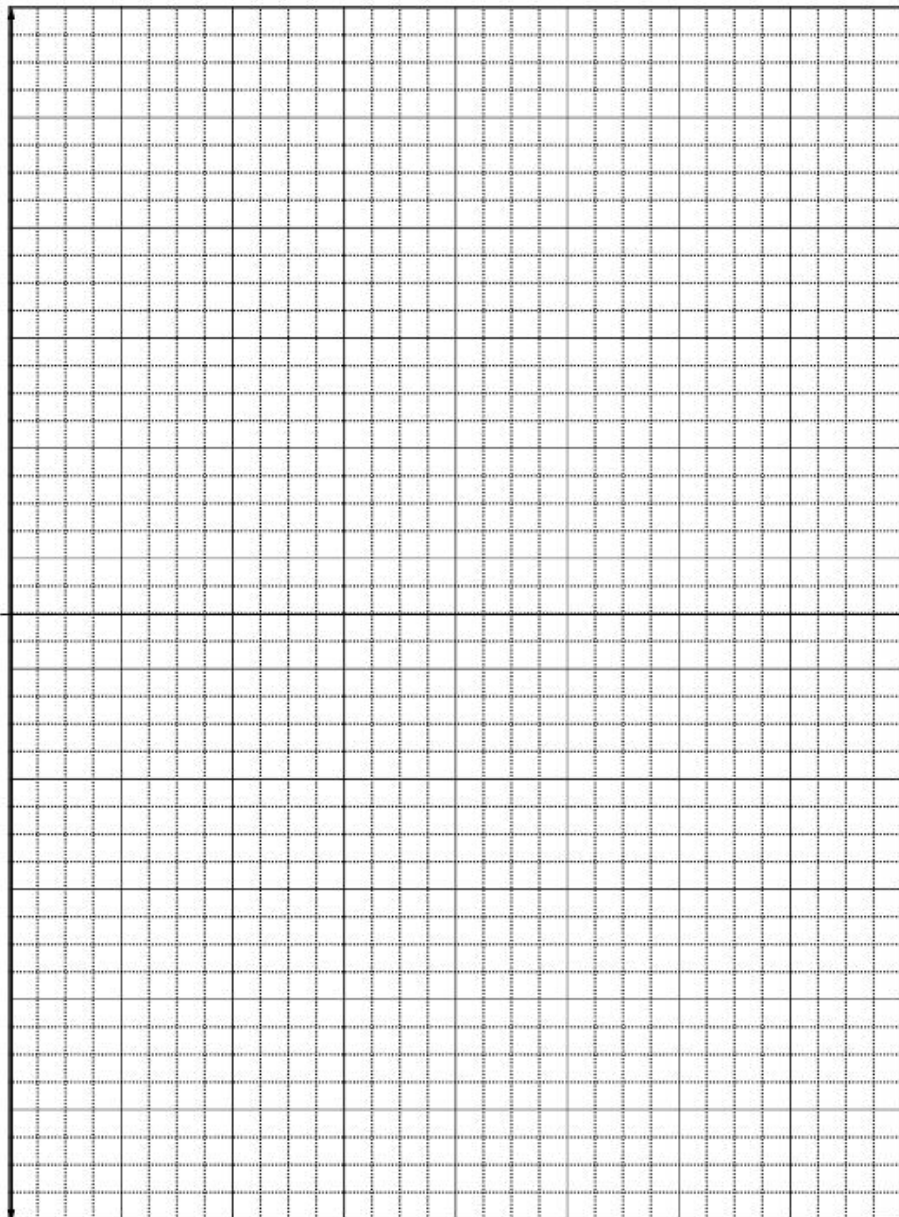| Unit Price Earnings		Volume Price Earnings	
Day	Profit	Day	Profit
0		0	

Make an equation to find the profit that your company will have earned on a given day based on the number of customers:

_____

_____

Use the graph below to make a graph of both of your pricing plans:

How much profit will you have at the end of the month?

_____

_____

On what day will you make a profit off of your month's supply?

_____

_____

Part V. Final Writeup

If you are going to use this for a portfolio you have to go through and explain in detail what you did in each section of the project.

The sections of the project are:

> Part I. Choose a product from Sams Club
> Part I b. Finding Your Competitor Store
>
> Part II. Research your store and estimate your sales
> Part III. Setting a price to sell your product
> Part IV. Determine if you will make a profit

Once you finish writing up the project, you should also write about the mathematics you used and what you learned about yourself as a learner during the class.

How did you feel about math before taking this class?

Summarize the main math concepts from this class:
Ratio
- What is a Ratio? Define it in your own words and provide an example
- Describe a situation that you could use a ratio to compare two different things (drink mixtures, rectangles, paint, etc)
- Describe how you can use a ratio to "scale up" or "scale down" according to a given relationship.

Decimals & Percents
- What is a Decimal? Define it in your own words and provide an example
- What is a Percent? Define it in your own words and provide an example
- Describe a situation that you could use a percent to compare two different things (drink mixtures, rectangles, paint, etc)

What did you learn during this class?