# All-Store Calculations and Report

Note: Complete this worksheet by replacing the bracketed phrases in the response boxes with the relevant information.

You need to analyze three areas of the All-Store business: declining sales, reducing staffing, and purchasing the building. Before you start, read all of the All-Store company documents in the “Supporting Materials” section. These will have useful information that will help you complete your project.

Note: You can use a calculator to complete the calculations. Make sure to show and check all of your work.

## Part 1: Your Calculations

### Declining Sales

The general manager wants to know what the impact will be on the business if sales continue to decline at the current rate and no action is taken. This can be broken down into two questions:

* How long will it be before All-Store starts operating at a loss?
* How long will it be before All-Store goes bankrupt?

#### How Long Before All-Store Starts Operating at a Loss?

When a company makes less money than it spends, this is referred to as operating at a loss. Another way to express this is “the net profit equals zero.”

When will All-Store’s monthly profit equal zero? Although there’s no precise answer to this question, since the future is unpredictable, you can estimate based on some available data. In the following steps, you will estimate the monthly drop in profits. Then, you’ll formulate a projection to determine when All-Store would be operating at a loss.

##### Monthly Net Profit

List each month’s net profit in the following response box.

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##### Difference between Monthly Net Profits

Calculate the difference between each month’s net profits. For example, subtract January’s profit from February’s profit. Then subtract February’s profit from March’s profit. Continue this process for each month.

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##### Profit Drop

Determine how much profits will drop in the following months. You’ll need to estimate based on all of the previous numbers. One way to do this is by choosing a number that represents something close to the middle of the values, or a measure of central tendency. Mean, median, and mode are three different measures of central tendency. Calculate each measure in the following response box.

##### To calculate the mean (average):

* + Add all of the numbers in the series together.
	+ Divide them by the quantity of numbers added.
	+ Note: You may need to round up or down to the nearest cent.

##### To calculate the median (middle):

* + List all of the numbers in the series in order (low to high, or high to low).
	+ Choose the one in the middle of the list.

##### To calculate the mode (most frequent):

* + List all of the numbers in order (from lowest to highest or highest to lowest).
	+ Choose the number that appears the most often. If no numbers repeat in a series, then there is no mode.

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##### Mode of Central Tendency Used to Predict the Upcoming Months

* + Which value(s) will you use to make your projections? Why?
	+ Is there value in showing more than one projection in your report? Why or why not?

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##### Projection

Now that you’ve chosen a way (or ways) to estimate, it’s time to project the month. To do this:

* Divide the last number in the series (the net profit from June) by the measures of central tendency you calculated in question 3.
* If there is a decimal in your result, round down to the nearest month.

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#### How Long Before All-Store Goes Bankrupt?

Bankruptcy is when a person or company runs out of money and cannot afford to pay the bills. It can also refer to the legal processes involved in dealing with this situation. For All-Store, bankruptcy could include missing payments on anything from rent to payroll. In this section, you will use your estimate for the monthly drop in profits, which you already calculated, to project when this will occur.

##### All-Store Savings

Find the current amount of funds that All-Store has in savings. Read the company documents in the “Supporting Materials” section to learn this information.

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##### How Long All-Store Can Operate at a Loss?

Although the company will be operating at a loss, All-Store has some money in savings that will allow it to pay for expenses for a time. In the response box, determine this time in months. To do this:

* + Add the amount in savings to the net profit from June.
	+ Divide by the number(s) you determined above (mean, median, mode).
	+ If there is a decimal in your result, round down.

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##### Summary

Reflect on the meaning of your calculations. Consider the following questions:

* What do you think the results of your calculations will mean for the company?
* What specific actions would you recommend based on all of the available information? For example, what is a specific way for the company to cut costs?

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### Skeleton Crew

The general manager wants to know what All-Store’s options are for reducing staffing if the business needs to cut back on payroll. You will break this question down into three smaller questions:

* How many peak and nonpeak hours are there during the week? Peak refers to busy times and nonpeak refers to less busy times.
* What is the minimum labor cost per week?
* What is the minimum number of people needed during store hours?

#### How Many Peak and Nonpeak Hours Are There during the Week?

##### Store Hours

How many total hours is the store open each day? This is a small piece of the larger problem, but the results can inform the rest of your calculations.

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##### Peak Hours

What are the total peak hours for a week? To do this, add the peak hours for each day together.

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##### Nonpeak Hours

What are the total nonpeak hours for the week? To do this, subtract the peak hours from the total hours.

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#### What Is the Minimum Labor Cost Per Week?

The general manager provided you with the hourly wages for sales associates and managers, as well as how many of each type of staff are needed during peak and nonpeak hours. To determine the minimum labor costs per week, you will need to use the total hours that you calculated in the previous section.

##### Minimum Sales Associate Hours

What is the minimum number of sales associate hours needed each week? To calculate this:

* Multiply the number of sales associates needed during peak times by the number of peak hours.
* Multiply the number of sales associates needed during nonpeak times by the number of nonpeak hours.
* Add those two numbers together.

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##### Minimum Manager Hours

What is the minimum number of manager hours needed each week? To calculate this:

* 1. Multiply the number of managers needed during peak times by the number of peak hours.
	2. Multiply the number of managers needed during nonpeak times by the number of nonpeak hours.
	3. Add those two numbers together.

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##### Total Labor Costs Per Week

What is the minimum total labor cost per week? To calculate this:

* Multiply the number of sales associate hours by the sales associate hourly labor cost.
* Multiply the number of manager hours by the manager hourly labor cost.
* Add those two numbers together.

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#### How Many Staff Are Required to Ensure Continuous Coverage?

##### Minimum Number of Sales Associates

Calculate the minimum number of sales associates by dividing the number of total hours needed by the number of hours per week that a sales associate may work.

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##### Reflect on Your Answer to Question 18

If your result was a decimal, will you round up or down in your report? Why?

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##### Calculate the Minimum Number of Managers

To do this, divide the number of total hours needed by the number of hours per week that a manager may work.

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##### Reflect on Your Answer to Question 20

If your result was a decimal, will you round up or down in your report? Why?

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##### Summary

Summarize what you think the results of your calculations will mean for All-Store.

* What specific actions would you recommend based on all of the available information? For example, what are some options for future staffing, should sales continue to decline?

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### Rent vs. Buy

The building’s owner approached the general manager about her interest in purchasing the building. Your manager wants to know what would be the immediate financial impact of purchasing the building. You will break this question down into the following questions:

* What is the difference in monthly cost between renting and buying?
* Given the down payment required, how many months would it be before the purchase paid for itself?

#### What Is the Difference in Monthly Cost between Renting and Buying?

##### Monthly Cost of Rent

What is the monthly cost of rent? Review the profit and loss statement or the June bank account statement for this information.

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##### Total Monthly Payment of the Loan

What is the total monthly payment of the loan? Review the loan estimate document.

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##### Cheaper Monthly Payment

Find the difference between the monthly rent and the monthly loan payment, and identify which one is the cheaper monthly payment.

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#### Given the Down Payment Required, How Many Months Would It Be before the Purchase Paid for Itself?

People say that something “has paid for itself” when the financial benefits over time equal the initial investment. In this section, you will calculate how many years it will be before All-Store saves money.

##### Months Until It Pays for Itself

Divide the initial investment (i.e., the down payment) by the amount saved each month (which you calculated above). The result will be in months. If it is a decimal, round up.

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##### Convert to Years

What is this estimate in years?

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##### Reflect

Reflect on your answer. Address the following questions in your response:

* 1. Is the answer to the previous question more or less than the term of the loan?
	2. What would be the immediate impact to All-Store’s savings?

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##### Summary

Summarize what you think the results of your calculations will mean for the company. What specific actions would you recommend based on all of the available information? For example, is this a good time to buy? You will need to include this summary in your report and mention specific calculations to justify your recommendations.

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## Part 2: Your Report to Your Manager

Use the following template to write a report to your manager with your findings. Make sure to support your recommendations with qualitative evidence.

### Declining Sales

#### Recommendations for Declining Sales (100–150 words)

Make your recommendations about the impact of All-Store’s declining sales. Use your response to question 8 in part one to help you get started. Your recommendations should be supported by detailed quantitative evidence.

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#### Analysis of Declining Sales (100–150 words)

Explain your use of mathematical expressions in solving problems. You may use text, images, or graphs.

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### Skeleton Crew

#### Recommendations for Skeleton Crew (100–150 words)

Make your recommendations about All-Store’s staffing. Use your response to question 19 in part one to help you get started. Your recommendations should be supported by detailed quantitative evidence.

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#### Analysis of Skeleton Crew (100–150 words)

Explain your use of mathematical expressions in solving problems. You may use text, images, or graphs.

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### Rent vs. Buy

#### Recommendations for Rent vs. Buy (100–150 words)

Make your recommendations about All-Store purchasing the building or continuing to rent. Use your response to question 26 in part one to help you get started. Your recommendations should be supported by detailed quantitative evidence.

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#### Analysis of Rent vs. Buy (100–150 words)

Explain your use of mathematical expressions in solving problems. You may use text, images, or graphs.

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