# The Value of Organization in Math

Organization is a foundation for productivity as well as for solving math problems. In MAT110, applying organizational skills is two-fold. First, it is essential to being productive, for example, when you organize your workspace and manage your time, which allows you to be a successful student. Second, organizational skills are also essential when solving math problems since you must plan how to solve a problem, organize steps in a logical order, and work efficiently through those steps.

Each time you solve a math problem, you are strengthening your organizational skills, which are valued by employers and will help you lead a more productive life.

Each of the following problems will assess your ability to explain how you would apply organizational skills to math problems in real world situations.

## Note: This assignment does not require research, but if you choose to use information from a source, be sure to cite it. To help make sure you are properly citing your sources, please review the [Strayer Writing Standards](https://blackboard.strayer.edu/bbcswebdav/institution/STANDARDIZED/StrayerWritingStandards/Strayer_Writing_Standards.pdf). When you have answered all three questions, save the template with your completed responses as a Word document titled: Your Name\_ MAT110\_Week\_4\_Assignment and submit it in Blackboard in Week 4.

## Question 1

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| **Instructions**The two real-life scenarios below represent the importance of organization in mathematics. Specifically, the importance of being able to find a percentage of an amount without a calculator. In each scenario box below, add your explanations in the spaces provided.  |

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| **Scenario 1**You are in a store and want to ensure you have enough cash for an unplanned purchase. You need to be able to calculate the sales tax for your purchase without a calculator. |
| **Part A:** Identify a situation that would fit into this scenario and explain how you would organize this calculation to solve it without a calculator. Assume a 5% sales tax rate. For full credit you will need the cost of the item, an explanation of how you would calculate the sales tax, and the total cost. ***Example:*** *I am shopping for school supplies at Target, and I have $130 extra. I see air pods on sale for $120. I want to determine if I have enough money to cover the total purchase price, including tax, before I get to the register. Here’s how I would organize the problem in my head (or on paper) to get an accurate calculation…* |
| **Type your response here:** |
| **Scenario 2**You are at a restaurant with three friends **(party of 4)** and need to estimate the amount of tip for your portion of the bill without using a calculator. Assume a 20% tip rate. For full credit, you will need the cost of your meal, an explanation of how you would calculate your 20% tip, and the total amount.  |
| **Part B:** Explain how you would solve this problem by organizing a sample calculation.  |
| **Type your response here:** |
| **Part C:** Refer back to your responses above for Parts A and B: Explain why **organization** was important in your thought process and calculation for an accurate solution. You should also reflect on how correct **organization** of a problem can help you in everyday life. Include real-world examples to support your response. Your answer should be a minimum of three sentences. |
| **Type your response here:** |

## Question 2:

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| **Instructions:** The bar graph below represents the education levels of business owners in 2019. Review the details in the bar graph and interpret the data to answer parts A and B below.  C:\Users\vhs_Admin\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\456223BD.tmp[U.S. Census Bureau Annual Business Survey](https://www.census.gov/library/visualizations/2021/comm/most-business-owners-have-a-bachelors-degree.html). 2020. Data year 2019. Graph.  |
| **Question 2 cont.** |
| **Part A:** An aspiring business owner is planning their college course of study and would like to know whether they should pursue a doctoral degree before they open their own business. Explain what you would recommend to them using two specific examples from the bar graph to support your response. (*Hint: You will need to review the number of business owners for each education level in the graph.)*  |
| **Type your response here:** |
| **Part B:** Explain why a bar graph is useful for organizing categorical data. Support your explanation with two different observations from the graph.   |
| **Type your response here:** |

## Question 3:

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| **Instructions:** Explain how you would organize your step-by-step calculations in evaluating the order of operations problem below. *(Remember PEMDAS!)* There should be five steps in this calculation. For full credit you must fill in the blanks below with your step-by-step explanation as well as computation for the correct answer. Add space as needed. $$14 ÷2+3^{2} × (7-2)$$*Note: If there is no math expression above, please contact your instructor.*   |
| **Type your response here:****Steps to organize the calculation:**1. First, I would \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Next, I would \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Then, I would \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Then, I would \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Finally, I would \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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