**AMDM Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quiz A**

**Open-ended Questions:**

1. **Have you ever seen a study about the effects of texting on students’ writing skills? To study this further, what are two issues you would have to consider?**

**1.**

 **2.**

1. Describe an *observational design* to study this issue. Be sure to include the population of interest, and what variables will be measured.
2. Describe an *experimental design* to study this issue. Be sure to include the population of interest, and what variables will be measured.
3. **The MARS Candy Company claims that every 1.69 oz. bag of Plain M & M’s has 54 M & M’s in it. To test this claim, you buy 50 packs of 1.69 oz. plain M & M’s and found that the average number of M & M’s of the sample was 52. Do you think that such a difference of 2 M & M’s between the actual and advertized numbers is large enough that their claim is not true?**
4. State the Null and Alternative Hypothesis, in words, for this problem.
5. Would this study best be described as an experimental or observational study? Explain your reasoning.
6. The Council at a local high school wants to conduct a survey concerning the quality of the food in the cafeteria. The president posts a council member at every entrance and tells them to pick the first 25 students that came through the door.
7. Describe the variable of interest for this study.
8. Are there any limitations to this study? If so, explain.
9. An agri-scientist is interested in determining which brand of fertilizer makes peanuts produce the highest yield. An experiment is conducted using three different brands of fertilizer (Brand A, Brand B, Brand C). The experiment was designed so one acre of peanuts had the different fertilizers added to it, and another acre of peanuts did not receive the added fertilizer.
10. What is the treatment?
11. Is there a placebo or control group associated with this study? Explain.
12. Given the scenario, explain how you would make the study complete. Explain the process for data collection in your study.