

Writing Assignment for LAB 2

Recall Question 5 from SL Exploration Lab 2 on Allergy Medicine

It is estimated that 1 in every 7 Canadians suffers from seasonal allergies such as hay fever. A typical treatment for hay fever is anti-histamines. Tim decides to try BRAND X antihistamines. The label says:

- The half life of the antihistamine in the body is 16 hours
- For his size, the maximum relief is felt when there are 150 mg to 180 mg in the body. Side effects (sleepiness, headaches, nausea) can occur when more than 180 mg are in the body.
- Each pill contains 30 mg of active ingredient. It is unhealthy to ingest more than 180 mg within a 24 hour period

PROBLEM: How many hay fever pills should Tim take and how often should he take them? Work through the following 4 questions to help develop an answer to this problem.

- A. What are some conditions that would be reasonable when taking medications? (For example, think about dosages as well as times of the day when you take the medication)
- B. Determine TWO different schedules for taking the pills, considering the appropriate amounts of the medication to ingest and your conditions in PART A.
- C. For each of your schedules, determine the amount of the medication present in Tim's body at critical stages/times for the first few days.
- D. Based upon your calculations in PART C, which schedule is best for Tim? Is another schedule more appropriate?

Writing Assignment for LAB 2

For your WRITING ASSIGNMENT (or Math ESSAY if you wish), you are required to prepare an ESSAY that encompasses the following three components:

PART 1 $\Rightarrow$ You will write an Intro Paragraph, wherein you introduce the problem, discuss some of the parameters/constraints on the problem and outline a brief strategy for how you plan on addressing the problem. MAX LENGTH of this part: One paragraph

PART 2 $\Rightarrow$ Through the use of explanations, mathematics and graphs, outline your solution to the problem: i.e. how did you come up with the two medication plans and how do you know they work within the parameters given. This section MUST include:

- (a) Showing your math & algebra
- (b) text/explanations wherein you describe/explain what was done and how it was done
- (c) Graphs/visuals/data tables involved in your solution

MAX LENGTH of this part: three (3) pages

PART 3 $\Rightarrow$ You will write a concluding paragraph, wherein you summarize your solution to the problem and acknowledge any problems/issues/constraints/extensions of the method you used to solve the problem. MAX LENGTH of this part: One paragraph

At the end of the period, you will share/email/print your solution and turn it in for grading.

RESOURCES available:

- (a) Your work you've already done on the problem, which should be in your notebook, so this writing assignment is OPEN BOOK
- (b) Graphing calculator
- (c) DESMOS
- (d) Internet
- (e) Your BRAINS!!

Writing Assignment for LAB 2

Here is a sample of the scoring “checklist” that I will use to score/grade/judge your finished product:

Criteria	Not yet meeting “standard”	Approaching “standard”	Meeting “standard”
<u>PART 1: Introduction:</u> Well written, clear, concise, Gives me an idea of what math and discussion I can expect in your work Introduces the problem solving method that will be used to address the problem Includes reference to context and to problem			
<u>PART 2: The Method & the Math</u> The method(s) and strategies used are addressed and are clear There are textual explanations in your work as you explain the what and the why of what you are doing When and where appropriate, you show the critical steps and results of your mathematical processes When and where appropriate, your results & data are presented on a properly presented data table When and where appropriate, graphs are included to illustrate/show your workings and results			
<u>PART 3: Conclusion:</u> Well written, clear, concise Relates the final answer(s) back to the problem Discusses the merits of the problem solving strategy that was used Addresses one or two extensions of the problem/strategy/context/concepts			