CLS Homework #1 Notes and Common Errors
Homework Due: 18 January 2019
Problems Graded: 14, 18, and 21

- General Notes -

1. Please leave more space between your answers so I can write comments. If there is no space, I can't give you useful feedback.

2. Please do not just write the answer to the problem. We are more interested in how you think about and justify your approach to a problem than the answer to the problem itself.

- Problem 14 -

1. There were a lot of people that did not show any work for this problem. Solutions consisting of an answer without justification were only worth 3/5 points. Sufficient justification for this problem would have been the following:

$$b = \frac{1}{k}$$

and we are given

$$b = \frac{1}{14}$$

where k is the number of days that the disease lasts. Therefore, the disease lasts 14 days.

- Problem 18 -

1. There were many algebra errors in this and the parts leading up to this problem. However, **I did grade based on previous work**, so even if the answer was wrong, people generally received 4/5 points if the process was correct based on the work that they did in Problem 17.

2. Units are a thing. Please remember them.

- Problem 21 -

1. In part (b) there were a number of algebraic mistakes. Many people were off by a factor of 10 because they mis-copied $b = 0.8$ instead of $b = 0.08$. Please be careful with your arithmetic.

2. There were several people that realized that in order for the initial infection rate $I'(0)$ to be positive, we needed $S(0) > S_T$ where S_T is the threshold value. This is true, but we wanted you to go a step further and actually calculate S_T using the equation $S_T = b/a$.

If there are any further questions on how things were graded, please feel free to come to my office hours next week.