

# In-Class Assignment 1

MATH 141

**Directions:** Work neatly on a separate sheet of paper before finalizing your work on this sheet. Your group will hand in one write-up with everyone's name on it. **DO NOT** fold the corner over to hold everything together! Your final write-up should be very neat and well-written. Remember to use complete sentences as appropriate.

Work together on each problem; do not delegate different problems to different people.

You observe a bacteria colony periodically for a couple of days. The table below shows the population in the colony at different times from the start. Of course, the little buggers are hard to count, so these are just ballpark numbers.

<b>Time (hrs)</b>	0	3	5	8	10	19	20	21	24	26	27	36	38	40
<b>Population</b>	130	165	205	265	315	700	765	835	1100	1295	1420	3170	3780	4515

1. Estimate the population at 15 hours and explain your reasoning.
2. How fast is the population growing at 30 hours? Explain your reasoning.
3. What do you predict the population will be at 45 hours, and how fast will it be growing? Once more, explain your reasoning.