## Chapter 21-23 Practice Problems

## May 13, 2012

A survey was done on the age of people at Dartmouth. 100 students were polled and the results were as follows:

Age	# of students
17	10
18	20
19	15
20	20
21	20
22	15

1. Give a 95% confidence interval for the percent of students that are over 17 years old (not including 17).

2. How many students would I have to poll (assuming the proportions stay the same as they are currently) to be 99% sure that the percent of students over 17 is greater than 85%?

3. Give a 95% confidence interval for the average age of students at Dartmouth.

4. How many students would I have to poll (assuming the proportions stay the same as they are currently) to be 99.7% sure that the average age of students is over 19?

## Answers

Here are the answers I got. If you keep getting something different there are rounding errors, and for parts 2 and 4 there are slightly different approaches, so don't be discouraged! Feel free to email me and I'll try to respond.

- 1.  $90\% \pm 6\%$
- 2. 244
- 3.  $19.65 \pm 0.32$
- 4. 54, 57 or 58