

Math 105  
Study Guide for Exam 1  
Chapters 13-16

Students should be able to do the following (practice problems recommended):

- Describe the population and sample of studies (p. 537 #1-3)
- Calculate the population of a species using capture-recapture data (p. 541 #25)
- Calculate sampling rate (p. 539 #17-18)
- Identify different clinical study characteristics (p. 542 #39)
- List bias and ways to limit the bias (p. 544 #49)
- Select appropriate graphs for different types of data (review circle graphs, bar graphs, histograms, pictograms, and p. 27 in your guided notes)
- Calculate measures of central tendencies (p. 577 #30)
- Find a missing value given the mean (p. 584 #68)
- Calculate measures of spread (p. 581-582 #56 a-b))
- Create box plots (p. 579 # 43)
- Describe sample spaces for experiments (p. 613 #9)
- Write permutation and combination problems (see p. 40 in your guided notes and make up your own problems)
- Calculate permutations and combinations (p. 615 #22)
- Determine the odds in favor and odds against an event (p. 621 #62)
- Find a probability of an event (p. 617 #40)
- Apply the multiplication rule to probability (p. 622 #71)
- Find missing statistics such as  $Q_1$ ,  $Q_3$ ,  $\sigma$  and  $\mu$  on normal curves (p. 645 #4)
- Standardizing Data (p. 646 #15)
- Apply the 68-95-99.7 Rule (p. 648-649 #33, 38)

Home Work Assignment due 9/28

1. Type up at least two paragraphs about Carl Gauss's contributions to mathematics. Use your textbook and at least one other source. You are to cite that other source, use proper spelling, grammar, and punctuation. (5 pts)
2. From the list of problems above select five questions in your book involving topics that you need the most practice on. Show your work for each problem. This part is not to be typed and is worth 5 pts.