

Math 121 - Midterm 1 Suggested Study Problems

Here are problems that are similar to the ones you might see on the exam. Be sure to also review old homework and quiz questions too. The exam will have both multiple choice and short answer questions. The multiple choice questions will focus on major concepts from each chapter.

Visualizing Data Cht. 1# 1.13, 1.15, 1.17, 1.19, 1.21

Concepts to review: (i) Data tables, individuals, and variables, (ii) categorical vs. quantitative variables, (iii) histograms, (iv) box-and-whisker plots.

Describing Data Cht. 2# 2.15, 2.17, 2.19, 2.23

Concepts to review: (i) How do skew and outliers affect the mean vs. the median? (ii) ways to measure spread.

Normal Distributions Cht. 3# 3.15, 3.17, 3.19, 3.21, 3.23

Concepts to review: (i) 68-95-99.7 rule, (ii) z-values.

Scatterplots and Correlation Cht. 4# 4.15, 4.17, 4.19, 4.21

Concepts to review: (i) The meaning of the correlation coefficient R .

Regression Cht. 5 # 5.21, 5.23, 5.25, 5.27

Concepts to review: (i) How to explain the slope of a regression line, (ii) the meaning of R^2 , (iii) explanatory vs. response variables, (iv) association is not causation, and (v) regression to the mean.

Two-Way Tables Cht.6 # 6.9, 6.17

Concepts to review: (i) Segmented bar graphs, (ii) Simpson's paradox.

Sampling Cht. 8# 8.17, 8.25

Concepts to review: (i) Sample statistics vs. population parameters, (ii) random error vs. bias. (iii) What is the best way to avoid bias? (iv) What is the best way to minimize random error?

Terminology The end of each chapter has a one page chapter summary. Make sure you read this, and are familiar with all of the terms that are mentioned in bold-face.