

Math 138: Statistics

Quiz #2 Topics

Chapters 10–15.

- Chapter 10: Recognizing when data need to be re-expressed and when a re-expression helps. Interpreting re-expressed data.

Practice problems: Chapter 10: 8 (Crowdedness)

- Chapter 11: Simulations: Designing accurate simulations of probabilistic events. Recognizing when a simulation is inaccurate.

Practice problems: 6 (Colorblind), 11 (Bad simulations), 15 (Election)

- Chapter 12: Sampling: Identifying and preventing sources of bias due to sampling techniques. Designing a sampling technique for a given situation. Identifying poorly chosen samples.

Practice problems: 11 (What did they do? Soil samples), 13 (What did they do? Snack foods), 17 (Parent opinion, part 1), 31 (Accounting)

- Chapter 13: Experimental design: Designing an experiment for a given situation. Identifying and preventing sources of bias due to experimental design. Identifying and fixing poorly designed experiments.

Practice problems: 9 (What's the design? Blood pressure), 17 (What's the design? Migraines), 19 (What's the design? Hamstrings), 29 (Shoes), 39 (Reading), 45 (Safety switch)

- Chapters 14 and 15: Probability: Using the 10 rules of probability to calculate probabilities. Disjoint and independent events. Conditional probability. Determining when it's appropriate to use Venn diagrams and tree diagrams, and using them to solve probability problems. The Law of Large Numbers versus the Law of Averages.

Practice problems: Chapter 14: 7 (Cold streak), 19 (Car repairs), 21 (More repairs), 23 (Repairs, again), 35 (Dice), 41 (Tires)

Chapter 15: 1 (Homes), 7 (Cards), 17 (Batteries), 21 (For sale), 23 (Cards), 33 (Luggage), 35 (Late luggage)