

MATH 119 HW #1: CHAPTERS 1-4

FALL 2008 – 3RD EDITION OF TRIOLA'S ESSENTIALS

Write your name and class time and clearly separate sections! See syllabus.

Show work where appropriate, and use “good form and procedure,” as in class!

This is due when you take Quiz 1.

Graded out of 10 points.

“*” denotes “See Hint/Comment below.”

Answers to the “evens” may be provided later in class (not online).

Homework exercises are typically given under “Basic Skills and Concepts” and “Beyond the Basics.” I will often tell you how to round off on test problems; on the homework, you may peek at the answers so that your rounding method is consistent with the book’s. Note: The book and the solutions manual sometimes use “=” (exactly equal to) when they should use “ \approx ” (approximately equal to).

You should read the introductory “Chapter Problems” and Margin Essays; they’re interesting and useful!

CHAPTER 1

Section 1-2: #23.

Section 1-3. No homework, but skim this section.

VERY INTERESTING AND USEFUL!!

Don’t be misled by media reports, bad polls, tricksters, etc.! The exercises (#1-20 and 26-28) are great tests of critical thinking. Also, all those call-in and web polls you see are highly questionable! We will talk more about polls later in the course.

Section 1-4: No homework, but skim this section.

You should read this if you want to conduct surveys, yourself.

CHAPTER 2

Section 2-2: #13, 17.

Look at (skim these, but you don't have to do these): #9, 10, 18, 27.

Section 2-3: #5, 9, 17*.

Look at: #18.

On #17, use Table 2-8 on p.48. Use 21-30, 31-40, etc. along the horizontal axis.

Section 2-4: #6, 9, 13, 15*, 17, 19, 21, 23. Read pp.62-65.

On #15, also give the corresponding percents and central angles.

CHAPTER 3

Section 3-2: #3, 5, 11, 12, 17*, 27, 30, 31, 32.

Read the rounding rules on p.81 (which apply to Chapter 3, though we may alter them for later chapters) and the examples on p.82.

On #17: Read the instructions in blue for Exercises 13-20 on p.88. Be prepared to look around the book like this for instructions on how to do problems!

Do: My Problem #1

All exams in Stan Marsh's class are graded out of 100 points. Stan gets quiz grades of 65, 83, 80, and 90. He gets a 92 on his final exam. Find Stan's weighted class average if the quizzes each count for 15% and the final counts for 40% of the overall grade. The answer is given at the end of this assignment.

Do: My Problem #2

So far, your grade record in a class looks like this:

Exam	% of overall grade	Your score (out of 100)
Quiz 1	10%	55
Quiz 2	10%	50
Midterm 1	20%	65
Midterm 2	20%	40
Final	40%	<i>a</i>

What must you get on the Final to get at least 70% in the class overall? The answer is given at the end of this assignment.

Look at:

#13.

#29: A "trimmed mean" is designed to be less sensitive to outliers.

#33-35: They describe other types of "means."

Section 3-3: #3, 5*, 17*, 33, 36.

Note on #5, 17: Find s , not σ . The solutions manual uses a different formula from the one I used in class. There are some computational advantages to the manual's formula (Formula 3-5 on p.94), but it's harder to remember.

Read on p.94: Reliability and Validity in the margin essay.

Note on p.98: The Range Rule of Thumb is very shaky. Do not use it on tests!

Look at the coefficient of variation on pp.103-104.

We will **not** be finding standard deviations from frequency tables.

Section 3-4: #1, 3, 5-9 all*, 11, 13, 29a.

“5-9 all” means do #5, #9 and the others in between: #6, #7, and #8.

Look at the Examples on z -scores on pp.110-111.

Section 3-5: #1-4 all, 13.

Look at: #14, 15 on outliers.

Read: p.132 under Cooperative Group Activities on the anchoring effect in psychology.

CHAPTER 4

Section 4-2: #7, 8, 9, 11, 13, 17, 19, 25.

Read the fascinating margin essays; some are on gambling.
Read the Roulette example on p.146.

Do: My Problem #3

All 50 students in a class arrive for a particular exam, but only 40 of them arrive on time. What is the probability that a randomly selected student in the class arrives late to the exam?

The answer is given at the end of this assignment.

Look at: #10, 33 on odds.

Section 4-3: #4-9 all, 11, 13, 14, 15, 16, 23 (a table may help), 25.

Do: My Problem #4

A gambler rolls a pair of standard dice. One die is colored red; the other is colored green.

a) Find the probability that the red die will come up “odd” or a “2.”

b) Find the probability that the red die will come up “odd” or the green die will come up a “2.”

The answer is given at the end of this assignment.

Look at: #26.

Section 4-4: #1-17 all*, 21ab*, 22.

Comments on the problems:

#8: The first letter can only be an **uppercase** letter.

#11: For practical purposes, you may assume independence. (Why?)

#13: We will revisit this idea when we do Hypothesis Testing in Ch.7.

#21: The famous “Birthday Problem!” Check my website.

Do: My Problem #5 (classic joke in academia)

Five students arrive late for a test. They claim that they rode in the same (four-wheeled) car, and it blew a tire. The professor adds the following question to their tests before handing them out: “Which tire blew out?” Assuming that they are lying and they each choose the tire randomly, what is the probability that all five students pick the same tire?

The answer is given at the end of this assignment.

Section 4-5: #7, 11, 13*, 15, 17, 21-24 all, 28*.

Look at: #19 and read the margin essay on p.171.

Comments on the problems:

#13: See the margin essay on p.151. In spite of this, we will typically assume that boys and girls are equally likely.

#28: Consider the sample space.

Section 4-6: Covered on the second homework assignment and quiz.

Answers to My Problems

#1: 84.5%

#2: at least 97 points (round up)

#3: $1/5$, or 0.200

#4: a) $2/3$, or about 0.667; b) $7/12$, or about 0.583

#5: $1/256$, or about 0.00391