

Problem Sets Due Before Test 1

Only turn in problems that are **not** bracketed. Bracketed problems are additional problems you can look at. Round brackets indicate problems that may help you with problems that are assigned; square brackets are additional problems on material that you should know, but you are not required to write up solutions; curly brackets are truly optional and may contain extra nuggets that you will not be required to know but may be interested in.

An asterisk (*) indicates a problem for which a data set is available. I have put all these data sets into an R package called BPS3 for easy use in R. The data are also available on the CD that comes with your text.

Additional assignments and deadlines will be filled in over time.

notation	meaning
unbracketed	assigned problem – turn these in for grading
()	helper/warm-up problem
[]	additional problems (you are responsible for content, but don't turn them in)
{}	covers optional material

PS	Due	Chapter	Problems
1	Fri 9/8	1	2 categorical vs quantitative, [11] car color, 12 young deaths, 15 reading a pie chart, [16] eating fruit, 21 identify histograms, 23–24 two stemplots, (26) back-to-back stemplots, [35] stemplot choices, [37] Old Faithful
2	Tue 9/12	2	19* breast-feeding and bones 22* football weights, [23*] survival times, 26* 1.5IQR rule, 31 make data, 32 make data Notes. For problem 19, in R you will want to convert the numeric group variable to a factor (categorical variable). You can do this using <code>Data > Manage variables ... > Convert numeric ...</code> in Rcmdr. This is a useful thing to remember for future data sets as well.
3	Fri 9/15	2 3	8 computing mean and sd, 10 which summary?, (29) sd contest, [30] technology test, (31-32) create some data, 4 locating mean and median, (5–6) women's heights, 7 pregnancy length, 8 SAT vs ACT, (9) comparing heights via z-scores, 15–17 WAIS scores Note. Be sure to show your work for 2.8.
4	Tues 9/19	3 7	(18-19) normal drill, [22-27] more normal practice, 28 normal quartiles, 29 deciles (1–3) warm-up, 4–6 identifying population, 14 tax cut?, (17,19,21) some helper problems, 16 alcohol & heart attacks, 18 anesthetics, 22 rating the president Extra Problem. Give the 'Little Survey' to at least 2 more people and enter their data online. Add 100, 200, etc. to the 2-digit part of your code so we can distinguish the data from your different subjects.

PS	Due	Chapter	Problems
5	Fri 9/22	7 8	32 party sampling not SRS, (38) wording questions (16,18,20) drinkers, 17ab risky sex, 21a TV ads, 22 fabric finishing, [23] Physicians' Health Study, [25] breast cancer treatment, 26 treating drunk drivers, 31 tree growth, 32 matched pairs, [34abd,35,37,39] extra problems, 40 terminology, 44 randomization avoids bias Notes. For problem 44, make a stemplot of the number of the even numbers in your samples. If you like you can use R to do problem 44 (instead of the applet) using the <code>sample()</code> function. You will need to type the commands by hand, since there is no menu item for them in Rcmdr, but it isn't very hard to do. For example, <code>sample(1:30,15)</code> will give you a pseudo-random sample of 15 numbers from 1 to 30. In fact, you can do all 20 samples in one command if you like: <code>replicate(20,sample(1:30,15))</code> . For ease in grading, before you make your samples, first set the "random seed" using the command <code>set.seed(844)</code> . If you do this, everyone will get the same "random samples".
6	Tues 9/26	9	24 tipping nickels, (27) deaths on the job, (29) car colors, 30–31 M&M colors, 33 trip to Paris, 34 roulette, 35 birth gender, 38 cars in garages
7	Fri 9/29	9 10 11	41 polling women, (45) pick 4, 47 pick 4, [48] pick 4 (1) parameter or statistic?, (5) insurance, 9 math scores, 10 insurance, 11 ACT, 24–25 glucose testing, 27 auto accidents, 30 egg weight 2 albinism, (3) college-educated laborers, 4 random dialing, 6 slot machines, (7) taste in music, (8) prosperity and education
8	MON 10/2	11 Notes	(9) college degrees, 11 race & ethnicity, (14) 5-card flush, (15) fundraising by phone, 17–18 HIV testing, 25 geometric probability, [26] royal flush, 29 switches, 32 geometric distribution, 38–40 employment data, [41–45] blood types, 46–49 Mendelian inheritance Do the additional problems below.

Extra Problems

- Free Throw Freddie makes 80% of his free throws. If he takes 3 shots, let X be the number of shots made. Make a table showing the distribution of X , and compute the mean of X .
- Sue is a contestant on *Wheel of Destiny*. She has just won a round of the game and has a choice of taking a \$4,000 prize or "spinning the wheel". The wheel is divided into 25 sections, each labeled with a "prize". 15 of them say \$1,000, 5 of them say \$2,000, 3 of them say \$5,000, 1 of them says \$10,000, and 1 of them says \$100,000.
 - If Sue spins, what is the probability that she gets a better prize than the \$4,000 she can take if she does not spin?
 - Let W be the amount Sue wins if she spins. Compute the mean and standard deviation of W .
 - If you were in Sue's place, would you spin or take the \$4,000? Why? How do the answers above figure into your decision?