Problem Sets Prior to 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.

Additional assignments 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

Due	Task	Source	Problems & Notes
Tue 8/31	PS 0	handout	**1** Fill out the pre-course survey **2** Visit the course web page • http://rpruim.github.io/s343/F21/ **3** Login to RStudio at http://rstudio.calvin.edu Your userid and password should be the same as for other Calvin services. You don't need to do anything in RStudio, I just want to make sure you can login. Contact me if you have issues.
never	WW 00	WebWork	Intro to Webwork.
Tue 8/31	WW 01	FASt App B	set notation; Venn diagrams; sum notation Note: Your initial password is your Calvin student ID number (with any leading 0's removed). Deadline: noon.
Thu 9/2	PS 1	FASt App B	(1,3) union/intersection **2** union **4** complement [11] sum/products [21] evaluate sums
	WW 02	FASt App B	Iverson bracket, geometric sums
Tue 9/7	WW 03	FASt 2.2	
	PS 2	FASt App B	[5] complement **7** indicator **9–10** indicator **12** geometric sums **13** indicator sum For Problem 12, you only need to do the first statement of B.3.1.

Due	Task	Source	Problems & Notes
Thu 9/9	WW 04	FASt 2.2	Probability
	PS 3	FASt B	**15** triangle numbers **16** a sum
		FASt 2	**6** full house **7** two pair **9** birthdays **19** symmetry of independence
			Note: For problem 2.19 you may only use the definition of independence (plus any additional things that you prove along the way). I'm not looking for a heuristic argument or an example.
Mon 9/13	WW 05	FASt 2.2	Probability
	PS 4	FASt App B	**20abd** simplify sums **21** more sums
		FASt 2	[18a] 3-way conjunction **20** independence of complement **26** Bayes **41** games with dice
Thu 9/16	WW 06	FASt 2	Probability
	PS 5	FASt 2	**5** donuts **21** independent? **25** parts [29] sensitivity and specificity **30** STATISTICS **31** acceptance sampling **35** gentleman tasting wine **37** socks
Mon 9/20	WW 07	FASt 2	
	PS 6	FASt 2	**14** Bonferroni's Inequality **15** inclusion-exclusion [16] notation [17] assembly line **24** smoking & cancer **36b** identity **52** spinner
Thu 9/23	WW 08	FASt 2	
	PS 7	FASt 2	**56** coin test **57ab** coin test **65** provide reasons **67** variance lemma **74** which larger? **75** gambling **76a** independence **105** kings/hearts [73] Wierd Willy [79] $E(X^2)$ [104] kings/queens
Mon 9/27	WW 09	FASt 2	These problems will let you practice with joint distributions, expected value, variance, and covariance. Note: I recommend that you do this sooner than midnight the night before the test.