

Problem Sets Between Tests 1 and 2

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.

Due	Task	Source	Problems
Mon 10/4	PS 8	FASt 2	70 disc. unif 89 Alice and Bob 83 NBinom [84] var of sum 87(3, 4) covariance lemma 107 conditional distributions 109 Burger barn Note: In problem 70, pay careful attention the notation and the roles of x and n . You might like to start by plotting or making a probability table for a discrete uniform distribution with a small value of n ($n = 4$ or 5 might be good).
Thu 10/7	WW 10 PS 10	FASt 2 & 3 FASt 2 FASt 3	Note: problems 1-5 are from chapter 2; problems 6-8 are from chapter 3. 90e customers 91 hockey 94 fumbles 96 play 106 conditional distributions 1 pdf 4 mixing
Thu 10/14	WW 11 PS 11	FASt 3 FASt 2 FASt 3	51 memoryless 5 exponential quantiles 9 linear trans 10 probability 15 working with rv [18] triangle
Mon 10/18	PS 12	FASt 3 FASt C	16 working with rv 24 Poisson mgf 25 mgf 27–29 use mgf [21] discrete unif mgf 3 associativity 4a–d projection
Thu 10/21	WW 13 PS 13	FASt C FASt 3	4e–f projection 16–18 transpose 24 2×2 inverses 22 Geom mgf 30 use mgf [20] Fib [23] triangle mgf Additional problems 1 Let X be the random variable with mgf $M_X(t) = e^{\alpha t + \beta t^2/2}$. What is the mgf for $X - \alpha$? 2 Let Y be the random variable with mgf $M_Y(t) = (1 - \alpha t)^{-k}$. What is the mgf for Y/α ?
Mon 10/25	WW 14 PS 14	FASt 3	3 not continuous, not discrete 37ab identify 39 68% 54 joint dist 55 Alice/Bob
Fri 10/29	PS 15 WW 15	FASt 3 FASt 4	37cd identify 56 lightbulbs 62 Ralph and Claudia 63 Poisson [64] binomial 65–67 Gamma 1 binom mom 4 nbinom mom 9 exp vs gamma 13ab weighted mean 14 getting close This WebWork assignment mimics problems 3.62, 3.63, 3.65, 3.66, and 4.14. Enter your answers to those problems in WebWork.