

Unless otherwise indicated, problems are from the *ACTEX Study Manual, SOA Exam P, CAS Exam 1*, 2009 edition. *WMS* refers to *Mathematical Statistics with Applications*, 7th Ed., Wackerly et al.

You should try as many problems as you can before taking Exam P/1; be prepared to work the problems listed below in class.

Due	Page	Prob. Set	Corres WMS Sections	Problems
9/2	25	0	2.3	1, 2, 3, 5, 11, 12, 13.
9/2-9	49	1	2.2-2.9	All 10 problems. I found a Venn diagram useful in all except #4.
9/9	67	2	2.7, 2.10	1, 2, 4, 5, 9, 12, 14, 16, 17, 18, 19, 21, 22, 23, 25.
9/16	101	3	2.6	1 - 8.
9/16	Review the handout on Computing Probabilities and Expectations by Conditioning . This is related to WMS Section 5.11, but more general. Assigned problems Solutions			
9/23	--	--	4.11	Review the handout on mixed distributions . Assigned problems Solutions
9/23	123	4	3.2, 4.2, 4.11	1, 2, 3, 4 (Be careful; what type of distribution does X have?), 5, 8, 9, 10, 11, 12, 14, 16.
9/30	--	--	5.9	Review the Multinomial Distributions: <i>Study Guide</i> p. 174 and handout . Click here for the assigned problems (Problems 5.119, 5.122, and 5.126 on pages 282-283 of <i>WMS</i>). Solutions
9/30	149	5	3.3, 3.8, 3.11, 4.3, 4.9, 4.10	3, 4, 5, 9, 11, 16, 18, 19 (Be careful; what type of distribution does X have?), 21, 23, 24, 25, 26. I hope to discuss 1, 8, 12, 15, 20, and 22 in class. Note: #13, 14, and 15 more properly belong to Section 8, and #8 to Section 9.
10/7	177	6	3.4-3.9, 5.9	1, 3, 4, 5, 9, 10, 13, 14, 17, 18, 25. Time permitting, we may do some of the following in class: 2, 6 (similar problems have been on SOA tests/samples), 8 (rightly belongs in Section 7, but it is an important type of problem), 11, 12, 15, 16, 20, 21, 22, 23 (the "faster" way).
10/14	Midterm Exam 1		Sections 1-5. Spring 2005-2009 Tests & Solutions	
10/21	213	7	4.4-4.9	3, 6, 9, 10, 11, 12, 13 (omit the phrase "with parameters" in the statement of the problem), 14, 16, 17, 18, 20, 22. Also, make sure you can do problems 1, 4, 5, 7, 8, 15, 21.
10/28	151	5	--	13, 14. These are problems involving the joint mgf.
10/28 & 11/4	247	8	5.1-5.11	(Almost) all 40 problems are good and varied (problem types). We'll start with: #1, 4, 5, 6, 8, 9 [there is no need to integrate], 11, 14 [you can find $E(X)$ and $E(Y)$ without integrating], 16 [absolutely no work is required; just explain], 22 [there is no need to integrate], 25 [<i>Hint</i> : Sheldon Ross], 29 [there is no need to integrate by parts], 34, 37, 40. We'll continue with: #15, 17, 20, 23, 24, 26, 27, 28, 31, 35, 38. Also, make sure you can do the rest of the problems. The work in several Section 8 problems can be simplified if you notice that either the joint or one or both of the marginal distributions is uniform (you can use geometry), or if an exponential pdf pops up in an integral. Also the formula $f(x, y) = f_X(x) f(y x)$ is needed in a couple of problems.

11/11	Midterm Exam 2			Sections 4-8. Spring 2005-2009 Tests & Solutions (No direct questions on Sections 1-3, but you will need to use some of the results in some of the problems.)
11/18	287	9	Ch. 3-6 & 7.3	(Almost) all 40 problems are good and varied (problem types). #4 (do without taking expectations), 6, 8, 10 (the solution to this, and to a couple of later problems, is shorter using the Method of Transformations), 13, 15, 17, 18, 22, 23, 26 (do not use trial and error), 29, 30, 31, 34 (use the Method of Transformations), 36. We'll also briefly discuss (or work, if anyone requests) the other problems as we pass by them. In addition, prepare the four problems here
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This page is at <http://faculty.roosevelt.edu/currano/a380/hwk.htm>. Revised: November 13, 2009