

Quiz Practice Questions 1 (Attendance 2) for Statistics 503
Introduction to Statistics
Material Covered: Sections 2.5–2.9 Rao and Kuhn

These are practice questions for the quiz. The quiz (not the practice questions) is worth 5% and marked out of 5 points. One or more questions is closely, but not necessarily exactly, related to one or more of these questions will appear on the quiz. These practice questions are *not* to be handed in. Quizzes are to be done *using Vista* on the Internet **before** 4am of the date of the quiz. Vista will *not* allow any quiz to be done late. It is *highly* recommended that you complete this practice quiz, by hand, *before* logging onto Vista. The quiz is an **individual** one which means that each student does this quiz by themselves without help from others. Also check out *previous* quizzes given at

<http://www.pnc.edu/faculty/jkuhn/courses/previous/quizzes/quizzes.html>

Statistical Research Methods in the Life Sciences (Rao) Questions.

Section	Exercise(s)	hints
2.5, page 45–46	(2.41)	for (a), conditions include 70% chance effective, trees independent, . . .
	(2.43)	for (b), subtract 2nd DISTR A:binomcdf(7,0.70,4) from one (1)
	(2.45)	for (a), 2nd DISTR poissonpdf(9,0) for (b), 2nd DISTR poissonpdf(9,3) for (c), subtract 2nd DISTR poissoncdf(9,4) from one (1)
	(2.45)	for (a), chance one caterpillar found proportional to tree shoot number, . . . for (b), $\lambda = 2$ says there are an average of two (2) caterpillars per tree shoot for (c), 2nd DISTR poissonpdf(2,0)
2.6, pages 58–59	(2.46)	for (a), 2nd DISTR normalcdf(100,E99,83,14) for (b), 95% of area within two standard deviations: (83 – 2(14), 83 + 2(14))
	(2.47)	for (a), 2nd DISTR normalcdf(2,E99,1.1,0.2), ignore the “logarithm” for (b), 2nd DISTR normalcdf(–E99,1.1,1,0.2) for (c), 2nd DISTR invNorm(0.90,1.1,0.2)
2.7, page 61	(2.50)	for (a), $\alpha = 0.10$ critical value is 2nd DISTR invNorm(0.90) for (b), 5% above (to right) of 2nd DISTR invNorm(0.95) for (c), 2nd DISTR invNorm(0.975) for (d), 2nd DISTR invNorm(0.999)
	(2.51)	for(a) and (b), look below!
2.8, page 62	(2.52)	for (a), 2nd DISTR binomcdf(15,0.80,12)

Exercise 2.51, p 61, (a) First notice that, for example, $P(Y \leq 0) = 0.0012$, $P(Y \leq 1) = 0.0012 + 0.0124 = 0.0136$ and also $P(Y \geq 7) = 0.0147$, $P(Y \geq 6) = 0.155$. Since, for example, 15.5% (0.155) is at or above (or to the right) of $y = 6$, $y = 6$ must be the $\alpha = 0.155$ critical value. In fact, of the five possible α -level critical levels listed in this question, only one, $\alpha = 0.155$, exists (is circled); the others do not have a corresponding y value.

Exercise 2.51, p 61, (b) As explained in (a), $y = 6$ corresponds to $\alpha = 0.155$.