ACTEX EXAM P STUDY MANUAL – 2006

Errata List, by S. Broverman
Updated Apr. 10, 2007

Sep 13/06 Page 22, Example 0-19, 2nd line of solution should be $\int xe^{ax}dx$ at start of line

Jan 29/07 Page 27, #9, line 3 should read
. . . is $\frac{Ae^t}{(.02A+e^t)^2}$ billion per year, where . . .

Sep 13/06 Page 49, #1, 2nd line, the question should be
What is the probability that a randomly chosen person in this survey likes biking but not walking?

Sep 13/06 Page 49, #5, answers should be percentages, A) 10% , B)20% etc.

Mar 20/07 Page 57, Example 2-1, line 6 should say "The conditional probability of B given A is"

Apr 4/07 Page 59, middle of page, in the second box down on the right, should be
$P[B' \cap A'] = P[B' \mid A'] \cdot P[A']$
and the line after that should be $P[B'] = P[B' \cap A] + P[B' \cap A']$

Mar 26/07 Page 61, under Bayes' Rule and Bayes' Theorem (extended form):
In the 2nd line, after the 2n equality sign, the numerator should be $P[B \cap A_j]$

Apr 9/07 Page 62, middle box in the middle of the page:
$P[B \mid A_1] = q$ should be $P[B \mid A_2] = q$

Mar 26/07 Page 63, 2nd last paragraph, 2nd last line, 20 should be 10

Jan 31/07 Page 64, the definition of mutually independent events should be
Events $A_1, A_2, ..., A_n$ are said to be mutually independent of the following relationships are satisfied. For any two events, say A_i and A_j, we have $P(A_i \cap A_j) = P(A_i) \cdot P(A_j)$. For any three events, say A_i, A_j and A_k, we have $P(A_i \cap A_j \cap A_k) = P(A_i) \cdot P(A_j) \cdot P(A_k)$. This must be true for any four events, five events, etc.

Jan 31/07 Page 72, #24(b), should read . . . from Urn 3 is red.

Jan 29/07 Page 81, #23 solution, line 8 should have $P(C) = .75$
And line 13 should be $P(D \cap C) = P(C) - P(D' \cap C) = \ldots$

Jan 29/07 Page 88, Example 3-8 solution, 3rd last line should have 48 instead of 38

Sep 13/06 Page 107, Example 4-17, bottom line,
The middle fraction should be $\dfrac{P[X = 1] + P[X = 2] + P[X = 3]}{P[X \le 5]}$

Page 108, Example 4-18, third last line should have $\left(\dfrac{1}{4}\right)^4 = \dfrac{1}{256}$
And last line should have $\dfrac{27}{128} + \dfrac{3}{64} + \dfrac{1}{256} = \dfrac{67}{256}$

Apr 10/06 Page 118, Example 5-4, line 4, Y should be W ,
Solution, lines 9 and 10, the integral should be .5 - .25x and .5 + .25x

Sep 13/06 Page 154, line 8 should say For each *i* from $i = 1$ to $i = k$,

Page 215, #2, first line should read "are consistent" instead of "is consistent"

Page 239, point (iii), line 5, the second X_1 should be X_2

Page 248, Example 9-13, last line, should read $= 1 - .44 = .56$ (not = .44)

Feb 5/07 Page 252, #17, the question should indicate that the correction for discontinuity should be used

Feb 5/07 Page 260, #17, solution, last 2 lines should be
$$P[X < 55] = P[X \le 54] = P[X \le 54.5] = P\left[\frac{X - 60}{\sqrt{58.33}} \le \frac{54.5 - 60}{\sqrt{58.33}}\right] = \Phi(-.72) = 1 - \Phi(.72) = 1 - .7642 = .2358.$$
Answer: A

Sep 13/06 Page 260, #18(ii) solution 2nd line, -24.6 should be -34.6

Jan 21/07 Page 302, #35, solution, line 9, the integral should be
$\int_{100,000}^{1,000,000} x^2 \left(\frac{1}{900,000} \right) dx = 3.7 \times 10^{11}$

Sep13/06 Page 302, #35, solution, last line, delete the 2 in $2\sqrt{Var[Y]}$

Jan16/07 Page 414, #17, answers should be A) .01 B) .03 C) .05 D) .07 E) .09

Jan16/07 Page 416, #26, question should say Find $F_Y(3)$.

Jan16/07 Page 424, #16, solution, insert the following line before the last line
$P(3H \text{ and } 2M) = \frac{5!}{3!2!0!}(.5)^3(.4)^2(.1)^0 = .2$,
The final line should be changed to
The total probability is .03125+.125+.03125+.2=.4875. Answer: E

Feb23/07 Page 427, #24, solution, in the 5th line, in the integral, *dx* should be *dy*