Errata

Page 236, exercise 71-8, change σ_2 to σ^2

Page 304, exercise 9-44(d), change "μ = 3500" to "μ = 3470"

Page 315, below equation (9-32), change the chart references from VIG and VIH to VII*g* and VII*h*, respectively

Page 317, exercise 9-50, change "known variance σ" to "unknown variance σ^2", and change the test statistic from Z_0 to T_0

Page 320, box at the bottom of the page, in the first line replace $X_0^2 < -X_{\alpha/2,n-1}^2$ with $X_0^2 < X_{1-\alpha/2,n-1}^2$ and in the last line replace $X_0^2 < -X_{\alpha,n-1}^2$ with $X_0^2 < X_{1-\alpha,n-1}^2$

Page 377, Example 10-10, change to $\bar{d}$ = 0.2739 and t_0 = 6.08

Page 384, last paragraph, replace "Table V contains..." with "Table VI contains…"

Page 396, exercise 10-75, part (e), change "…answer in part (b)…" to "…answer in part (d)…"

Page 439, exercise 11-78, replace "Clausis" with "Clausius"

Page 469, Table 12-8, replace NI Islanders with NY Islanders

Page 482, Figure 12-5, on the vertical axis replace x_{01} with x_{02}

Page 533, exercise 13-16, change "types of chocolate" to "flow rates"

Page 666, Example 15-3, denominator of PCR and PCRk should be 6(1.5) and 3(1.5), respectively. The final answers are unchanged.

Answers to Exercises

8-43 a) 13.85 b) 21.67

10-55 b) (0.323, 2.527)

10-57 a) (0.607, 1.463) b) (0.557, 1.559) c) $0.669 < \sigma_1/\sigma_2$

10-73 a) Confidence interval $-2.622 < \mu_1 - \mu_2 < 0.902$

10-75 d) (0.113, 3.673)

12-9 a) y = 47.2 - 9.74 x1 + 0.428 x2 + 18.2 x3 b) 12
c) SE(β_0 hat) 49.58, SE(β_1 hat) 3.692, SE(β_2 hat) 0.2239, SE(β_3 hat) 1.312 d) 91.42

12-35 a) f_0 = 191.09

15-39 a) 1.4 b) PCR = 0.95, PCR_k = 0.64

15-47 b) points 5, 9, 12, 20 exceed the limits

15-59 a) $\hat{\sigma} = 6.928$ b) 0.0401 c) 24.94

15-63 a) sigma estimate from s = 0.1736, estimate from moving range = 0.1695, compare to exercise 15-67

15-101 a) Probability = 0.0197 b) 50.8

Last update 11-1-2011, 22.00

Book

- Exercise 4-1 the given function is NOT a probability density function
- Exercise 4-5 the given function is NOT a probability density function
- Exercise 4-9 the given function is NOT a probability density function
- Exercise 4-10 the given function is NOT a probability density function
- Exercise 4-13 the given function is NOT a CDF
- Exercise 4-27 the given function is NOT a probability density function
- Exercise 4-28 the given function is NOT a probability density function
- Exercise 4-44: should read: ....between minus 1 and plus 1.....
- Exercise 5-38 the '5' should be a '6' in the density function
- Exercise 5-69 the given function is NOT a probability density function
- Exercise 5-74 the given function is NOT a probability density function
- Figure 6-4 the given stem and leaf diagram is from the dataset in Edition 4

Solutions Chapter 2

- Exercise 2-18: A tree is not given in the answer.
- Exercise 2-43: c) It should read 7!=5040.
- Exercise 2-52: c) $A \cup B = 195 + 1277 + 3820 + 1558 + 666 + 984 = 8500$
- Exercise 2-72: d) Typo: a (is missing
- Exercise 2-115: The conditional success rate for small stones with PN is 87% (and not 83%).

Solutions Chapter 3

- Exercise 3-71: First sentence: the range of Y is 0, 5, 10, ... , 25.
- Exercise 3-75d): A better argument is that the number of trials is not known. (The Poisson distribution is a good model for this, the limit of binomial distribution).
- Exercise 3-92: In the last sentence the probability 0.651 must be replaced by 0.7843.

- Exercise 3-110: In the solutions one refers to Exercise 3-66. This is not correct. It should maybe be 3-92 (Compare the Fourth Edition). However in 3-92 the number is 25 instead of 20. This has been changed compared to Edition 4, but not in Exercise 110.

- Exercise 3-134c): Let Y be the number of bars with one or more insect fragments. Then Y has a binomial distribution with $n = 7$ and p is the probability that one bar has one or more fragments. For p we have $p = 1 - P(X = 0)$, where X has a Poisson distribution with $\lambda = 14.4 \cdot 28.35/225 = 1.814$. So $p = 0.837$. One finds $P(Y > 1) = 1 - P(Y - 0) - P(Y = 1) = 0.99989$.

Solutions Chapter 4

- Exercise 4-1: Apart from the fact that it is not a density function (see above); the integration is wrong.

- Exercise 4-5: See the Book Section above

- Exercise 4-9: See the Book Section above

- Exercise 4-10: See the Book Section above

- Exercise 4-13: See the Book Section above

- Exercise 4-13: See the Book Section above

- Exercise 4-27: See the Book Section above

- Exercise 4-28: See the Book Section above

- Exercise 4-38c): The answer is wrong.

- Exercise 4-49b): The answer should read $P(Z < 4.0) = 1$.

- Exercise 4-60def): A percentage should be given, not a probability.

- Exercise 4-60f): This should read $\Phi(-1) = 0.1587$, so 15.9%.

- Exercise 4-77: The numbers in the answers do not correspond to the numbers in the exercise.

- Exercise 4-87c): A square root has been omitted in the denominator.

- Exercise 4-99d): The answer refers to the answer of question c) in Edition 4

- Exercise 4-102c): It should read ....does NOT depend...

- Exercise 4-116d): (This was also wrong in Edition 4). The variance has dimension minute^2. If one measures in seconds it is seconds^2. So the variance is 20 second^2.

- Exercise 128 c): The answers should use the probability computed in a) from Edition5, and not from Edition 4)

- Exercise 4-140b): It should read 1500 in stead of 15000.

Solutions Chapter 5

- Exercise 5-15 i): The computation of the mean is wrong. This was also wrong in Edition 4 (exercise 19)
- Exercise 5-15 k): The computation of the marginal distribution of Y is wrong. One should integrate from y until 3. This was also wrong in Edition 4 (exercise 19)
- Exercise 5-35: It should read: 'from Exercise 5-15'
- Exercise 5-60: $E(D) = 0.4$ (and not 0.5); therefore b) and c) are also wrong.
- Exercise 5-62: The answer uses different values for μ and uses 355mL in stead of 350mL. It is better to adapt the numbers in the book (in order to get nicer results).
- Exercise 5-64: a serious mistake: One has computed $\text{Var}(nX)$ in stead of $\text{Var}(X_1 + X_2 + \cdots + X_n)$
- Exercise 5-69: See the Book Section above.
- Exercise 5-74: See the Book Section above.

Solutions Chapter 8

- Exercise 8-46: the number of degrees of freedom should is 19; the value given is the value according to a number of degrees of freedom of 9 (from the 4th edition)

Solutions and datasets Chapter 11

- Exercise 11-5: the dataset, given on the site is the dataset from Edition 4.
- Exercise 11-27: see 11-5 above.
- Exercise 11-43: see 11-5 above.
- Exercise 11-55: see 11-5 above.

Solutions Chapter 12

- Exercise 12-6: The solution of Montgomery is apparently using a different dataset then in the book is given (or on the site). One better uses the solution form Edition 4 to 12-4.
- Exercise 12-26: see 12-6 above. One better uses the solution form Edition 4 to 12-22.
- Exercise 12-44: see 12-6 above. One better uses the solution form Edition 4 to 12-38.
- Exercise 12-58: see 12-6 above. One better uses the solution form Edition 4 to 12-52.