

Exam #1, Solution 21:  $APV = \ddot{a}_{\overline{2}|} + v^{12} {}_1p_{58} \ddot{a}_{70}$

The final answer is OK.

Exam #2 is 4 hours, just like all of the others.

Exam #2, question 39:

C.  $b = 1$  and  $t$  has a  $t$ -distribution with **3** degrees of freedom

D.  $b = 1/\sqrt{2}$  and  $t$  has a  $t$ -distribution with **2** degrees of freedom

Exam #3, sol. 13:  $u = 1 + x^3/3375. \Rightarrow x^3 = (3375)(1-u). \Rightarrow x = -15 (1-u)^{1/3}.$

Final solution is okay.

Exam #3, sol. 34: The question asks for the probability (rather than the odds).

Thus the answer should be **0.299**, which is **A**.

Exam #5, Q. 14, the last choices should be:

D. At least 35%, but less than **40%**

E. At least 40%

Exam #6, Solution 5: Letter choice **B** rather than D

Exam #8, Q.43, the choices should all be 1/10 as much:

A. less than 0.008

B. at least 0.008, but less than 0.010

C. at least 0.010, but less than 0.012

D. at least 0.012, but less than 0.014

E. at least 0.014

Exam #10, Q.17, the question does not match the solution! Change to:

17. The following 200 losses are observed in the following intervals:

| <u>Interval</u> | <u>Number of Losses</u> |
|-----------------|-------------------------|
| [0, 25)         | 97                      |
| [25, 100)       | <b>80</b>               |
| [100, ∞)        | 40                      |

| <u>Bottom of Interval</u> | <u>Top of Interval</u> | <u>Number of Claims</u> | <u>F(Bottom of Interval)</u>         | <u>F(Top of Interval)</u>            | <u>Contribution to Likelihood</u>                                       |
|---------------------------|------------------------|-------------------------|--------------------------------------|--------------------------------------|---|
| 0                         | 25                     | 97                      | 0                                    | $1 - \{\theta/(\theta+25)\}^\alpha$  | $(1 - \{\theta/(\theta+25)\}^\alpha)^{97}$                              |
| 25                        | 100                    | <b>80</b>               | $1 - \{\theta/(\theta+25)\}^\alpha$  | $1 - \{\theta/(\theta+100)\}^\alpha$ | $(\{\theta/(\theta+25)\}^\alpha - \{\theta/(\theta+100)\}^\alpha)^{80}$ |
| 100                       | ∞                      | 40                      | $1 - \{\theta/(\theta+100)\}^\alpha$ | 1                                    | $\{\theta/(\theta+100)\}^{40\alpha}$                                    |

The likelihood is the product of the contributions of each of the intervals =

$$(1 - \{\theta/(\theta+25)\}^\alpha)^{97} (\{\theta/(\theta+25)\}^\alpha - \{\theta/(\theta+100)\}^\alpha)^{80} \{\theta/(\theta+100)\}^{40\alpha}.$$

Exam #12, Q. 21: **Statement III is false**, and thus the correct solution is E.