ACTEX LTAM Study Manual

Spring 2020 Edition

Errata

Jun 26, 2020

C5-44 16: add (vi) $A_{80} = 0.54092$

C5-61 and C5-62 16: change 592.93 to 540.92, and the final answer to 800.85.

C10-44 line –2: change 6.292526 to 4.89253

C10-78 20(b) $\frac{\mathrm{d}}{\mathrm{d}t}\,{}_tp_x^{02} = {}_tp_x^{00}\mu_{x+t}^{02} + {}_tp_x^{01}\mu_{x+t}^{12}$

C12-75 9 Starting from line 3 of the expression at the middle: … $= 8.380037S$

last 2 lines: $\frac{8.380037S}{13.5498} = 0.618462S$ … So the ratio is $0.618462 / 1.03^{34} = 22.64\%$

C12-78 12(b) The benefit related to past service is the accrual rate multiplied with the total salary earned from May 1, 2012 to April 30, 2022:

$$2.5\%(40000 + 40000 \times 1.035 + \ldots + 40000 \times 1.035^9) = 0.025 \times 40000 \times \frac{1.035^{10} - 1}{0.035} = 11731.39$$

The benefit related to future services is 66674.013 – 11731.39 = 54942.62.

C13-6 Example 13.2 First line: We revisit Example 7.7 again.

C14-14 2nd line: CI = $(0.340909e^{-0.7339927}, 0.340909e^{+0.7339927}) = (0.163632, 0.710244)$.

3rd line: The corresponding CI for $S(3)$ is $(e^{-0.710244}, e^{-0.163632}) = (0.49152, 0.84905)$.

C14-43 12 line 6: So the variance estimate is … = 0.00016

Also change the two 0.0016 in the next paragraph to 0.00016.

C14-43 14: Add $\hat{H}(4) = \frac{1}{6} + \frac{2}{7} + \frac{2}{3}$ before "= 1.1190"

C15-29 Add –2" Change the $K_t^{(2)}$ to $K_t^{(3)}$.

T1-5 7 Change the first three options as (A) 53% (B) 63% (C) 73%

T1-18 Change the option of 7 from B to C (do the same T1-19 Q7)

T1-20 line 1: $\frac{61.436416S}{13.5498 - 1} = 4.89541S$ line 3: So the ratio is $4.89541 / 1.05^{39} = 73.01\%$.