

Errata and updates for ASM Exam STAM Study Manual (Third Edition) sorted by date

[7/23/2021] On page 957, in the solution to exercise 50.17, replace the first two lines with:

Expected claims are $0.2(1800) = 360$. The limited fluctuation estimate is based on a credibility factor of $Z = \sqrt{360/1083} = 0.5766$, and is

$$0.5766 \left(\frac{200}{1800} \right) + (1 - 0.5766)(0.2) = 0.1488$$

Replace the last line with:

The percentage change is $0.1724/0.1488 - 1 = \boxed{+15.91\%}$. (E) s

[5/30/2021] On page 194, in exercise 12.25, on the last line, change “thta” to “that”.

[5/27/2021] On page 984, two lines above equation (53.2), put a bar over X_i .

[5/27/2021] On page 997, in exercise 53.19, on the fourth line, add “them” between “5 of” and “each”.

[5/27/2021] On page 1063, in question 17, delete the first sentence “You are given the following experience:”.

[5/27/2021] On page 1194, on the fourth line of the page, the answer key should be (A).

[5/19/2021] On page 792, on the 10th line, change $3\lambda e^{-3\lambda}$ to $3e^{-3\lambda}$ (delete λ). On the 11th and 17th lines, once apiece, change $e^{-x/3}$ to e^{-3x} .

[5/19/2021] On page 839, in the solution to exercise 45.13, on the first three displayed lines, change every x to q : $f(x)$ should be $f(q)$ and dx should be dq . Four changes.

[5/19/2021] On page 868, in the solution to exercise 47.20, on the third line, chane 370,000 to 740,000. Replace the last three sentences of the solution with

The expected process variance is $0.2(740,000) + 0.8(28,000,000) = 22,548,000$. Bühlmann’s K is $22,548,000/2,433,600 = 9.265286$. The credibility factor is

$$Z = \frac{3}{3 + 9.265286} = \boxed{0.2446} \quad (\text{D})$$

[5/19/2021] On page 872, one line above the heading “The exposure unit”, insert “are” between “you” and “calculating”.

[4/30/2021] On page 612, on the fourth line of the fourth paragraph under “34.2 Grouped data”, change $F_n^*(c_{j-1})$ to $F_n(c_{j-1})$.

[4/30/2021] On page 658, in the solution to exercise 35.11, on the displayed line, change the “=” before $\frac{(4-10)^2}{10}$ to “+”.

[4/30/2021] On page 737, change the solution to exercise 40.19 to

$$\lambda_F = \left(\frac{\Phi^{-1}(0.99)}{0.05} \right)^2 = \left(\frac{2.326}{0.05} \right)^2 = 2164.11$$

For severity, the credibility standard is expressed in terms of number of exposures, which is number of claims. We had 1384 claims.

$$e_X = 2164.11 \left(\frac{6,010}{55^2} \right) = 4,300$$
$$Z_X = \sqrt{\frac{1,384}{4,300}} = 0.567354$$

For pure premium, the credibility standard is expressed in terms of number of exposures, which is number of policies. We have 21,000 policies. We divide the usual formula for the credibility standard in terms of number of expected claims by 0.085 to express it in terms of number of policies

$$e_P = \frac{2164.11}{0.085} \left(1 + \frac{6,010}{55^2} \right) = 76,044$$
$$Z_P = \sqrt{\frac{21,000}{76,044}} = 0.525506$$

The absolute difference between credibility factors is **0.0418**. (A)