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

[1/5/2022] On page 74, in exercise 4.26, on the latt line, change $S101$ to S_{101}.

[1/5/2022] On page 96, under Section 6.2, in the line beginning "One model showed that . . . ", change 40 to 40%.

[1/5/2022] On page 111, in the solution to exercise 7.12, on the fifth line, delete the F in s1.2083F33.

[1/5/2022] On page 135, on the fifth line of Subsection 9.2.2. change "expeneses" to "expenses".

[1/5/2022] On page 141, in the solution to exercise 9.2, on the first line, change 2015 to 2018.

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

[1/5/2022] On page 349, in exercise 22.5, in the table, delete the apostrophe before 50 in number of boats for luxury yachts.

[8/6/2021] On page 379, in exercise 23.31(i), change λ to β.

[1/5/2022] On page 521, in the solution to exercise 30.11, 6 lines from the end, in the sentence beginning "For λ_1", in the expression, the λ in the exponent should have subscript : $\lambda_1^3 e^{-\lambda_1(40 + \sum x_i)}$.

[1/6/2022] On page 580, in exercise 32.6, answer choice (E) is missing the factor $(r + 4)$ in the numerator and should be

$$\left(\frac{1}{\beta + 1}\right)^{3r} \left(\frac{\beta}{\beta + 1}\right)^8 \frac{r^2(r + 1)^2(r + 2)^2(r + 3)(r + 4)}{3!5!}$$

[1/6/2022] On page 582, in exercise 32.14, change 2008 on the first line to 2020, and change the "Year Settled" in the table from 2006, 2007, and 2008 to 2018, 2019, and 2020.

[1/6/2002] On page 582, in exercise 32.15, on the first line, change 2008 to 2020.

[1/6/2002] On page 582, in exercise 32.17, on the first line, change 2008 to 2020.

[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 $F_n(c_{j-1})$.

[1/6/2022] On page 638, in the table of the solution to Example 35M, delete the "i" after 2018 and move the numbers for 2017 to the right under the Exposures, Mean, and Variance columns.

[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 "+".

[1/6/2022] On page 734, in exercise 40.18, on the first line, change "iimited" to "limited".

[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 $\boxed{0.0418}$. **(A)**

[1/6/2022] On page 755, in exercise 41.33, on the second line, change "parametes" to "parameters". On the fourth line, change "sapled" to "sampled".

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

$$Z = \frac{3}{3 + 9.265286} = \boxed{0.2446} \qquad \textbf{(D)}$$

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

[8/22/2021] On page 896, in exercise 48.56, in statements (iv) through (vi), change "Risk group R" to "Risk group T".

[8/22/2021] On page 897, in exercise 48.57, on the tenth line, change "Group SR" to "Group S'.

[1/6/2022] On page 956, in the solution to exercise 50.14, on the fourth line, change $\Gamma(1.5)$ to $\Gamma(1.5)^2$.

[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)**

[1/6/2022]   On page 965, exercise 51.11 is a duplicate of exercise 51.5.

[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)**.

[1/6/2022]   On page 1223, in the solution to question 26, on the seonc line, change "fo" to "for".

[1/6/2022]   On page 1265, in the solution to question 8, on the third line, put an equal sign after $\mathbf{E}[X \wedge x]$:

$$\mathbf{E}[X \wedge 10000] - \mathbf{E}[X \wedge 1000] = 2000(e^{-1000/2000} - e^{-10000/2000}) = 1199.5854$$