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

Practice Exam 5:2 is defective in that none of the five answer choices is correct.

Practice Exam 11:5, correct the question as indicated below, page 1124.

[7/9/2020] On page 1281, on the first line, change the link to `https://www.casact.org/admissions/studytools/exam3/sp05-3.pdf`.

[7/9/2020] On page 1284, on the first line, change the link to `https://www.casact.org/admissions/studytools/exam3/Fall05.pdf`.

[7/9/2020] On page 1287, on the first line, change the link to `https://www.casact.org/admissions/studytools/exam3/06-3.pdf`.

[7/9/2020] On page 1290, on the first line, change the link to `https://www.casact.org/admissions/studytools/exam3/Fall06.pdf`.

[6/22/2020] On page 131, in the solution to exercise 8.11, in the table, the headings are wrong. Here is a table with the corrected headings:

Accident Year	Incremental Paid Losses in Development Year			
	2	2	3	4
AY6				10,650
AY7			13,000	11,700
AY8		35,000	14,000	12,600

[6/21/2020] On page 1181, regarding the solution to question 11, the tables now do include the formulas you need to solve this question. The revised solution is

The formula is $1082.41(1+\text{CV}_s^2) = 1082.41\left(\frac{\mathbf{E}\left[(X\wedge 10{,}000)^2\right]}{\mathbf{E}(X\wedge 10{,}000)^2}\right)$. Using the formulas in the tables,

$$\mathbf{E}[X\wedge 10{,}000] = 1{,}000\big(1+\ln(10{,}000/1{,}000)\big) = 3302.585$$

$$\begin{aligned}\mathbf{E}\left[(X\wedge 10{,}000)^2\right] &= \frac{1{,}000^2}{1-2} - \frac{2(1{,}000)}{(1-2)(10{,}000)^{1-2}}\\ &= -1{,}000{,}000 + 2(1{,}000)(10{,}000) = 19{,}000{,}000\end{aligned}$$

$$1082.41\left(\frac{\mathbf{E}\left[X^2\right]}{\mathbf{E}[X]^2}\right) = 1082.41\left(\frac{19{,}000{,}000}{3302.585^2}\right) = \boxed{\mathbf{1885.547}} \qquad \textbf{(B)}$$

[6/15/2020] On page 186, on the second line of the solution to Example 12K, change the left parenthesis after $\mathbf{E}[Y^L]$ to a slash. On the third line, delete the exponent 2 after $\big(1-F(500)\big)$. The sentence should then read

$\mathbf{E}[Y^P] = \mathbf{E}[Y^L]\big/\big(1-F(500)\big)$ and $\mathbf{E}[(Y^P)^2] = \mathbf{E}[(Y^L)^2]\big/\big(1-F(500)\big)$.

[5/20/2020] On page 1277, in the solution to question 24, replace the third and fourth lines with

$$\begin{aligned}l &= 4\ln\alpha + 6\alpha\ln\theta - (\alpha+1)\sum_{i=1}^{4}\ln(\theta+x_i) - 2\alpha\ln(\theta+200)\\ &= 4\ln 0.6526 + 6(0.6526)\ln 38.8571 - 1.6526\sum_{i=1}^{4}\ln(38.8571+x_i) - 2(0.6526)\ln 238.8571\\ &= -22.8443\end{aligned}$$

[5/5/2020] On page 1265, in the solution to question 19, on lines 3–7, change every X to $X \wedge 20$. On line 8, change "calculate above" to "calculated above". On the third line from the end, change $10 \le 10 < 20$ to $10 \le X < 20$. The last line should be split into two lines; the split is between 114.6 and $\text{Var}(X \wedge 20)$.

[4/24/2020] On page 148, in the solution to Example 10D, replace the paragraph beginning "To fix the bias" with

To fix the bias of the loss cost method, we adjust the exposures. The adjustment consists of setting the number of exposures for each policyholder equal to the class differential. In this example, since we are not given the classes or their differentials, we need to know the base rate. The final indicated territory differentials will not vary as a function of the base rate, but we need it to calculate the average class differential. So let's assume that the base rate in Territory 1 is 600. Then, since the average rate equals the base rate, the average class differential is 1 and no adjustment is needed to Territory 1 exposures; they are 90,000/600 = 150.

Now let's move on to Territory 2. Here, the base rate is 600(1.25) = 750. But the average rate is 800. The average class differential is 800/750. So we multiply the number of exposures by 800/750 to obtain the adjusted exposures, weighted by class. This is equivalent to setting the adjusted number of exposures for each insured equal to the class differential for that insured. The number of exposures is 40,000/800 = 50, so the adjusted number of exposures is 50(800/750) = 160/3.

In Territory 3, the base rate is 600(1.6) = 960 and the average rate is 1,200, making the average class differential 1200/960. So we multiply exposures, 60,000/1,200 = 50 by 1,200/960, getting 50(1,200/960) = 62.5.

Using these adjusted exposures, the loss cost is 28,000/(160/3) = 525 in Territory 2 and 36,000/62.5 = 576 in Territory 3. Dividing these by the 300 loss cost of Territory 1, we get 525/300 = 1.75 for Territory 2 and 576/300 = 1.92 for Territory 3, the same as with the loss ratio method.

[4/24/2020] On page 1124, in question 5, after the table, add

The base rate for Territory 1 is 300.

[4/24/2020] On page 1259, replace the solution to question 5 with

The number of exposures in Territory 1 is 45,000/300 = 150. Since the base rate in Territory 1 is 300, this implies that the average class differential in Territory 1 is 1, so that base exposures in Territory 1 equal exposures in Territory 1, or 150.

In Territory 2, the base rate is 300(1.2) = 360 and the average rate is 400. So each exposure is given a weight of 400/360 = 10/9. There are 40,000/400 = 100 exposures, so there are 100(10/9) = $\boxed{\mathbf{111\frac{1}{9}}}$ base exposures. **(B)**

[4/21/2020] On page 1125, in question 2, on the last line of the table under "Deductible 1000", change the periods to commas: 1.727 should be 1,727 and 3.558.799 should be 3,558,799.

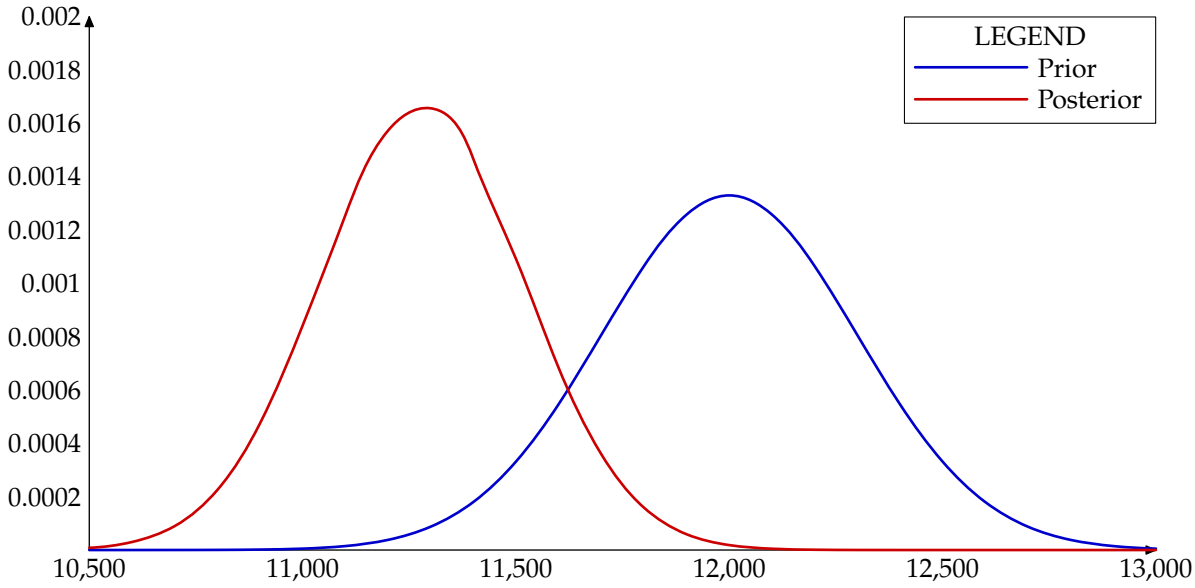
[4/3/2020] On page 1247, in the solution to question 3, on the second line, change "greater" to "less".

[4/2/2020] On page 1111, in question 31, delete statement (i).

[3/31/2020] On page 1242, in the solution to question 23, on the fourth line, delete the 2 in $2(1 - \alpha)$. The factor 2 was already multiplied by 0.1 and 0.2 in the expression, which has 0.2 and 0.4. Two lines after this line, delete the parenthesized statement "(in the following expression, 2 was canceled)".

[3/7/2020] On page 138, in exercise 9.4, in the second table, change "Calendar Year" to "Accident Year" and change CY1, CY2, CY3, CY4 to AY1, AY2, AY3, AY4.

[1/7/2020] On page 799, replace the graph in Figure 44.1 with



[10/13/2019] On page 1175, in the solution to question 28, three lines from the end, replace 104.43575 with 14.43575.

[10/6/2019] On page 1271, in the solution to question 8, 3 lines above the table at the end, change "$50(0.8) + 19 =$ **43** " to "$30(0.8) + 19 =$ **43** ".

[9/14/2019] On page 1265, in the solution to question 26, on the first line, change $\frac{2}{\beta^2}$ to $\frac{2}{\beta^3}$.

[9/4/2019] On page 1254, in the solution to question 23, on the first displayed line, division signs (/) are missing from two exponents. The line should read

$$L(\mu) = \left(\frac{e^{-(1+2+4+7)/\mu}}{\mu^4}\right)\left(e^{-20/\mu}\right)\left(\frac{\mu^4}{(\mu+1)^5}\right) = \frac{e^{-34/\mu}}{(\mu+1)^5}$$

[7/24/2019] On page 96, on the last line, change "insurane" to "insurance".

[6/7/2019] On page 1059, in question 32, add the following sentence to (i):

The deductible is subtracted from the payment after coinsurance is applied.

[6/7/2019] On page 1189, in the solution to question 2, change the last line to

$$0.9\left(\frac{21{,}000(0.1953125)}{0.7}\right) = \boxed{\mathbf{5{,}273.438}}$$

None of the answer choices is correct.

[5/9/2019] On page 482, in the solution to exercise 29.28, on the fourth line, the last right parenthesis in the denominator should be before the exponent $\alpha + 1$:

$$\frac{\alpha^3(1000^{3\alpha})}{\big((1200)(1700)(4000)\big)^{\alpha+1}}$$