

## Errata and Updates for ASM Exam MLC (Fifteenth Edition Fourth Printing) Sorted by Date

- [1/25/2018] On page 258, two lines above Example 12G, add “for” between “benefits” and “a coverage”.
- [1/25/2018] On page 496, 5 lines from the bottom of the page, change 45 to (45).
- [1/25/2018] On page 645, on the fourth line of Example 32C, change “age (50)” to “age 50”.
- [1/8/2018] On page 1913, in the solution to part (a) of question 1, on the third line, delete the minus sign in front of  $(0.04 + 0.01t)dt$ .
- [1/8/2018] On page 1914, in the solution to part (c)(i) of question 1, replace  ${}_t p_{40+t}^{00}$  with  ${}_t p_{40}^{00}$ . In the solution to part (c)(ii) of question 1, replace  ${}_t p_{40+t}^{01}$  with  ${}_t p_{40}^{01}$ . In the solution to part (d) of question 1, replace the last line with the following two lines:

$${}_{0.2}p_{40}^{01} = 0.003 + 0.1((0.996)(0.03) - 0.003(0.01 + 0.012)) = 0.005981$$

The expected number of disableds is  $100(0.005981) = \boxed{0.5981}$ .

- [1/8/2018] On page 1917, in the solution to question 4(b), on the second-to-last line, change  $+0.96G$  to  $-0.96G$ . On the last line, change  $g$  to  $G$ .
- [1/7/2018] On pages 1916–1917, in the solution to question 3(a), on the last line, change 90,838.31 to 90,838.43. In the solution to question 3(b) on page 1919, on the last line, change 90,838.42 to 90,838.43. On the last line of the solution to question 3(c), change 1949.63 to 1943.74.
- [1/6/2018] On pages 1915–1916, replace the solution to part (d) of question 2 with

The single premium we want is the present value of benefits for death at time  $x > 10$ , where the probability of death between time 10 and time  $x$  equals 40%, since the present value of benefits is less than the present value of benefits for death at time  $x$  when death occurs before time 10 or after time  $x$ . In other words, we want  $x$  such that

$$\frac{l_{50} - l_x}{l_{40}} = 0.4$$

Now,  $l_{40} = 9,313,166$  and  $l_{50} = 8,950,901$ , so we want

$$\begin{aligned} 8,950,901 - l_x &= 0.4(9,313,166) = 3,725,266.4 \\ l_x &= 5,225,635.6 \end{aligned}$$

But the age  $y$  such that  $l_y = 5,225,635.6$  is greater than 75. So it suffices to cover the loss if death occurs after age 75 or before time 10, and the highest benefit payable for deaths at those times is the pure endowment benefit payable for deaths after age 75. This has present value  $50,000/1.06^{35} = \boxed{6,505.26}$ .

- [10/15/2017] On page 908, replace the paragraph before equation (45.5) with
- After replacing the left side of equation (??) with (\*), multiply both sides of the resulting equation by  $h$ , and solve for  ${}_{t-h}V^{(i)}$ :
- In equation (45.5), replace  $=$  with  $\approx$ .
- [10/15/2017] On page 1361, in the solution to Quiz 67-2, change the final answer 0.168 to 0.0168.
- [10/8/2017] On page 1228, in the table four lines from the bottom of the page, change the exponents in the column “Discount Factor” from 32, 33, 34, 35 to 22, 23, 24, 25 respectively.

[9/27/2017] On page 1226, on the sixth line, change “should be” to “should we”.

[9/24/2017] On page 973, in the solution to exercise 47.2, on the second and fourth lines, change  ${}_1q^{(1)}x$  to  $q_x^{(1)}$ .

[9/15/2017] On page 1233, in the last displayed formula on the page, change  $\left(\frac{1+1.03}{2}\right)$  to  $\left(\frac{1/1.03+1}{2}\right)$ .

[9/8/2017] On page 886, formula (44.6) should be

$$\int_0^t {}_sP_x^{\overline{00}} \mu_{x+s}^{01} ds$$

[9/7/2017] On page 806, on the first line (below Table 40.1), change  $\alpha - \beta$  to  $\beta - \alpha$ .

[8/24/2017] On page 584, on the first line of the answer to Example 29B, change  $\bar{A}_x^2$  to  $A_x^2$  (remove the bar).

[8/14/2017] On page 429, in the solution to exercise 19.26, on the first two lines, replace  $T_x$  with  $K_x + 1$  four times.

[8/6/2017] On page 256, on the fifth line of Subsection 12.2.1, add “this” before “section”.

[7/27/2017] On page 1655, in the solution to question 2(c), on the second line from the end, change  $Ep20_{45}$  to  ${}_{20}E_{45}$ .

[7/27/2017] On page 1881, in the solution to question 3(c)(i), on the first line, change  $Pi_t$  to  $\Pi_t$ .

[7/25/2017] On page 194, in Example 10H, on the third line, change  $A_{\frac{1}{x:2}|}^{(2)}$  to  $A_{\frac{1}{45:2}|}^{(2)}$ . Make the same correction on the third and seventh lines of the answer.

[7/24/2017] On page 296, in the solution to exercise 13.17, on the second line, change  $\left(\frac{40-t}{40}\right)^{0.5}$  to  $\left(\frac{40-t}{40}\right)^{0.3}$ .

[7/20/2017] On page 1844, in the solution to question 14, on the fifth line, replace  ${}_{0.5}q_{15.6}$  with  ${}_{0.4}q_{15.6}$ .

[6/18/2017] On page 801, in the solution to exercise 39.60(c), on the first displayed line, change  $\ddot{a}_{\overline{\omega-x}|}$  to  $\ddot{a}_{20|}$ . On the second displayed line, change  $\ddot{a}_{20|}$  to  $\ddot{a}_{\overline{\omega-x}|}$ .