

Errata and updates for ASM Exam 3L (Tenth Edition) sorted by page

Note the change to Practice Exam 5:9.

- [6/8/2010] On page xi, on the first line under “Old exam question”, delete www after “questions”.
- [11/7/2010] On page 6, in Theorem 2, change $\sum_i \Pr(B_i) = 1$ to $\Pr(\cup_i B_i) = 1$.
- [9/27/2011] On page 11, in the solution to exercise 1.3, on the first displayed line, change $E[X + Y]^3$ to $E[(X + Y)^3]$.
- [5/29/2011] On page 13, in the solution to exercise 1.9, 7 lines from the end, change $\frac{3}{2}(7500)$ to $\frac{2}{3}(7500)$.
- [5/29/2011] On page 25, in the solution to exercise 2.8, at the end, delete (C), since the question is not multiple choice.
- [7/7/2010] On page 32, in the table at the bottom of the page, interchange “Policyholders” and “Claims”.
- [11/3/2011] On page 44, in the solution to question 3.14, on the second displayed line, change 100 to 300.
- [6/30/2011] On page 46, in the solution to exercise 3.19, on the first line of the page, delete the first $1/\theta$.
- [7/20/2011] On page 55, on the last line of the answer to Example 4H, change 0.02 to 0.05 and change the final answer to 4.

[5/25/2010] On page 56, footnote 1 is missing. It reads:

We will discuss bias in a later lesson, but what you need to know here is that dividing the sum of squares by $n - 1$ instead of by n leads to the unbiased sample variance.

- [7/22/2010] On page 118, in Example 8B, on the first line, replace “is 0.2” with “with mean 0.2”.
- [9/27/2011] On page 133, in the solution to exercise 8.28, on the first displayed line, change 0.9 to 0.1.
- [7/13/2011] On page 134, in the solution to exercise 8.31, on the third displayed line, there should be $\frac{1}{2}$ after the integral sign. On the fourth displayed line, there should be $\frac{1}{2}$ before $e^{-(u-\theta)}$, and the upper limit should be x instead of u . With these corrections, the two lines read:

$$\begin{aligned} F(x) &= F(\theta) + \int_{\theta}^x \frac{1}{2} e^{-(u-\theta)} du \\ &= \frac{1}{2} - \frac{1}{2} e^{-(u-\theta)} \Big|_{\theta}^x \end{aligned}$$

- [7/22/2011] On page 136, in the solution to Quiz 8-1, on the second line, change 35 to 25 and 36 to 26.
- [8/30/2011] On page 141, in the solution to exercise 9.6, on the first line, replace 1.644 with 1.6269 and 7.301 with 7.3759.
- [4/3/2011] On page 169, in the enumerated list of confidence intervals:

1. At the very end of 1., change $w_{1-\alpha}$ to w_{α} .
2. At the very end of 2., right before $, \infty$, change w_{α} to $w_{1-\alpha}$.
3. The confidence interval at the end of 3. should be $(S^2(n-1)/w_{1-\alpha/2}, S^2(n-1)/w_{\alpha/2})$.

- [6/2/2010] On page 175, in exercise 12.19, on the third line, σ^2 should be σ_2^2 .
- [1/20/2011] On page 178, in the solution to exercise 12.18, replace the last sentence with

Since $S_2^2/S_1^2 = 1.75/0.75 = 2.33$, the null hypothesis is accepted even at 5%, and certainly at 1%, significance.

[10/27/2011] On page 194, in the solution to exercise 13.16, on the first line, change $\frac{1}{\sqrt{10}}$ to $\frac{1}{10}$.

[8/22/2010] On page 197, the last four lines of the solution to Quiz 13-2 are incorrect. The correct lines are:

$$s_{\hat{\beta}}^2 = \frac{s^2}{\sum x_i^2} = \frac{1.175}{20} = 0.05875$$

$$T = \frac{0.65}{\sqrt{0.05875}} = 2.682$$

At 6 degrees of freedom, $2.447 < 2.682 \leq 3.143$, where 2.447 is the critical value at 5% significance and 3.143 is the critical value at 2% significance. Therefore, the answer is (C)

[8/23/2010] On page 215, on the second line of the answer to part 2 of Example 16A, change $\Pr(Y_1 < 3)$ to $\Pr(Y_5 < 3)$.

[7/22/2010] On page 232, on the sixth line, change “on starts” to “one starts”.

[6/9/2010] On page 232, fourth line of Section 17.3, change the three arguments x to t :

$$s_{T(x)}(t) = \Pr(T(x) > t). \text{ (Models for Quantifying Risk uses } S(t) \text{ instead of } s(t).)$$

[7/22/2010] On page 232, third line from the bottom, change $X \geq 40$ to $X > 40$.

[7/15/2010] On page 239, in the solution to exercise 17.9, on the third line, ${}_{15}p_{50}$ is 0.54, not 0.6.

[10/3/2011] On page 241, in the solution to exercise 17.15, on the second line, in the last two symbols, q should not be in the subscript. Change them to ${}_1q_0$ and ${}_2q_0$.

[5/28/2010] On pages 245 and 249, in formula (18.8), change the three t 's in the integrand to s 's:

$${}_tq_x = \int_0^t {}_sp_x \mu_x(s) ds$$

[5/28/2010] Page 249: see errata for page 245.

[6/3/2011] On page 415, in the solution to exercise 25.17, on the second line, remove the bar from ${}^2\bar{A}_x$.

[11/3/2010] On page 257, on the displayed line of the solution to exercise 18.7, the right side should be 0.005 instead of $\exp(-0.005)$.

[6/28/2010] On page 260, in the solution to exercise 18.23, 3 lines from the end, change “legs of lengths 0 and 1” to “legs of length 0.5 and 1”.

[6/3/2011] On page 263, in the solution to exercise 18.37, on the last two displayed lines, add a right parenthesis before the last equals sign on each line.

[11/11/2010] On page 280, 3rd line of answer to Example 20B part 2, equation (20.2) should be equation (20.6).

[5/28/2010] On page 281, on the second to last displayed line, the first ${}_{50}p_{20}$ should be ${}_{50}q_{20}$.

[12/6/2010] On page 286, the formula for $\text{Var}(T(x))$ of generalized deMoivre (9th formula) should have α in the numerator: $\frac{\alpha(\omega - x)^2}{(\alpha + 1)^2(\alpha + 2)}$.

[12/6/2010] On page 298, in the solution to exercise 20.26, in the second bullet, replace $\omega - 10$ with $\theta - 10$.

[6/9/2010] On page 301, in the solution to Quiz 20-1, a negative sign is missing on the right of the first displayed line, and the second displayed line's terms should be reversed:

$$\begin{aligned}\int_{50}^{50+t} \mu_x dx &= -\ln(10 - \sqrt{x}) \Big|_{50}^{50+t} \\ &= \ln(10 - \sqrt{50}) - \ln(10 - \sqrt{50+t})\end{aligned}$$

[5/28/2010] On page 305, in equation (21.5) and (21.6), change $e_{x:\overline{n-m}|}$ to $e_{x+m:\overline{n-m}|}$ (once in each equation).

[11/1/2010] On page 306, on the fourth line, L_{x+t} should be L_{x+k} .

[8/2/2010] On page 308, in Table 21.1, replace formula (7.6) with $= e_{x:\overline{m-1}|} + {}_m p_x (1 + e_{x+m:\overline{n-m}|})$, $m < n$.

[9/27/2011] On page 332, in Table 22.1, on the line for ${}_s p_x \mu_{x+s}$, in the Constant force of mortality column, place a negative sign before the expression.

[9/12/2010] On page 332, in Table 22.1, on the second to last line, change $0.5_n p_x$ to $0.5_n q_x$.

[1/12/2011] On page 334, in exercise 22.14, replace the last line of the question with "Calculate $\text{Var}(\min(T(45), 2))$."

[5/25/2010] On page 341, in the solution to exercise 22.14, on the 6th line, change $T^2 \wedge 2$ to $(T \wedge 2)^2$.

[6/28/2010] On page 344, in the solution to exercise 22.23, on the second line, delete the period in 7,126,036.

[11/11/2010] On page 345, in the solution to exercise 22.27, on the first displayed line, change e^{μ_x} to $e^{-\mu_x}$. On the second displayed line, change $e^{\mu_{x+1}}$ to $e^{-\mu_{x+1}}$.

[6/7/2011] On page 349, on the fourth line, delete "actuarial".

[6/14/2010] On page 354, last displayed line of page, put a bar on A_{65} .

[2/25/2011] On page 368, in the solution to exercise 23.14, on the second displayed line, change ${}_1 2E_x$ to ${}_2 E_x$. On the third displayed line, change the denominator from $0.10 + 0.20$ to $0.10 + 0.10$.

[2/26/2011] On page 369, in the solution to exercise 23.18, on the first line, put parentheses around $\mu + \delta$.

[6/14/2010] On page 372, in the solution to exercise 23.31, on the first displayed line, change 0.4 to 0.04.

[8/11/2010] On page 377, on the first line of Subsection 24.2.1, change "a positive real number" to " δ a positive real number".

[6/14/2010] On page 378, on the first displayed line, change a in the exponent to δ .

[12/6/2010] On page 378, on the fourth line of the answer to Example 24D, before the comma, add "divided by 0.16".

[2/7/2011] On page 411, in exercise 25.39, 2-3 lines under the table, replace the sentence "In this group ..." with "This group is drawn from a population in which 80% are non-smokers and 20% are smokers".

[3/3/2011] On page 415, in the solution to exercise 25.17, on the 6th line, $A_{25:\overline{5}|}$ should be $A_{25:\overline{5}|}^1$.

[1/24/2011] On page 422, on the third to last line of the solution to Quiz 25-2, change ${}_5 E_{45}$ to ${}_5^2 E_{45}$.

[8/12/2010] On page 422, on the second to last line of the solution to Quiz 25-2, put an equals sign between (0.09476) and 0.01634.

[8/17/2010] On page 425, fourth line of answer to Example 26A, replace $\omega = 70$ with $\omega - x = 70$.

[6/14/2010] On page 426, on the third line of the answer to Example 26C, replace the two subscripts 30 with 40.

[6/7/2011] On page 428, on the sixth line, delete "actuarial".

- [12/6/2010] On page 428, three lines above Example 26F, change A_{x+t} to \bar{A}_{x+t} .
- [12/6/2010] On page 429, in the answer to Example 26H, on the first line change $x > 20$ to $t > 20$. On the last three displayed line, change each x (one on each line) to t .
- [6/3/2011] On page 434, in the solution to exercise 26.1, on the second line, change the second v_{10} to v_t .
- [9/8/2010] On page 438, in the solution to exercise 26.18, on the second displayed line, replace the integrand $e^{-0.01t} dt$ with $0.01 t dt$.
- [8/4/2010] On page 442, in the solution to Quiz 25-1, on the last line, change the two subscripts from 50 to 60: ${}_{10}p_{60} - {}_{20}p_{60}$.
- [11/11/2010] On page 444, first line, change “a” to “as a”.
- [12/6/2010] On page 444, one line above Example 27B, delete “on”.
- [8/18/2010] On page 450, in formula (27.13), delete the 0 in the first subscript.
- [7/28/2011] On page 461, in the list of additional released exam questions, delete the “,35” in “M-S05:15,35”.
- [12/6/2010] On page 461, in the solution to exercise 27.2, on the fifth and sixth lines, change 7,533,984 to 7,533,964. On the sixth and seventh lines, change 0.962947 to 0.962945. On the eighth and ninth lines, change 0.873422 to 0.873420.
- [12/20/2010] On page 465, in the solution to exercise 27.18, on the last line, the first exponent is missing a parenthesis and should be $-(\mu + \delta)$.
- [11/11/2010] On page 469, in the solution to Quiz 27-3, on the second line, change $A_{40:\overline{5}|}$ to $A_{40:\overline{20}|}$.
- [8/15/2011] On page 475, in Quiz 28-1, the values given are impossible, since the resulting 10-year pure endowment of 0.6 is greater than $e^{-10\delta}$. Therefore, change \bar{A}_{60} to 0.42.
- [6/6/2011] On page 475, on the third line of the paragraph beginning “Whole life”, replace the expression $e^{-(\delta + \mu_x(t))}$ with $e^{-(\delta t + \int_0^t \mu_x(u) du)}$.
- [6/6/2011] On page 484, in the solution to exercise 28.5, on the third line, replace μ with $k + \mu_{x+t}$.
- [8/15/2011] On page 488, revise the solution to Quiz 28-1 in line with the revised value of \bar{A}_{60} given above:
 Since $\bar{A}_{50} = \bar{A}_{50:\overline{10}|} + {}_{10}E_{50} \bar{A}_{60}$, we have ${}_{10}E_{50} = (0.22 - 0.01)/0.42 = 0.5$. Then $\bar{A}_{50:\overline{10}|} = 0.01 + 0.5 = 0.51$. Also, since $\bar{A}_x = 1 - \delta \bar{a}_x$, we have $\delta = (1 - 0.22)/13 = 0.06$. Therefore
- $$\bar{a}_{50:\overline{10}|} = \frac{1 - \bar{A}_{50:\overline{10}|}}{\delta} = \frac{1 - 0.51}{0.06} = \boxed{8\frac{1}{6}}$$
- [9/4/2010] On page 491, on the second line of the answer to Example 29A, change the minus sign before 0.75 to an equals sign.
- [7/27/2011] On page 498, on the first line of the answer to Example 29G, change “second” to third. It is referring to the equation one line above Example 29G.
- [7/28/2011] On page 512, in the list of additional released exam questions, remove SOA M-F06:4.
- [9/20/2010] On page 517, in the solution to exercise 29.27, on the second line, interchange the subscripts on the A 's:
- $$= \frac{1 - A_{25:\overline{20}|}}{d} - \frac{1 - A_{20:\overline{10}|}}{d}$$
- [7/27/2011] On page 525, the first sentence of the third paragraph (starting with “If $I = 1$ ”) skips a step. Replace it with these two sentences:

If $I = 1$, $Y | I$ is v^n times a whole life annuity on $(x + n)$, and we know the expected value and variance for this annuity; the expected value is \bar{a}_{x+n} and the variance is $({}^2\bar{A}_{x+n} - \bar{A}_{x+n}^2)/\delta^2$. Therefore, $E[Y | I] = v^n \bar{a}_{x+n}$ and $\text{Var}(Y | I) = v^{2n}({}^2\bar{A}_{x+n} - \bar{A}_{x+n}^2)/\delta^2$.

- [4/17/2011] On page 525, in the second displayed formula of the page, change ${}_n|\bar{a}_{\overline{n}|}$ to ${}_n|\bar{a}_{\overline{n}|}$.
- [7/28/2011] On page 536, add SOA M-F06:4 to the list of additional released exam questions.
- [8/31/2010] On page 543, in the solution to exercise 30.24, on the fourth line, the lower limit of the sum should be 0 instead of 1.
- [11/11/2010] On page 546, in the solution to Quiz 30-2, on the last line, change the – before 18.67579 to =.
- [9/8/2011] On page 547, on the 4th line of the second paragraph, change 14/5 to 14/6.
- [11/11/2010] On page 573, in the solution to Quiz 31-2, on the second displayed line, change ${}_{60}E_{10}$ to ${}_{10}E_{60}$.
- [7/14/2011] On page 586, in the solution to exercise 32.8, on the second displayed line, change ${}_5E_x$ to ${}_{10}E_x$.
- [7/28/2011] On page 613, in the list of additional released exam questions, add “,35” after “M-S05:8,14”
- [9/3/2010] On page 615, in the solution to exercise 33.7, on the third line, delete one of the “is to observe”s.
- [7/15/2011] On page 624, the previous erratum for exercise 33.39 is withdrawn. The solution is correct.
- [2/6/2011] On page 642, on the last line of the solution to exercise 34.6, in the first symbol in the numerator, the 0 should be inside the angle as follows: ${}^2\bar{A}_{x:\overline{20}|}$.
- [2/14/2011] On page 647, 3 lines above equation (35.5), change ${}^2i = i + i^2$ to ${}^2i = 2i + i^2$.
- [6/21/2011] On page 662, in the caption for Figure 36.2, change fuction to function.
- [2/9/2011] On page 667, on the last four lines of the answer to Example 36J, the exponents should be δ/μ instead of μ/δ . Make four corrections, one on each line.
- [2/18/2011] On page 691, in the solution to exercise 37.11, on the second-to-last line, change $P_{45:\overline{10}|}^1$ to $P_{40:\overline{10}|}^1$.
- [2/10/2011] On page 692, in the solution to exercise 37.14, on the second to last line, change “is paid” to “are paid”.
- [11/11/2010] On page 695, in the solution to Quiz 37-2, on the second displayed line, a vertical line is missing after the 10 in the numerator. The numerator should be ${}_{10}|\bar{A}_{20}$.
- [8/15/2011] On page 699, on the third displayed line below Table 38.2, change the denominator to ${}_{h-k}P_{x+k:n-k}^1$ and change $h < k$ to $k < h$.
- [3/12/2011] On page 700, on the first line of Section 38.2, delete the second “the”.
- [4/3/2011] On page 713, in the solution to exercise 38.6, at the end of the second sentence of the first bullet, change “, or 1/5” to “is 1/5”.
- [8/23/2010] On page 714, in the solution to exercise 38.7, on the fourth line, put a double-dot over $a_{x:\overline{3}|}$.
- [11/11/2010] On page 719, on the second displayed line at the end, the subscript should be fixed so that the symbol is $\ddot{a}_{x+k:\overline{n-k}|}$.
- [10/5/2011] On page 748, in exercise 40.18(i), “full” should be “fully”. Also, the first column of the table represents the number of survivors on July 1, 2009.
- [2/26/2011] On page 751, in the solution to exercise 40.4, on the second and third displayed lines of the page, replace 0.379487 with 0.017446. On the third displayed line of the page, replace 0.415487 with 0.053446. On the second line from the end, replace 0.2656 with 0.0396. On the last line, replace the equation with $0.053446/0.0396 = \boxed{1.3497}$.

[9/12/2010] On page 755, in the solution to Quiz 40-1, the signs in the column “Loss” in the table are incorrect, and on the last line, 230.233 should be 230.223 and the large right parenthesis should be after the first 0.95^2 . On the line after the table, the minus signs should all be removed. The correct table and following line are

Survival time	Probability	Loss	Loss squared
1	3/98	$0.95(1000) - 230.223 = 719.777$	518,077
2	4/98	$0.95^2(1000) - 230.223(1.95) = 453.565$	205,721
3	91/98	$0.95^3(1000) - 230.223(1.95 + 0.95^2) = 200.664$	40,266

$$E[{}_1L] = \frac{3(719.777) + 4(453.565) + 91(200.664)}{98} = 226.878$$

[10/5/2011] On page 776, in the solution to exercise 41.23, on the third line, change π_{45} to π_{19} .

[2/16/2011] On page 778, in the solution to exercise 41.34, on the last line of the first paragraph, change q_{x+2} to q_{x+1} .

[4/1/2011] On page 782, one line below the second-to-last displayed line, change $\Pr(T(xy)) > t$ to $\Pr(T(xy) > t)$.

[11/11/2010] On page 799, 1 line and 4 lines after Quiz 35-1 (once apiece), replace $T(\bar{(xy)})$ with $T(\bar{xy})$.

[2/22/2011] On page 801, in Table 43.1, add minus signs on the left of lines 4 and 8.

[10/22/2011] On page 809, in the solution to exercise 43.16, on the first line, replace $q_x q_y$ with ${}_tq_x {}_tq_y$.

[10/22/2010] On page 823, in the solution to exercise 44.13, on the first two displayed lines, change $\dot{e}_{0:0.5}$ to $\dot{e}_{0:0.5}$.

[7/29/2011] On page 880, delete SOA M-F06:24 from the list of additional released exam questions.

[2/23/2011] On page 900, in the solution to exercise 48.13, five lines from the end, change $e^{-0.015}$ to $e^{-0.15}$.

[2/25/2011] On page 904, in the solution to Quiz 48-1, on the first displayed line, put a superscript (τ) on ${}_5p_{60}$: ${}_5p_{60}^{(\tau)}$.

[11/11/2010] On page 913, on the 8th line, change “will not Gone” to “will not be Gone”.

[11/11/2010] On page 932, 6th line of answer to Example 50B, change “ar” to “are”.

[3/28/2011] On page 975, in the solution to exercise 53.1, 2 lines from the end, delete the word “at” before “exactly”.

[10/31/2010] On page 928, on the last line, change $t + 1$ to $k + 1$.

[4/29/2011] On page 1048, in question 9 statement 3, change $H_1: \sigma_X^2 \neq \sigma_Y^2$ to $H_1: \sigma_X^2 > \sigma_Y^2$.

[7/28/2011] On page 1109, in the answer to question 12, the answer key should be E. Correct the answer key on page 1106 as well.

[10/18/2011] On page 1129, in the solution to question 21, a continuity correction should be applied. On the third line, replace “Then...” until the end of the solution with

A continuity correction is applied; if 15 widgets were observed to be defective, we could ask for the probability that the number defective is greater than any number between 14 and 15, so we’ll use 14.5. Then

$$1 - \Phi\left(\frac{15.5 - 10}{3.146}\right) = 1 - \Phi(1.430) = 1 - 0.924 = 0.076$$

Since it is a two-sided test, we double 0.076 to get **0.152**. (E)

[9/27/2011] On page 1129, in the solution to question 24, change the numerator 6 to 60 on the second to last line, and change the final answer from 582.3 to 582.0.

[10/17/2011] On page 1131, in the solution to question 4, on the first displayed line, change $g(\theta)$ to $g(a)$. On the second displayed line, changed $\frac{dg}{d\theta}$ to $\frac{dg}{da}$.

[10/8/2010] On page 1145, in the solution to question 22, the end of the solution should be $3(0.5)(4) = \boxed{6}$. (D)

[10/10/2010] On page 1148, the solution to question 5 is incorrect. The correct solution is

The mean is 35 and the half-length of the confidence interval is $35 - 5.7 = 29.3$, which equals $t_5 s / \sqrt{6}$, where t_5 is the 95% critical value of the T distribution with 5 degrees of freedom, or 2.571, and s is the square root of the unbiased sample variance. So (in the following, $\hat{\sigma}^2$ is the biased sample variance)

$$s = \frac{29.3\sqrt{6}}{2.571} = 27.915$$

$$s^2 = 779.26$$

$$\hat{\sigma}^2 = \frac{5}{6}(779.26) = 649.38$$

$$\frac{\sum_{i=1}^6 X_i^2}{6} - \bar{x}^2 = 649.38$$

$$\sum_{i=1}^6 X_i^2 = 6(649.38 + 35^2) = \boxed{11,246} \quad (\text{E})$$

The answer key on page 1147 should be corrected as well.

[3/28/2011] On page 1179, the answer key to question 24 should be (D) instead of (C). The answer key on page 1172 should be corrected as well.

[10/23/2010] On page 1184, in the solution to question 36, replace the last line with

We see that in the second year, the probability of accident-free is $\boxed{0.74}$. (E)

[7/28/2011] On page 1188, in the solution to question 15, on the fifth line, remove the line from the presubscript of ${}_9p_{40}$ at the end of the line, so that it becomes ${}_9p_{40}$. Make the same correction four lines from the end of the solution.

[7/29/2011] On page 1190 in the solution to question 27, on the first line, $\mu_{50}^{(1)}$ should be $\mu_{50}^{(1)}(t)$.

[4/10/2011] On page 1191, in the solution to question 38, on the second line, change the second denominator to 1.06^2 .

[10/25/2010] On page 1194, in question 35, the reference should be to lesson 34 instead of lesson 23.

[10/12/2011] On page 1203, in the solution to question 8, on the last line of the page, change + to -. On the second line of page 1204, change + to -.

[7/29/2011] On page 1217, in the solution to question 1, on the second displayed line, q_{45} should be $q_{45}^{(s)}$.

[11/2/2010] On page 1233, on the 7th line of the solution to question 21, change $20/(\omega - 60)$ to $(\omega - 60)/20$.

[11/2/2010] On page 1234, in the solution to question 22, on the first lines of 1. and 2., change $e^{\delta t}$ to $e^{-\delta t}$.

[10/18/2010] On page 1242, in the solution to question 11, a continuity correction should be made; we should calculate the probability that the difference exceeds 0.5 (instead of the probability that it exceeds 0). Replace the last line with

Using the normal approximation, the probability of the difference exceeding 0.5 is $1 - \Phi\left(\frac{0.5 - (-10)}{\sqrt{210}}\right) = \Phi(-0.72) = \mathbf{0.2344}$. (C)

[10/18/2010] On page 1258, in the solution to question 14, on the third line, change “moment of death” to “end of the year”.

[7/26/2011] On page 1260, in the solution to question 24, on the last displayed line, change $\frac{1}{20} = 0.05$ to $\frac{6}{20} = 0.30$.

[7/28/2011] On page 1267, the lesson number for SOA Spring 2005 question 35 should be 33 instead of 27. The lesson number for SOA Fall 2006 question 4 should be 30 instead of 29. SOA Fall 2006 question 24 should be NS. The lesson number for SOA Spring 2007 question 29 should be 28 instead of NS.