Errata and updates for ASM Exam MFE/3F (Seventh Edition) sorted by page

Note: Change practice exam 1:16, 1:18, 1:21, 4:7, 7:4, 7:11, 7:22, 9:17, 10:22, 12:23 as indicated below. None of the choices for 7:6, 10:4, and 12:11 are correct.

[7/8/2010] On page 8, at the end of the first sentence (after "put"), add "both of them at-the-money ($K = S_0$)."

[11/22/2009] On page 10, in the second bullet, change "exercise" to "exercises".

[11/22/2009] On page 24, in the solution to Quiz 1-3, on the first displayed line, change e^{-rt} to e^{-rT}.

[11/22/2009] On pages 29-30, in all displayed equations, the last argument of P and C should be $T-t$ instead of T. This affects ten T's, seven on page 29 and three on page 30.

[11/22/2009] On page 63, one line above "Solutions", change MFE/3F-3 to MFE/3F-S09:3.

[11/22/2009] On page 56, 3 lines from the end of the answer, change ds to dS.

[1/6/2010] On page 74, on the line below the table, change "ending call" to "ending put".

[11/22/2009] On page 79, 3 lines above Example 4E, replace $e^{(r-\delta)h}$ with $Se^{(r-\delta)h}$.

[11/22/2009] On page 96, in the caption of Figure 4.11, change Binary to Binomial.

[11/22/2009] On page 96, in the solution to exercise 4.19, the fourth word should be "is".

[12/14/2009] On page 119, on the sixth line of the "Lognormal tree" paragraph, change σh to $\sigma\sqrt{h}$.

[2/15/2010] On page 132, in Table 7.1, four lines from the bottom, change $-m$ to $+m$.

[12/10/2009] On page 138, in equation (7.6), d_2 should be $-d_2$.

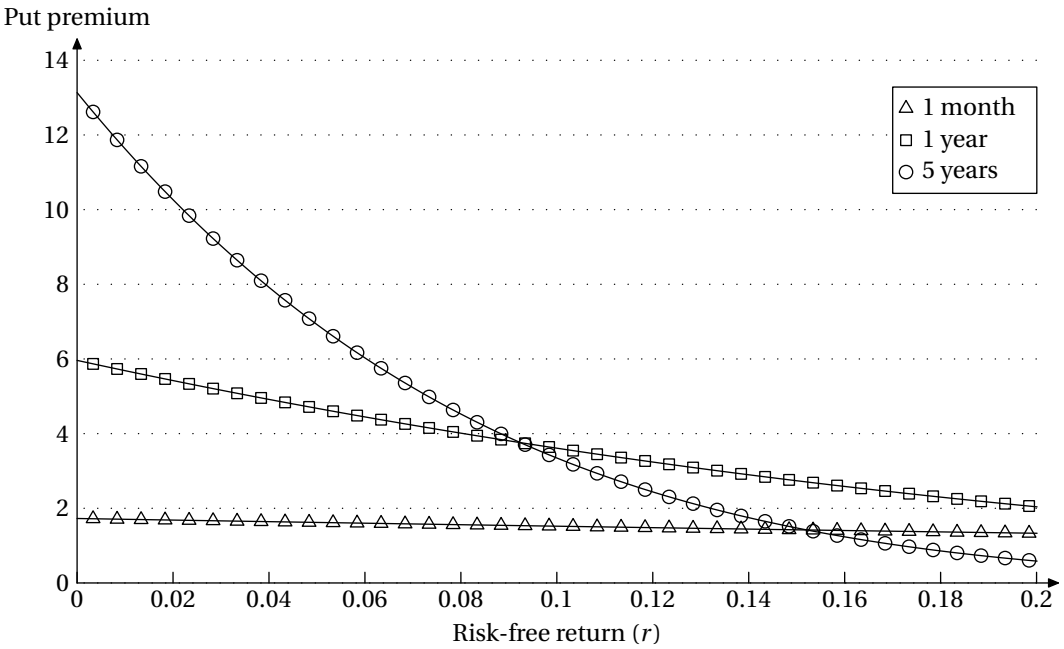
[3/11/2010] On page 138, in item 2 under "One who owns a European call option", change "Receipt of K" to "Receipt of the stock".

[1/29/2010] On page 138, 2 lines above Example 7C, change S to S_0.

[12/14/2009] On page 150, on the last line, replace "stock prices" with "stock returns".

[12/14/2009] On page 182, on the second line (in Ke^{-rt}) and third line (in $Se^{-\delta t}$), change t to T.

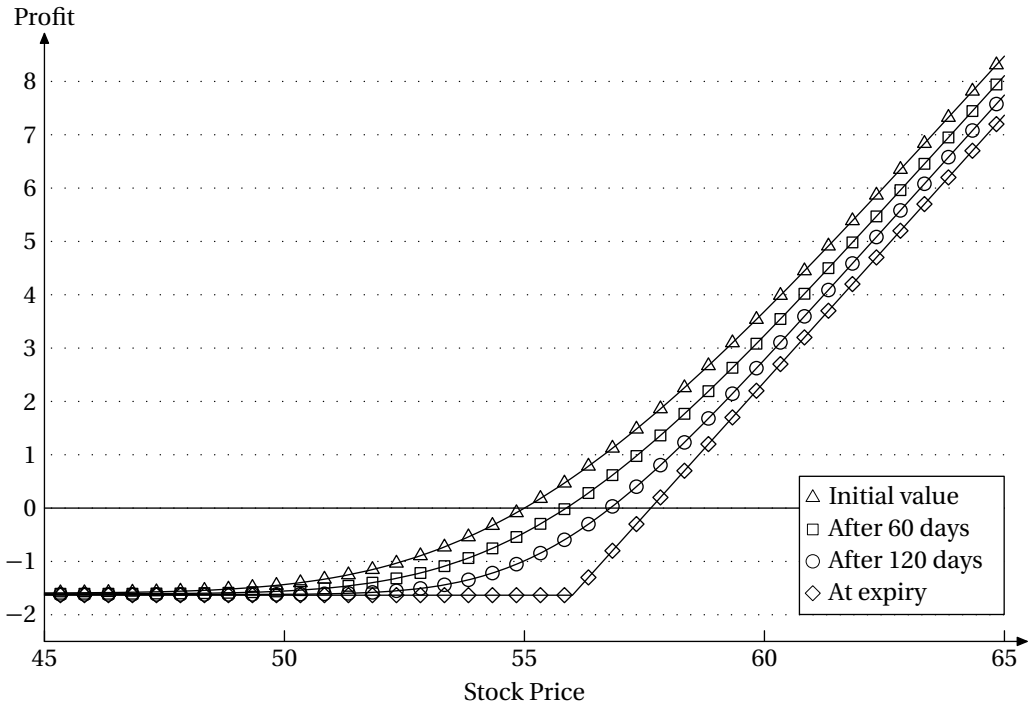
[12/5/2009] On page 189, in Figure 10.14, the vertical scale should be multiplied by 40. The correct figure is



[1/23/2010] On page 203, although the solution given to exercise 10.19 is mechanically correct, the information given is impossible, since delta for a put option should decrease, not increase, as an option is more in-the-money.

[3/17/2010] On page 206, in the solution to exercise 10.11, on the first line change "calculate" to "calculating". On the fourth displayed line, change $2(N-0.1)$ to $2N(-0.1)$.

[12/5/2009] On page 214, Figure 11.2 is incorrect. The correct figure is



[12/14/2009] On page 245, in exercise 12.11, on the third line, change "next" to "net".

[12/14/2009] On page 250, in the solution to exercise 12.3, on the third line from the end, change "x long" to "$-x$ long".

[12/14/2009] On page 253, in the solution to exercise 12.13, on the fifth line, change 46.60 to 44.60.

[12/14/2009] On page 253, in the solution to exercise 12.14, on the first line, put a period after 1.66.

[12/14/2009] On page 253, in the solution to exercise 12.18, on the second line, replace 0.09 with 0.0915.

[12/14/2009] On page 259, two lines below the second displayed equation, add the word "on" after "based".

[12/14/2009] On page 262, on the line after the first display, change $\ln S(0)$ to $3\ln S(0)$.

[12/14/2009] On page 270, on the last line of the page, change S_t to S_{t_1}.

[12/14/2009] On page 282, in the solution to exercise 13.12, on the third and fourth lines (once apiece), remove the negative sign from -0.00865.

[12/14/2009] On page 289, on the fifth line of Section 14.1, change t to T.

[12/14/2009] On page 289, in the paragraph numbered 3, on the second line, replace "is" with "when".

[12/14/2009] On page 294, on the 3rd line, add a period after "strike price".

[2/5/2010] On page 299, on the 1st and 2nd lines of Section 14.3, interchange "call" and "put": "...you may give (for a put option) or receive (for a call option)...".

[4/14/2010] On page 304, in Table 14.1, in the formulas for exchange options, in the four exponents, add T after δ_S or δ_Q.

[12/14/2009] On page 306, in exercise 14.8, delete "midrule" from the second line of the table and instead put a line under the first line of the table so that it looks like this:

Date	Price
Feb. 1	52
Feb. 2	66
Feb. 3	58
Feb. 4	47

[12/14/2009] On page 312, in the solution to exercise 14.1, replace the last line with

The price of the option is $e^{-0.03}\big(10(0.4801)+20(0.9616)\big)=\boxed{\mathbf{23.323}}$.

[12/14/2009] On page 328, on the second line, replace "distribution" with "sample mean".

[12/13/2009] On page 330, on the third line of the answer to Example 15H, delete the first left parenthesis in the numerator.

[12/15/2009] On page 332, in Table 15.1, replace the last line with

$$\beta=\frac{\text{Cov}(X,Y)}{\text{Var}(Y)}=\frac{\sum x_i y_i-n\bar{X}\bar{Y}}{\sum y_i^2-n\bar{Y}^2}$$

[3/15/2010] On page 332, in the unnumbered table, replace the first column's numbers with 0.1292, 0.4522, 0.5596, and 0.9032.

[2/11/2010] On page 334, in exercise 15.5, add the words "nondividend paying" before "stock" on the first line.

[12/13/2009] On page 337, in exercise 15.16, on the last line, replace "call" with "put".

[12/14/2009] On page 338, in exercise 15.17(ii), delete the word "bar".

[12/14/2009] On page 339, in the solution to exercise 15.1, on the last line, change $\frac{(}{1}.2138$ to $(1.2138$.

[12/15/2009] On page 344, the solution to exercise 15.16 is incorrect. The correct solution is

First we calculate β. In Example 15H, we derived the following formula for β, with Y the control variate:

$$\beta=\frac{\sum x_i y_i-n\bar{X}\bar{Y}}{\sum y_i^2-n\bar{Y}^2}$$

substituting our data, with x_i the simulated price of the put option and y_i the simulated price of the call option (the control variate),

$$\sum x_i=5.11 \qquad \sum y_i=7.89$$
$$\sum y_i^2=26.3133 \qquad \sum x_i y_i=2.873$$
$$\beta=\frac{2.873-(5.11)(7.89)/5}{26.3133-7.89^2/5}=-0.374423$$
$$X^*=\frac{5.11}{5}-0.374423\left(3.85-\frac{7.89}{5}\right)=\boxed{\mathbf{0.171}}$$

[12/14/2009] On page 345, the solution to exercise 15.22 has several errors. The correct solution is

The lognormal parameters are $m=0.05-0.5(0.3^2)=0.005$ and $v=0.3$. The first number 0.56 goes to the first stratum: $0.25(0.56)=0.14$, and $N^{-1}(0.14)=-1.08$, so the resulting stock price is $50e^{0.005-1.08(0.3)}=36.344$, and the option pays $40-36.344=3.656$. The second number 0.32 goes to the second stratum:

$0.25+0.25(0.32)=0.33$, and $N^{-1}(0.33)=-0.44$, so the resulting stock price is $50e^{0.005-0.44(0.3)}=44.04$ and the option doesn't pay. Clearly the option doesn't pay for numbers in the third and fourth strata, for which $N^{-1}(x)>0$, so the resulting put option price is $e^{-0.05}(3.656/4)=$ **0.869**.

[3/3/2010] On page 346, in the solution to exercise 15.23, on the top line of the table, 3rd column, change Z to Z_i. Also, on the first line under the heading of the third column, change 0.2667 to 0.0267. However, the table does not use the SOA rounding rules to compute the second column. The following table uses the rounding rules:

u_i	Z_i	$n_i=(0.10)(2)+(0.2\sqrt{2})Z_i$	e^{n_i}
0.27	−0.61	0.0275	1.0278
0.73	0.61	0.3725	1.4514
0.83	0.95	0.4687	1.5979
0.17	−0.95	−0.0687	0.9336
0.15	−1.04	−0.0942	0.9101
0.85	1.04	0.4942	1.6391

The final answer is then 1.26001 instead of 1.26007.

[12/30/2009] On page 349, last line of page, note that $X(t)$ has a scaled and shifted binomial distribution. $0.5\big(X(t)+t\big)$ is binomial with the indicated parameters.

[2/11/2010] On page 350, on the first line of Quiz 16-1, add at the end of the first sentence "with time measured in days".

[12/30/2009] On page 352, change "in" to "is' on the 2nd line and $X(t)$ to $X(t)/X(0)$ on the 6th line.

[12/30/2009] On page 353, 7 lines from the bottom, change α to μ.

[12/30/2009] On page 356, 3 lines from the bottom, $C(50,40,1)$ should be $C(40,50,1)$.

[12/30/2009] On page 371, in Table 17.1, 3 lines from the end, change "an" to "and".

[12/30/2009] On page 378, on the 2nd displayed line of the answer to Example 17L, change the third expression $0.15+0.3-0.060.25$ to $\dfrac{0.15+0.03-0.06}{0.25}$.

[3/29/2010] On page 391, on the second line from the end of exercise 17.25, change $\sigma\,\mathrm{d}Z(t)$ to $v\,\mathrm{d}Z(t)$. (In other words, this σ is not the same as the σ on the previous line.)

[12/13/2009] On page 394, in exercise 17.41, change $\mathrm{d}t$ to $\mathrm{d}s$ and $\mathrm{d}Z(t)$ to $\mathrm{d}Z(s)$.

[12/30/2009] On page 396, in the solution to exercise 17.8, on the second line of (iii), in the last expression, delete d in the numerator.

[12/18/2009] On page 398, the solution to exercise 17.14 is incorrect. The correct solution is

Let's back out r and σ from (i), (ii) and (iii). The logarithm of $S(1)/S(0)$ has a normal distribution with parameters $m=r-\delta-0.5\sigma^2$ and $v=\sigma$. The 50th percentile of a standard normal is 0 and the 80th percentile is 0.842.

From (ii):

$$m=\ln\frac{59.40}{60}=-0.010$$
$$r-\delta-0.5v^2=-0.010$$

From (iii),

$$\begin{aligned} m+0.842v &= \ln\frac{90.50}{60} = 0.411005 \\ v &= \frac{0.411005-(-0.010)}{0.842} = 0.50 \\ r-\delta-0.5(0.50^2) &= -0.010 \\ r-0.06-0.125 &= -0.010 \\ r &= 0.175 \end{aligned}$$

We can now calculate α, the rate of return on the stock, from the Sharpe ratio.

$$\begin{aligned} \phi = 0.3 &= \frac{\alpha-0.175}{0.5} \\ \alpha &= (0.3)(0.5)+0.175 = 0.325 \end{aligned}$$

Then $\alpha-\delta=0.265$, and the expected value of $S(2)$ is $60e^{2(\alpha-\delta)}=60e^{0.53}=\boxed{\mathbf{101.94}}$.

[12/30/2009] On page 401, the solution to exercise 17.26 is incorrect. The correct solution is

The Sharpe ratio is $(0.18-0.04)/0.25=0.56$. Then $\mathrm{d}\tilde{Z}(t)=0.56\mathrm{d}t+\mathrm{d}Z(t)$, so it's an arithmetic Brownian motion with drift 0.56 and volatility 1. The mean of the $\tilde{Z}(2)$ is $2(0.56)=1.12$ and the variance is 2, so

$$\Pr\left(\tilde{Z}(2)>0\right)=1-N\left(\frac{-1.12}{\sqrt{2}}\right)=N(0.79)=\boxed{\mathbf{0.7852}}$$

[12/30/2009] On page 402, in the solution to exercise 17.28, add "dt" after the first ϕ.

[12/30/2009] On page 412, 2 lines above Quiz 18-4, add "for" between "nodes" and "one".

[12/28/2009] On page 415, in Quiz 18-5, change 3-year to 4-year.

[3/29/2010] On page 421, in exercise 18.10, the tree is not a Black-Derman-Toy tree.

[3/29/2010] On page 425, in the solution to exercise 18.8, change σ to σ_1 in the first two displayed lines.

[12/28/2009] On page 429, in the solution to Quiz 18-5, change "2-year" to "3-year" twice (first line, second line).

[2/25/2010] On page 439, three lines above Example 20A, the sign of N is incorrect. Replace the phrase starting with is $-N$ through the parenthetical sentence with

is $N=-t_1P(0,t_1)/t_2P(0,t_2)$. (In other words, N is the number of bonds to buy; it is negative, so you should sell bonds.)

[4/29/2010] On page 439, the last two lines of the table in the answer to Example 20A should be

Loan	$0.904838e^{0.05/365}=0.904962$	0.904962
Total	0.000218	0.000214

[12/30/2009] On page 441, on the first line of the fourth paragraph, add "to" between "leads" and "an".

[5/5/2010] On page 441, one line below equation (20.7), put "d"'s before the two Z's:

Here, $\mathrm{d}\tilde{Z}(t)=\mathrm{d}Z(t)-\phi(r,t)\mathrm{d}t$.

[12/30/2009] On page 442, on the line after the 4th displayed equation, a slash is missing: $P_r(t,t,T)=-q(r,t,T)P(r,t,T)/\sigma(r)$.

[12/25/2009] On page 447, on the third line of Quiz 20-3, the interest rate risk premium is -0.05 (not 0.05). In general, the interest rate process has a negative risk premium.

[4/6/2010] On page 454, on the second line of the answer to Example 20I, change $e^{0.1(4)}$ to $e^{-0.1(4)}$.

[4/27/2010] On page 480, in question 16, on the last line, change "an-the-money" to "an at-the-money".

[3/31/2010] On page 481, replace question 18 with

The time-t price of a stock is $S(t)$. A claim on a stock pays $C(t)=\sqrt{S(t)}$. $S(t)$ follows geometric Brownian motion with drift 0.10 and volatility 0.2.

The Itô process followed by C is of the form

$$\mathrm{d}C(t)=aC(t)\,\mathrm{d}t+bC(t)\,\mathrm{d}Z(t)$$

Determine a.

(A) 0.040 (B) 0.045 (C) 0.050 (D) 0.055 (E) 0.060

[3/31/2010] On page 481, in question 21, replace choices (C), (D), and (E) with 0.68, 0.70, 0.72 respectively.

[3/31/2010] On page 484, on the first line of question 6, change "write" to "writes".

[2/26/2010] On page 503, change the last line of question 7 to "Calculate $\alpha(2,4)$."

[3/16/2010] On page 526, in question 4(iii), change 38.70 to 35.73.

[4/21/2010] On page 526, in question 6, change the last displayed line to

$$\frac{\mathrm{d}x(t)}{x(t)}=\alpha\,\mathrm{d}t+\beta\,\mathrm{d}Z(t)$$

[4/14/2010] On page 528, in question 11, add after (vi):

(vii) The strike prices of the compound options are all the same.

[4/14/2010] On page 531, in question 22, add at the end of the first sentence "based on forward prices".

[5/7/2010] On page 534, in question 4(i), add "$\mathrm{d}t$" after $0.4\big(0.06-r(t)\big)$.

[5/11/2010] On page 542, in question 4(i), change $S(t)$ to $S(0)$.

[4/20/2010] On page 546, in question 17, add at the end of (iii): "Dividends are not incorporated in the index."

[4/22/2010] On page 555, in question 22, add the words "nondividend-paying" before "stock" on lines 1 and 5.

[4/27/2010] On page 572, in question 23, on the fourth line, change "put" to "call".

[3/31/2010] On page 581, replace the solution to question 18 with

The process for S is

$$\mathrm{d}S=(0.12-0.02)S\,\mathrm{d}t+0.2S\,\mathrm{d}Z$$

Using Itô's lemma,

$$\begin{aligned}\mathrm{d}C&=C_S\,\mathrm{d}S+\tfrac{1}{2}C_{SS}(\mathrm{d}S)^2+C_t\,\mathrm{d}t\\&=\frac{0.10S}{2\sqrt{S}}\,\mathrm{d}t-\left(\frac{1}{2}\right)\left(\frac{0.2^2S^2}{(2)(2)S^{3/2}}\right)\mathrm{d}t+\frac{0.2S}{2\sqrt{S}}\,\mathrm{d}Z\end{aligned}$$

$$= \left(0.05\sqrt{S} - \frac{0.04}{8}\sqrt{S}\right) \mathrm{d}t + 0.1\sqrt{S}\,\mathrm{d}Z$$
$$= (0.05 - 0.005)C\,\mathrm{d}t + 0.1C\,\mathrm{d}Z$$

The constant multiple of the drift term is therefore $0.05 - 0.005 = \boxed{\mathbf{0.045}}$. **(B)**

An alternative and easier method is to log the process and then exponentiate it back. $\ln C = 0.5 \ln S$, and

$$\mathrm{d}\ln S(t) = \left(0.12 - 0.02 - 0.5(0.2^2)\right)\mathrm{d}t + 0.2\,\mathrm{d}Z(t) = 0.08\,\mathrm{d}t + 0.2\,\mathrm{d}Z(t)$$
$$\mathrm{d}\ln C(t) = 0.04\,\mathrm{d}t + 0.1\,\mathrm{d}Z(t)$$
$$\frac{\mathrm{d}C(t)}{C(t)} = \left(0.04 + 0.5(0.1)^2\right)\mathrm{d}t + 0.1\,\mathrm{d}Z(t) = 0.045\,\mathrm{d}t + 0.1\,\mathrm{d}Z(t)$$

Change the answer choice in the table on page 577 accordingly.

[3/31/2010] On page 583, in the solution to question 24, on the second line, change the t in the first exponent to h.

[5/5/2010] On page 585, in the solution to question 5, on the first line, put "ln" before $X(5)/X(0)$.

[4/7/2010] On page 588, in the solution to question 18, on the third line, change the denominator from -0.1 to 0.1. (For bond models, the Sharpe ratio is defined by McDonald to divide by negative the coefficient of the $\mathrm{d}Z(t)$ term. This contrasts with stock models, where we divide by the coefficient itself.)

[4/18/2010] On page 601, in the solution to question 3, on the first displayed line, change the denominator from $\mathrm{d}t$ to $S_1(t)$.

[2/26/2010] On page 603, change the last 3 lines of the solution to question 7 to

$$\mathrm{d}Y(t) = \left(1.5X^3 + 2X^2 + 12X + 8 + 4\right)\mathrm{d}t + \sigma\left(t, X(t)\right)\mathrm{d}Z$$

So setting $t = 2$, $X(t) = 4$.

$$\alpha(2,4) = 1.5(4^3) + 2(4^2) + 12(4) + 12 = \boxed{\mathbf{188}} \qquad \textbf{(A)}$$

[5/8/2010] On page 604, in the solution to question 10, on the third line from the end, change the exponent rt_1 to $-rt_1$.

[4/20/2010] On page 609, change the 2 displayed lines of the solution to question 3 to

$$100F^P_{0,2}\left(\frac{1}{x(2)}\right) = 100\left(\frac{1}{x(0)}\right)e^{-rt}\,e^{\left(a(r-\delta)+0.5a(a-1)\sigma^2\right)t}$$
$$= \left(\frac{100}{1.50}\right)e^{-2(0.04)+2\left(-0.02+0.5(-1)(-2)(0.1^2)\right)} = \frac{100e^{-0.1}}{1.5} = \boxed{\mathbf{€60.32}} \qquad \textbf{(B)}$$

[4/28/2010] On page 618, in the solution to question 4, replace the right side of the third displayed equation ($0.06\sigma\sqrt{t}$) with $\left(\ln S - \ln 55 + (r - \delta + 0.5\sigma^2)t\right) - (\ln 61 - \ln 55)$.

[5/2/2010] On page 625, in the solution to question 2, change the exponent 0.04 on the first line, the coefficient 0.04 on the fourth line, and the coefficient 0.04 on the seventh line, all three to 0.0375.

[3/16/2010] On page 626, in the solution to question 4, replace the first three lines with:

From the risk-neutral process of $S(t)$, we see $r - \delta = 0.06$, and we're given $\delta = 0.02$, so $r = 0.08$.

The price of a cash-or-nothing option paying 100 at the end of 4 years is $100e^{-4r}N(d_2)$, or $100e^{-0.32}N(d_2)$ here.

$$100e^{-0.32}N(d_2)=35.73$$

[4/14/2010] On page 627, the solution to question 6 is incorrect. The correct solution is:

At time t, there are two ways to acquire 1 share of Wachovia stock at time T:

1. Buy $e^{-0.04(T-t)}$ shares of Wachovia immediately and hold on to them.
2. Buy $x(t)e^{-0.03(T-t)}$ shares of Chemical immediately, and enter into the specified forward agreement. At time T, you will have $x(t)$ shares of Chemical, which you will exchange for 1 share of Wachovia.

These two ways must have equal cost to avoid arbitrage. The first way costs $e^{-0.04(T-t)}Q(t)$ and the second way costs $x(t)e^{-0.03(T-t)}S(t)$, so

$$\begin{aligned} x(t)e^{-0.03(T-t)}S(t) &= e^{-0.04(T-t)}Q(t) \\ x(t) &= \frac{Q(t)e^{-0.01(T-t)}}{S(t)} \\ \ln x(t) &= \ln Q(t)-0.01(T-t)-\ln S(t) \end{aligned}$$

Differentiating, we get

$$\mathrm{d}\ln x(t)=\mathrm{d}\ln Q(t)-\mathrm{d}\ln S(t)+0.01\,\mathrm{d}t$$

where the constant $-0.01T$ drops out. As usual, we subtract $0.5\sigma^2$ when calculating $\mathrm{d}\ln S(t)$ and $\mathrm{d}\ln Q(t)$.

$$\begin{aligned} \mathrm{d}\ln S(t) &= \left(0.12-0.5(0.3^2)\right)\mathrm{d}t+0.3\,\mathrm{d}Z(t)=0.075\,\mathrm{d}t+0.3\,\mathrm{d}Z(t) \\ \mathrm{d}\ln Q(t) &= \left(0.10-0.5(0.2^2)\right)\mathrm{d}t+0.2\,\mathrm{d}Z(t)=0.08\,\mathrm{d}t+0.2\,\mathrm{d}Z(t) \\ \mathrm{d}\ln x(t) &= (0.08-0.075+0.01)\mathrm{d}t+(0.2-0.3)\mathrm{d}Z(t)=0.015\,\mathrm{d}t-0.1\mathrm{d}Z(t) \end{aligned}$$

We add $0.5\sigma^2$ to calculate $\mathrm{d}x(t)/x(t)$.

$$\frac{\mathrm{d}x(t)}{x(t)}=\left(0.015+0.5(0.1^2)\right)\mathrm{d}t-0.1\,\mathrm{d}Z(t)=0.02\,\mathrm{d}t+0.1\,\mathrm{d}Z(t)$$

Therefore $\alpha=$ **0.02**.

[3/16/2010] On page 643, in the solution to question 22, replace the last two lines with

$$\begin{aligned} 0.015+0.03+\beta &= 0.05 \\ \beta &= \boxed{\textbf{0.005}} \qquad \textbf{(A)} \end{aligned}$$

The answer key on page 635 needs to be corrected as well.

[5/3/2010] On page 643, in the solution to question 22, remove 7 negative signs from β's in exponents: 3 on the first displayed line, 4 from the 3rd displayed line.

[5/1/2010] On page 645, in the answer key, the answers for 13 and 14 should be A and B respectively.

[5/10/2010] On page 648, in the solution to question 9, on the last line, change the denominator $u-d$ to $F_{uu}-F_{ud}$.

[4/14/2010] On page 656, replace the last line of the solution to question 4 with:

Thus **1500** is invested in the stock and the investor receives 500 in proceeds from selling the derivative security. **(E)**

[7/26/2010] On page 663, in the solution to question 24, on the second displayed line, change $-e^{-3r_f}$ to $+e^{-3r_f}$.

[4/29/2010] On page 671, there are several typos in the solution to question 18. The solution, starting with "The second term in the sum". should read:

The second term in the sum can be expressed as

$$\frac{1}{S(0)^{0.7}}\max\left(0, S(0)^{0.7} - S(1)^{0.7}\right)$$

which is $1/S(0)^{0.7}$ one-year puts with underlying asset $S(t)^{0.7}$ and strike price $K = S(0)^{0.7}$. The risk-neutral process for $S(t)^{0.7}$ has drift equal to the drift of the prepaid forward, or 0.01905, and volatility $0.7(0.1) = 0.07$. Using the Black-Scholes formula, the price P of each of these puts is (notice that the $\ln S/K$ term in the Black Scholes formula is $\ln S(0)^{0.7}/S(0)^{0.7} = 0$)

$$\begin{aligned} d_1 &= \frac{0.04095 + 0.5(0.07^2)}{0.07} = 0.62 \quad & N(-d_1) &= N(-0.62) = 0.2676 \\ d_2 &= 0.62 - 0.07 = 0.55 & N(-d_2) &= N(-0.55) = 0.2912 \\ P &= S(0)^{0.7}\left(e^{-0.06}(0.2912) - e^{-0.01905}(0.2676)\right) = 0.01169S(0)^{0.7} \end{aligned}$$

so $1/S(0)^{0.7}$ puts have value 0.01169.

Therefore the insurance company's profit is $1000(1 - 0.98113 - 0.01169) =$ **$7.18**. **(C)**

[4/27/2010] On page 679, in the solution to question 11, on the second to last line, change $0.36 + 0.2 = 0.56$ to $0.36 - 0.2 = 0.16$, and change the final line to:

$$\Pr\left(\ln G(1) - \ln S(1)\right) > 0 = \Pr(X > \ln 1.2) = 1 - N\left(\frac{\ln 1.2 - 0.0352}{0.16}\right) = 1 - N(0.92) = \boxed{\mathbf{0.1788}}$$

[4/27/2010] On page 683, in the solution to question 23, on the first line, change "put" to "call". On the last line, change Y to X.

[2/12/2010] On page 696, in the solution to question 25, on the second line, change $e^{-0.05}$ to $e^{-0.05/4}$.

[2/12/2010] On page 697, in the solution to question 28, on the second displayed line, change 6.98 to 8.74.

[3/29/2010] On page 701, in the solution to question 11, on the second line from the end, change "negative" to "positive".

[3/29/2010] On page 703, in the solution to question 17, 3 lines from the end, delete "carrying".

[4/29/2010] On page 716, in the solution to question 32, on the last displayed line, the right-hand side is missing a t and the last minus should be plus: $(1-\varphi)(r + 0.5\varphi\sigma^2)t$.

[12/5/2009] On page 729, Table C.1 is not correct. A replacement page is at the end of these errata.

Appendix C. Lessons Corresponding to Questions on Released and Practice Exams

Table C.1: Lessons Corresponding to Practice Exam Questions

Question Number	Practice Exam											
	1	2	3	4	5	6	7	8	9	10	11	12
1	2	1	6	2	2	5	1	1	1	1	1	2
2	1	3	17	7	6	17	17	2	15	15	6	12
3	13	10	12	17	17	13	12	1	14	14	9	17
4	9	17	8	12	13	10	16	20	17	17	12	10
5	18	16	14	9	18	12	4	16	20	17	8	20
6	16	12	1	17	12	17	16	7	13	20	18	15
7	12	9	20	17	1	17	12	18	12	1	4	4
8	9	18	16	13	14	16	17	16	12	10	7	4
9	8	14	16	15	12	14	10	13	4	19	16	13
10	1	15	9	13	20	20	13	5	10	4	1	14
11	17	17	18	1	5	19	13	4	18	16	20	17
12	6	17	7	17	14	10	9	14	17	5	17	17
13	12	15	12	10	1	1	6	17	16	14	9	17
14	7	10	19	16	3	9	1	17	13	3	13	1
15	20	17	1	1	16	4	17	12	17	5	17	1
16	10	7	17	12	15	3	9	9	15	17	10	6
17	14	1	13	13	7	17	18	8	9	20	15	10
18	17	20	16	20	17	7	2	10	7	9	17	9
19	4	8	4	4	14	9	20	7	17	4	10	18
20	11	13	5	5	4	6	15	4	1	7	3	7
21	7	3	3	20	19	20	1	3	2	12	17	15
22	15	6	15	18	17	8	4	17	5	17	12	20
23	17	20	5	3	9	15	3	9	5	7	13	16
24	3	5	10	15	8	18	7	15	9	13	4	6
25	10	13	1	10	12	9	10	19	19	10	15	13