Errata and updates for ASM Exam MFE (Tenth Edition) sorted by page.

Practice Exam 9:18 and 10:26 are defective.

[4/3/2017] On page 1, on the tenth line, change "unit is a shares" to "unit is one share".

[4/3/2017] On page 1, on the first line of the paragraph numbered 2, change "all the companies" to "a company".

[4/3/2017] On page 1, three lines after the numbered list of paragraphs, change "no affect" to "no effect".

[3/8/2017] On page 1, eleven lines from the bottom, change "riak" to "risk".

[2/28/2017] On page 3, on the third and fourth lines, change "Bob" to "the lender" once on each line.

[3/8/2017] On page 3, at the end of the first paragraph, change the comma to a period.

[6/12/2017] On page 9, in each of the three bullets under Subsection 2.3.2, replace S_0 with S_t. On page 10, on the third line, replace S_0 with S_t twice.

[2/28/2017] On page 10, replace the first paragraph of Section 2.4 with the following paragraph:

It is possible to use stocks and bonds to create a combination that has the same payments as a forward. To create a synthetic long forward, one buys a stock and borrows the price of the stock. Borrowing the price of the stock can be done by selling a zero-coupon bond whose price is the price of the stock and which matures at expiry of the forward. To create a synthetic short forward, one sells the stock and buys the same zero-coupon bond.

[4/4/2017] On page 13, on the last line of the page, change ADZ to BUK.

[4/4/2017] On page 17, in the solution to exercise 2.17, on the first line, change $e^{\alpha-\delta=86}$ to $e^{\alpha-\delta}=89.2$.

[4/4/2017] On page 20, in the paragraph numbered 3, on the second line, delete "are" between "you" and "long".

[3/8/2017] On page 21, on the third line of the answer to Example 3C, at the end of the line, change 28.003.07 to 28,003.07.

[4/4/2017] On page 23, in exercise 3.7, on the first line, add "1-year" before "S&P futures". Replace the third sentence with

The spot price of the index is 1900. The futures price of the index is the forward price.

On the fourth line, change "the price" to "the spot price". See footnote 2 on page 70.

[6/5/2017] On page 24, in the solution to exercise 3.3, on the first line, put an S before "$e^{(r-\delta)t}$".

[3/7/2017] On page 25, replace the solution to exercise 3.9 with

The forward pays $10(500)=5000$.

For the future contract, the initial margin is $0.1(500)(1000)=50{,}000$. In one day, it is $50{,}000e^{0.04/365}=50{,}005.48$. The mark-to-market is $20(500)=10{,}000$, raising the margin account to 60,005.48.

On the second day, interest raises it to $60{,}005.48e^{0.04/365}=60{,}012.06$. The mark to market is $-10(500)=-5000$, bringing the account to 55,012.06. Profit is this amount minus the initial margin of 50,000, or 5,012.06. The difference in payoff is $\boxed{\mathbf{12.06}}$, caused by the interest earned on the day 1 mark-to-market.

[2/28/2017] On page 25, in the solution to exercise 3.11, on the last line, change $Se^{-0.75(0.02-0.04)}$ to $Se^{0.75(0.02-0.04)}$.

[2/28/2017] On page 27, in Example 4A's answer, change the end of the last sentence to $10-3.35(1.05)^{0.5}=\boxed{\mathbf{6.5673}}$.

[2/28/2017] On page 29, on the fourth line of the first paragraph of Section 4.2, change "option write" to "option writer".

[4/20/2017] On page 32, in exercise 4.11, change answer choice (D) to III>I>II.

[3/2/2017] On page 35, replace the solution to exercise 4.4 with

I is in-the-money, since exercising it would result in 5 payoff.

II is at-the-money.

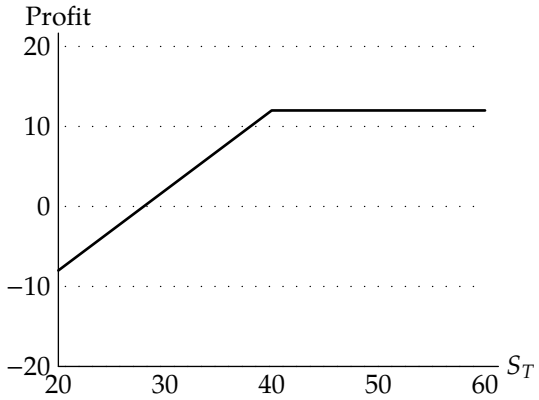
III is out-of-the-money, since exercising it would result in no payoff; the strike price of 50 at which the stock can be sold is less than the value of the stock.

[3/28/2017] On page 36, replace the solution to exercise 4.13 with the following:

The investor receives C initially for the call and pays K for the stock. These grow at interest to $(C-K)e^{rt}$. At the end, the investor hands over the stock and receives K to settle the call. Profit is

$$(C-K)e^{rt}+K = Ce^{rt}+K(1-e^{rt}) \qquad \textbf{(D)}$$

[7/5/2017] On page 41, in the second graph in Figure 5.3, the line should start above -10 and flatten out above 10, so that the graph looks like this:



[2/1/2018] On page 46, in Figure 5.10, change the title on the first graph from "Net profit" to "Payoff".

[4/7/2017] On page 47, on the second line of the answer to Example 5F, change "$S_1 = 50$" to "$S_1 = 45$".

[4/7/2017] On page 49, on the line beginning with "1.", change "m bull spreads" to "n bull spreads". On the line beginning with "2.", change "n bear spreads" to "m bear spreads".

[7/2/2017] On page 52, in exercise 5.7, delete the parenthesized sentence "This question, even though …". In answer choice (C), change the last word to "contracts".

[2/25/2017] On page 52, in exercise 5.10, change 45-50 to 45-55.

[9/19/2017] On page 56, in exercise 5.21, 2 lines below the table, at "of calls" after "bull spread" and "of puts" after bear spread.

[4/20/2017] On page 61, add the following paragraph to the solution to exercise 5.9:

In addition, Strategy I costs more than Strategy II. The cost of Strategy I is $15-8.66=6.34$ and the cost of Strategy II is $11.25-6.05=5.20$. Thus to make Strategy I worthwhile, the minimum payoff needed is

$(6.34-5.20)(1.02)=1.1628$. When $S<55+1.1628=56.1628$, the payoff of Strategy I is less than 1.1628, so Strategy II in this case provides the higher (negative) profit. Putting the two inequalities together, Strategy II yields the higher profit for $\boxed{\boldsymbol{S>68.8372 \text{ or } S<56.1628}}$.

[5/30/2017] On page 61, in the solution to exercise 5.10, on the second line, change 10 to −10. The last line should read "The minimum payoff is $\boxed{\mathbf{-10}}$ and the maximum payoff is $\boxed{\mathbf{0}}$.

[7/2/2017] On page 62, in the solution to exercise 5.12, on the third line, change $-9.50(1.06)$ to $9.50e^{0.06}$. On the third and fourth lines, change 1010.07 to 1010.09 in three places.

[5/2/2017] On page 63, in the solution to exercise 5.22, on the third line of the page, change 6.30 to 6.29.

[4/25/2017] On page 63, in the solution to exercise 5.29, on the second line, change "latter to the former" to "former to the latter". On the last line, change the final answer from 20 to 45.

[9/14/2017] On page 81, in the solution to exercise 6.17, on the second line, change 1.04 to $e^{0.04}$.

[7/21/2017] On page 103, 9 lines above Example 7E, interchange p and q: $p=\frac{K_3-K_2}{K_3-K_1}$ and $q=\frac{K_2-K_1}{K_3-K_1}$.

[11/6/2017] On page 141, on the first line, change "page 334" to "page 315".

[8/21/2017] On page 200, two lines from the bottom of the page, replace "summed" with "multiplied". On the last line of the page, change "the sum" to "the product".

[7/11/2017] On page 230, change the second sentence of the paragraph under "Discrete Dividends" to "The Black-Scholes model assumes that S_t is continuous".

[11/6/2017] On page 290, on the third line of the answer to Example 16D, change "30$^{\text{th}}$s" to "30$^{\text{th}}$".

[11/6/2017] On page 295, on the second line, change 1987 to 2009.

[5/17/2017] On page 305, in the first numbered list, delete "3. Greeks for binomial trees".

[6/20/2017] On page 345, on the fifth line, change "Two things" to "One thing". Delete the paragraph on the 7$^{\text{th}}$ and 8$^{\text{th}}$ lines.

[5/30/2017] On page 347, in exercises 18.5 and 18.6, on the second line of each, change "monthly" to "quarterly".

[6/8/2017] On page 380, on the third line of the answer to Example 19I, change $0.06125-0.25=-0.18875$ to $0.245-0.25=-0.005$. On the last line, replace the second 0.59677 with 0.49801. Replace the answer to Example 19J with

Now $\ln(S_{0.25}/\underline{S}_{0.25})=0.105361$.

$$d_5'=\frac{0.105361+\left(0.03+0.5(0.25^2)\right)(0.75)}{0.25\sqrt{0.75}}=0.69882 \qquad N(d_5')=0.75767 \quad N(-d_5')=0.24233$$

$$d_6'=0.69882-0.25\sqrt{0.75}=0.48231 \qquad N(d_6')=0.68521$$

$$d_7'=\frac{-0.105361+\left(0.03+0.5(0.25^2)\right)(0.75)}{0.25\sqrt{0.75}}=-0.27447$$

$$d_8'=-0.27447-0.25\sqrt{0.75}=-0.49097 \qquad N(d_8)=0.31172$$

$$C=50\left(0.75767-1.041667(0.24233)\right)$$
$$-45e^{-0.03(0.75)}\left(0.68521-1.041667\left(\frac{50}{45}\right)^{1-1/1.041667}(0.31172)\right)$$
$$=\boxed{\mathbf{9.4608}}$$

[5/30/2017] On page 406, in the solution to exercise 19.44, on the third line, change 0.92441 to −0.29107 and delete $N(d_5') = -0.29107$. On the last line, replace the first 0.17764 with 0.82236 and change the final answer to 16.4768.

[11/6/2017] On page 409, in Section 20.2, the current edition of McDonald only suggests the inversion method. So delete the paragraph starting with "The first method".

[11/6/2017] On page 419, in Table 20.1, on the first line, delete "as $\sum_{i=1}^{12} u_i - 6$, or".

[6/19/2017] On page 439, on the first line, change "next three" to "next two".

[7/11/2017] On page 441, on the second line under "Types of Interest Rate Models", the word "martingales" is used. This term is not defined in the current syllabus's textbook readings. It means a stochastic process in which the mean value of the process at all future times equals the current value of the process.

[6/19/2017] On page 441, on the fifth line under "Types of Interest Rate Models", change "next two lessons" to "next lesson". Replace the last sentence on the page with "The Black-Derman-Toy tree, discussed in the next lesson, is an example of a short rate model.

[7/11/2017] On page 445, in exercise 21.5, change (i) to "$F(t_1, t_2)$ follows the assumptions underlying the Black formula."

[11/7/2017] On page 459, on the last line of the solution to Quiz 21-1, change $r = -0.2/3$ to $r = -0.2/-3$.

[7/11/2017] On page 478, delete the second sentence of the second paragraph.

[7/11/2017] On page 502, in question 12, change (i) to

The yen/dollar exchange rate satisfies the assumptions of the Black-Scholes formula with $\sigma = 0.3$.

[7/11/2017] On page 519, in question 4, change the first sentence to

The price of a nondividend paying stock satisfies the assumptions of the Black-Scholes formula.

[7/11/2017] On page 555, in question 22, change (i) to

The stock's price is lognormally distributed.

[7/11/2017] On page 565, replace question 22 with

You are given

(i) The price of a stock follows the assumptions of the Black-Scholes formula.
(ii) The stock's current price is 40.
(iii) The stock pays a continuously compounded dividend rate of 0.02.
(iv) The continuously compounded rate of increase in the stock price is 0.15.
(v) The annual volatility of the stock's price is 0.25.
(vi) The continuously compounded risk-free interest rate is 0.07.
(vii) A European call option on the stock expiring in 4 years has strike price 50.

Calculate the price of the call option.

(The answer choices are unchanged.)

[7/11/2017] On page 573, in question 15, replace (iv) with

The exchange rate is lognormnally distributed with $\sigma = 0.1$.

[11/14/2017] On page 612, change the last 3 lines of the solution to question 12 to

$$N(d_2) = N(-0.51263) = 0.30411$$

$$C(100,105,1) = 100e^{-0.08}(0.41581) - 105e^{-0.02}(0.30411) = 7.08$$

The cost of 100 options is ¥708, or $\boxed{\$\mathbf{7.08}}$.

[11/6/2017] On page 638, in the solution to question 7, the answer key should be **(C)** instead of D.

[7/5/2017] On page 663, in the solution to question 18, on the first displayed line, change AV to PV.

[7/5/2017] On page 666, in the solution to question 18, on the first displayed line, change AV to PV.

[7/11/2017] On page 668, replace the solution to question 4, starting with "To derive r" on the sixth line, with

We are given that $r = 0.04$. Now we calculate d_1 and $N(d_1)$, using $K = 50$.

$$d_1 = \frac{\ln(45/50) + \left(0.04 + 0.5(0.2^2)\right)(0.25)}{0.2\sqrt{0.25}} = -0.90361$$

$$N(d_1) = N(-0.90361) = 0.18310$$

$$\Delta = 0.18310 + \frac{e^{-0.90361^2/2}}{0.1\sqrt{2\pi}} = \boxed{\mathbf{2.84}} \qquad \textbf{(C)}$$

[6/28/2017] On page 673, replace the solution to question 18 with

The initial price of the futures contract is

$$250(1280e^{0.25(0.05-0.02)}) = 322{,}409$$

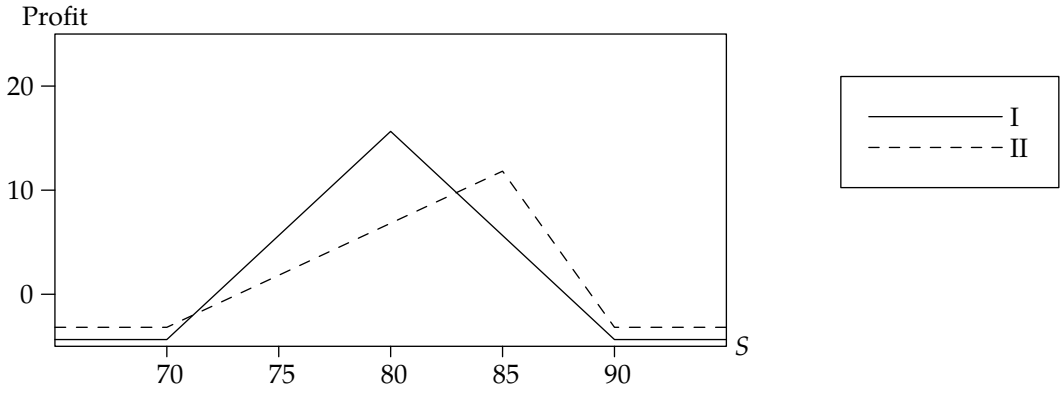
The initial margin is 32,240.9. The maintenance margin is 0.7(32,240.9) = 22,568.63. The mark-to-market lowered the price of the portfolio by 11,000, so the future's price became 322,409 − 11,000 = 311,409. We will use 90/365 as the time remaining for the contract, although using 1/4 would not be significantly different. The index price is $Fe^{(\delta-r)t}/250$, or $311{,}409e^{-0.03(90/365)}/250 = \boxed{\mathbf{1236}}$. This is not one of the five answer choices.

[7/11/2017] On page 676, in the solution to question 22, delete the first sentence.

[11/5/2017] On page 699, the solution to question 26 is incorrect. The correct solution is:

The first butterfly spread has 2 long options apiece with strikes 70 and 90 and 4 short options with strike 80. Its price is $2(14.80 + 4.63) - 4(8.67) = 4.18$. The second butterfly spread has 1 long option with strike 70, 3 long options with strike 90, and 4 short options with strike 85. Its price is $14.80 + 3(4.63) - 4(6.41) = 3.05$. The difference in prices accumulated with interest is $(3.05 - 4.18)e^{0.04} = -1.17612$.

The following figure shows the profits of the two spreads:



The first spread has higher profit only in the interval in which its payoff exceeds the second spread by 1.17612. Let's equate the payoff of the first to the payoff of the second plus 1.17612. The first intersection is between 70 and 80.

$$\begin{aligned} 2(S-70) &= (S-70)+1.17612 \\ S &= 71.17612 \end{aligned}$$

The second intersection is between 80 and 85.

$$\begin{aligned} 2(S-70)-4(S-80) &= S-70+1.17612 \\ 3S+250 &= 1.17612 \\ S &= 82.94129 \end{aligned}$$

Spread II is more profitable if $70 < S < 71.17612$ or $82.94129 < S < 90$. None of the five answer choices is correct.