## 2011 Level I Mock Exam: Morning Session

The morning session of the 2011 Level I Chartered Financial Analyst® Mock Examination has 120 questions. To best simulate the exam day experience, candidates are advised to allocate an average of 1.5 minutes per question for a total of 180 minutes (3 hours) for this session of the exam.

| Questions | Topic | Minutes |
|---|---|---|
| 1-18 | Ethical and Professional Standards | 27 |
| 19-32 | Quantitative Methods | 21 |
| 33-44 | Economics | 18 |
| 45-68 | Financial Statement Analysis | 36 |
| 69-78 | Corporate Finance | 15 |
| 79-90 | Equity Investments | 18 |
| 91-96 | Derivative Investments | 9 |
| 97-108 | Fixed Income Investments | 18 |
| 109-114 | Alternative Investments | 9 |
| 115-120 | Portfolio Management | 9 |
| | **Total:** | **180** |

**Questions 1 through 18 relate to Ethical and Professional Standards.**

1. Gabrielle Gabbe, CFA has been accused of professional misconduct by one of her competitors. The allegations concern Gabbe's personal bankruptcy filing ten years ago when she was a college student and had a large amount of medical bills she could not pay. By not disclosing the bankruptcy filing to her clients, did Gabbe *most likely* violate any CFA Institute Standards of Professional Conduct?

   A. No.
   B. Yes, related to Misconduct.
   C. Yes, related to Misrepresentation.

   Answer = A

   "Guidance for Standards I-VII CFA Institute"
   2011 Modular Level I, Vol. 1, pp. 38-40, 46-47
   Study Session 1-2-b
   Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

   A is correct as a personal bankruptcy does not necessarily constitute a violation of Standard I (D). If the circumstances of the bankruptcy involved fraudulent or deceitful business conduct then failing to disclose it may constitute a violation of the Standards.

2. Bryan Barrett, CFA has an investment advisory service providing advice on gold and other commodities to several large retail banks. Barrett advertises his services in widely read publications to broaden his business to include retail clients. Because the client base for the institutions that Barrett serves is large, he is comfortable stating in the ads that thousands of his clients have benefited from his advice. Does Barrett's advertisement *most likely* violate any CFA Institute Standards of Professional Conduct?

   A. No.
   B. Yes, related to Misrepresentation.
   C. Yes, related to Communication with Clients.

   Answer = B

   "Guidance for Standards I-VII CFA Institute"
   2011 Modular Level I, Vol. 1, pp. 38-40
   Study Session 1-2-b
   Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

B is correct because Barrett's client base is made up of a small number of large institutions so stating in the advertisement that his client base is a larger number is a misrepresentation and a violation of Standard I(C). In addition, since the advertisement focuses only on the benefits and does not mention the potential risks of these investments it is also potentially misleading to clients.

3. While at a bar in the financial district after work, Ellen Miffitt, CFA overhears several employees of a competitor discuss how they will manipulate down the price of a thinly traded micro cap stock's price over the next few days. Miffitt's clients have large positions of this stock so when she arrives at work the next day she immediately sells all of these holdings. Because she has determined that the micro cap stock was suitable for all of her accounts at its previously higher price, Miffitt buys back her client's original exposure at the end of the week at the new, lower price. Which CFA Institute Standards of Professional Conduct did Miffitt *least likely* violate?

A. Market Manipulation
B. Preservation of Confidentiality
C. Material Non Public Information

Answer = B

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 49-52, 59-60, 88
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

B is correct as Miffitt has not violated the confidentiality Standard which involves information about former, current, and prospective clients.

4. Diana Fairbanks, CFA is married to an auditor who is employed at a large accounting firm. When her husband mentions a computer firm he audits will receive a qualified opinion she thinks nothing of it. Later that week when she reviews a new client account she notices there are substantial holdings of this computer firm. When she does a thorough Internet search for news on the company, she does not find anything about its most recent audit or any other adverse information. Which of the following actions concerning the computer stock should Fairbanks *most likely* take to avoid violating the CFA Institute Standards of Professional Conduct?

A. Take no investment action.
B. Complete a thorough and diligent analysis of the company and then sell the stock.
C. Sell the stock immediately as she has a reasonable basis for taking this investment action.

Answer = A

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 49-52
Study Session 1-2-c
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

A is correct as the information concerning the qualified opinion is non-public and if it is material she would be in violation of Standard II(A) if she took investment action based on the information. She should also make reasonable efforts to achieve public dissemination of the information.

5. Sherry Buckner, CFA manages equity accounts for government entities whose portfolios are conservative and risk averse. Since the objective of her clients is to maximize returns with the lowest possible risk, Buckner considers adding to their holdings a new, thinly-traded, leveraged derivative product which she believes has the potential for high returns. To make her investment decision, Buckner relies upon comprehensive research from an investment bank that has a solid reputation for top quality research. After her review of that research, Buckner positions her accounts so that each has a 10% allocation to the derivative product. Did Buckner *most likely* violate any CFA Institute Standards of Professional Conduct by purchasing the derivative for her clients?

A. No.
B. Yes, related to Suitability.
C. Yes, related to Loyalty, Prudence and Care.

Answer = B

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 78-81
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

B is correct as Buckner is in violation of Standard III (C) since she did not consider issues such as the limited liquidity or any potential leverage of this new product when she invested a substantial percentage of her client's portfolios in these instruments.

6. Teresa Staal, CFA is an investment officer in a bank trust department. She manages money for celebrities and public figures, including an influential local politician. She receives a request from the politician's political party headquarters to disclose his stock

holdings. The request indicates local law requires the disclosure. What steps should Staal *most likely* take to ensure she does **not** violate any CFA Institute Standards of Professional Conduct?

A. Provide the information and inform her client.
B. Send the requested documents and inform her supervisor.
C. Check with her firm's compliance department to determine her legal responsibilities.

Answer = C

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 88-89
Study Session 1-2-c
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

C is correct. In order to avoid violating Standard III (E) Staal should determine if applicable securities regulations require disclosing the records before she provides the confidential information concerning her client's investments.

7. Sergio Morales, CFA believes he has found evidence his supervisor is engaged in fraudulent activity concerning a client's account. When Morales confronts his supervisor, he is told the client is fully aware of the issue. Later that day, Morales contacts the client and upon disclosing his evidence, is told he should mind his own business. Concerned his job is at risk, Morales provides his evidence, along with copies of the client's most recent account statements, to a government whistle blower program. Morales is *least likely* to have violated which of the following CFA Institute Standards of Professional Conduct?

A. Duties to Clients
B. Duties to Employers
C. Communication with Clients

Answer = C

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 63-64, 90-93, 116-118
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

C is correct because this Standard has not been violated. Even though he talked to the client, the communication did not relate to the investment process. He has violated his duties to clients by disclosing confidential information to the government whistle blower program. He has also violated a duty to his employer as contradicting employer instructions are not permitted unless the member is acting to protect the integrity of capital markets and the interests of clients.

8. Leng Bo, CFA is a bond portfolio manager for individual investors. Last year, a client whose portfolio is limited to investment-grade bonds approved Bo's purchase of a below investment grade bond. Because yields in the high grade fixed income markets declined, Bo subsequently decides to enhance this client's portfolio by investing in several additional bonds with ratings one or two notches below investment grade. The investment strategy implemented by Bo *most likely* violated which of the following CFA Institute Standards of Professional Conduct?

A. Suitability
B. Communications with Clients
C. Independence and Objectivity

Answer = A

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 78-80
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

A is correct because the client only approved the purchase of one below investment grade bond while the portfolio manager has purchased several additional bonds below investment grade without client approval in violation of Standard III (C).

9. Sisse Brimberg, CFA is responsible for performance presentations at her investment firm. The presentation that Sisse uses states her firm:

1. deducts all fees and taxes;
2. uses actual and simulated performance results;
3. bases the performance on a representative individual account.

Based on the above information, which of the following is the *most* appropriate recommendation to help Brimberg meet the CFA Institute Standards of Professional Conduct in her performance presentations? She should present performance based on:

A. a gross of fee basis.
B. actual not simulated results.
C. a weighted composite for all similar portfolios.

Answer = C

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 85-86
Study Session 1-2-c
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

C is correct because in order to meet their obligations under Standard III (D), members should present the performance of the weighted composite of similar portfolios rather than using a single representative or all accounts, so this is the best selection of the options provided.

10. Eileen Fisher, CFA has been a supervisory analyst at SL Advisors for the past ten years. Recently, one of her analysts was found to be in violation of the CFA Institute Standards of Professional Conduct. Fisher has placed limits on the analyst's activities and is now monitoring all of his investment activities. Although SL did not have any compliance procedures up to this point, to avoid future violations, Fischer has put in place procedures exceeding industry standards. Did Fisher *most likely* violate any CFA Institute Standards of Professional Conduct?

    A. Yes.
    B. No, because she has taken steps to ensure the violations will not be repeated by the analyst.
    C. No, because she is taking steps to implement compliance procedures that are more than adequate.

    Answer = A

    "Guidance for Standards I-VII CFA Institute"
    2011 Modular Level I, Vol. 1, pp. 101-103
    Study Session 1-2-b
    Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

    A is correct because under standard IV(C) a member should exercise reasonable supervision by establishing and implementing compliance procedures in place prior to the possibility of any violation occurring, which has not been done in this case.

11. Joyce La Valle, CFA is a portfolio manager at a global bank. La Valle has been told she should use a specific vendor for equity investment research that has been approved by the bank's headquarters. Because La Valle is located in a different country than the bank's headquarters, she is uncomfortable with the validity of the research provided by this

vendor when it applies to her country and would like to use a local vendor on whom she has already conducted due diligence. Which of the following actions concerning the research vendor should La Valle *most likely* take to avoid violating the CFA Institute Standards of Professional Conduct?

A. Use the local research vendor.
B. Use the bank-approved research vendor.
C. Use both the local and the bank-approved research vendors.

Answer = A

"Guidance for Standards I-VII CFA Institute
2011 Modular Level I, Vol. 1, pp. 107-109
Study Session 1-2-c
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

A is correct. When a member has reason to suspect that either secondary or third-party research or information comes from a source that lacks a sound basis, the member must not rely on that information as indicated by Standard V(A) Diligence and Reasonable Basis.

12. Colin Gifford, CFA is finalizing a monthly newsletter to his clients, who are primarily individual investors. Many of the clients' accounts hold the common stock of Capricorn Technologies. In the newsletter, Gifford writes, "Based upon the next six months earnings of $1.50 per share and a 10% increase in the dividend, the price of Capricorn's stock will be $22 per share by the end of the year." Regarding his stock analysis, the least appropriate action Gifford should take to avoid violating any CFA Institute Standards of Professional Conduct would be to:

A. separate fact from opinion.
B. include earnings estimates.
C. identify limitations of the analysis.

Answer = B

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 116-118
Study Session 1-2-c
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

B is correct because while pro forma analysis may be standard industry practice, it is not required by the Standards. Earnings estimates are opinions and must be clearly identified as such.

13. Yao Tsang, CFA has a large percentage of his net worth invested in the Australian mining company, Outback Mines, which he has held for many years. Tsang is in the process of moving to a new employer where he is responsible for initiating research on mining companies. Shortly after his move, Tsang is asked to complete a research report on Outback. In order to meet the CFA Institute Standards of Professional Conduct concerning his stock holding, which of the following actions is *most* appropriate for Tsang to take?

   A. Disclose his stock holding to his employer and to clients.
   B. Sell his stock holdings to eliminate any potential conflict of interest.
   C. Refuse to write the report and ask his employer to assign another analyst to complete the analysis.

   Answer = A

   "Guidance for Standards I-VII CFA Institute"
   2011 Modular Level I, Vol. 1, pp. 123-127
   Study Session 1-2-c
   Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

   A is correct. Even though the best practice is to avoid conflicts, when conflicts cannot be reasonably avoided, full disclosure should be made as required by Standard VI (A). As the stock in question has been held for many years it may not be practical to sell it due to things like tax consequences. Since the analyst has been hired to initiate coverage of mining companies it is unlikely that another analyst at that firm would be as competent in completing a research report on mining companies.

14. Teresa Avila, CFA is a micro cap investment analyst at a hedge fund. The fund requires Avila to hold any securities she recommends for the fund in her own account as well. Because Avila has such a small account, whenever she trades for her own portfolio she combines the transactions with those of the hedge fund so she is sure to have her account aligned with the fund. Has Avila *most likely* violated any CFA Institute Standards of Professional Conduct?

   A. No.
   B. Yes, related to Misconduct.
   C. Yes, related to Priority of Transactions.

Answer = C

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 131-132
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

C is correct as Standard VI (B) requires that investment transactions for clients and employers have priority over transactions in which members have beneficial ownership. By executing her own accounts transactions with those of the hedge fund the analyst has violated this Standard. Micro cap securities can be thinly traded and easily influenced by changes in the volume of activity so that the analyst may benefit when she combines her transactions with the hedge funds and she should let the fund execute its orders before she makes changes to her account.

15. Ken Kawasaki, CFA shares a building with a number of other professionals who are also involved in the investment management business. Kawasaki makes arrangements with several of these professionals, including accountants and lawyers, to refer clients to each other. There is an expectation that an informal score is kept so that the referrals will equal out over time, so there are no cash payments. Kawasaki never mentions this arrangement to clients or prospective clients. Does Kawasaki's agreement with the other building occupants *most likely* violate any CFA Institute Standards of Professional Conduct?

A. No.
B. Yes, related to referral fees.
C. Yes, related to communication with clients.

Answer = B

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, p. 136
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

B is correct because Standard VI(C) requires disclosure of any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services. Even without cash changing hands the arrangement provides for a quid pro quo referral of clients and should be disclosed.

16. Stian Klun, CFA is preparing a brochure to advertise his firm. The brochure includes the following disclosures:

"I am a CFA so I am a member of the CFA Institute which I believe constitutes the most elite group of professionals within the investment management business. In order to become a CFA charterholder I had to complete a comprehensive program of study in the investment management field."

Klun is *least likely* to have violated the CFA Institute Standards of Professional Conduct related to referencing the:

A. CFA Institute.
B. CFA Program.
C. CFA Designation.

Answer = B

"Guidance for Standards I-VII CFA Institute"
2011 Modular Level I, Vol. 1, pp. 139-141
Study Session 1-2-b
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

B is correct as the CFA program has been properly referenced while the CFA Institute and CFA Designation have been improperly referenced in violation of Standard VII (B). CFA should be an adjective rather than a noun.

17. Holly Baker, CFA is explaining the CFA Institute Code of Ethics to a client. Which of the following statements could Baker make to *most likely* reflect disciplinary sanctions the CFA Institute may impose? Sanctions include:

A. fines for violations.
B. revocation of membership.
C. banishment from the industry.

Answer = B

Code of Ethics and Standards of Professional Conduct, CFA Institute
2011 Modular Level I, Vol. 1, pp. 8-9
Study Session 1-1-a
Describe the structure of the CFA Institute Professional Conduct Program and the process for the enforcement of the Code and Standards

B is correct as the CFA Institute may revoke membership for violations of the Institute Code of Ethics.

18. Which of the following *least likely* forms the basic structure for enforcement of the CFA Institute Professional Conduct Program?

A. Bylaws
B. Rules of Procedure
C. Board of Governors

Answer = C

Code of Ethics and Standards of Professional Conduct, CFA Institute
2011 Modular Level I, Vol. 1, pp. 8-9
Study Session 1-1-a
Describe the structure of the CFA Institute Professional Conduct Program and the process for the enforcement of the Code and Standards

C is correct. Although the Board of Governors maintains oversight and responsibility for the Professional Conduct Program, the Institute's Bylaws and Rules of Procedure form the basic structure for enforcement of the Code and Standards.

**Questions 19 through 32 relate to Quantitative Methods**

19. Assume that a stock's price over the next two periods is as shown below.

| Time = 0 | Time = 1 | Time = 2 |
|---|---|---|
| $S_0$ = 100 | $S_u$ = 110 | $S_{uu}$ = 121 |
| | $S_d$ = 92 | $S_{ud,du}$ = 101.20 |
| | | $S_{dd}$ = 84.64 |

The initial value of the stock is $100. The probability of an up move in any given period is 40% and the probability of a down move in any given period is 60%. Using the binomial model, the probability that the stock's price will be $101.20 at the end of two periods is *closest* to:

A. 16%.
B. 24%.
C. 48%.

Answer = C

"Common Probability Distributions," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 507-509
Study Session 3-9-f, g
Calculate and interpret probabilities, given the discrete uniform and the binomial distribution functions.
Construct a binomial tree to describe stock price movement.

Across two periods, there are four possibilities: an up move followed by an up move ($121.00 end value), an up move followed by a down move ($101.20 end value), a down move followed by an up move ($101.20 end value), and a down move followed by a down move ($84.64 end value). The probability of an up move followed by a down move is 0.40 times 0.60 equals 0.24. The probability of a down move followed by an up move is 0.60 times 0.40 also equals 0.24. Both of these sequences result in an end value of $101.20. Therefore, the probability of an end value of $101.20 is 48%.

20. Use the following values from Student's t-distribution to establish a 95% confidence interval for the population mean given a sample size of 10, a sample mean of 6.25, and a sample standard deviation of 12. Assume that the population from which the sample is drawn is normally distributed and the population variance is not known.

| Degrees of freedom | $p = 0.10$ | $p = 0.05$ | $p = 0.025$ | $p = 0.01$ |
|---|---|---|---|---|
| 9 | 1.383 | 1.833 | 2.262 | 2.821 |
| 10 | 1.372 | 1.812 | 2.228 | 2.764 |
| 11 | 1.363 | 1.796 | 2.201 | 2.718 |

The 95% confidence interval is *closest* to:

A. a lower bound of -2.33 and an upper bound of 14.83.
B. a lower bound of -2.20 and an upper bound of 14.70.
C. a lower bound of -0.71 and an upper bound of 13.20.

Answer = A

"Sampling and Estimation," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, p. 566
Study Session 3-10-j
Calculate and interpret a confidence interval for a population mean, given a normal distribution with 1) a known population variance, 2) an unknown population variance, or 3) an unknown variance and a large sample size.

With a sample size of 10, there are 9 degrees of freedom. The confidence interval concept is based on a two-tailed approach. For a 95% confidence interval, 2.5% of the distribution will be in each tail. Thus, the correct t-statistic to use is 2.262. The confidence interval is calculated as:

$$\bar{X} \pm t_{0.025}\, s / \sqrt{n}$$

where $\bar{X}$ is the sample mean, s is the sample standard deviation, and n is the sample size. In this case we have:

$$6.25 \pm 2.262 \times 12 / \sqrt{10}$$

$6.25 \pm 2.262 \times 3.79$
$6.25 \pm 8.58 = -2.33$ to $14.83$

21. A sample of 438 observations is randomly selected from a population. The mean of the sample is 382 and the standard deviation is 14. Based on Chebyshev's inequality, the endpoints of the interval that must contain at least 88.89% of the observations are *closest* to:

A. 340 and 424.
B. 354 and 410.
C. 396 and 480.

Answer = A

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 391-393
Study Session 2-7-h
Calculate and interpret the proportion of observations falling within a specified number of standard deviations of the mean using Chebyshev's inequality.

According to Chebyshev's inequality, the proportion of the observations within k standard deviations of the arithmetic mean is at least $1 - 1/k^2$ for all $k>1$. For $k = 3$, that proportion is $1 - 1/3^2$, which is 88.89%. The lower endpoint is, therefore the mean (382) minus 3 times 14 (the standard deviation) and the upper endpoint is 382 plus 3 times 14. 382 – (3 x 14) = 340; 382 + 3(14) =424.

22. The following ten observations are a sample drawn from a normal population: 25, 20, 18, -5, 35, 21, -11, 8, 20, and 9. The mean of the sample is *closest* to:

A. 14.00.
B. 15.56.
C. 17.20.

Answer = A

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 357-358
Study Session 2-7-e
Define, calculate and interpret measures of central tendency, including the population mean, sample mean, arithmetic mean, weighted average or mean (including a portfolio return viewed as a weighted mean), geometric mean, harmonic mean, median, and mode.

The sum of the ten numbers is 140. Dividing by 10 gives the mean of 14.

23. Over the past four years, a portfolio experienced returns of -8%, 4% 17% and -12%. The geometric mean return of the portfolio over the four year period is *closest* to:

A. -0.37%
B. 0.25%
C. 8.99%

Answer = A

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 371-373
Study Session 2-7-e
Define, calculate and interpret measures of central tendency, including the population mean, sample mean, arithmetic mean, weighted average or mean (including a portfolio return viewed as a weighted mean), geometric mean, harmonic mean, median, and mode.

Add one to each of the given returns, then multiply them together, then take the fourth root of the resulting product. $0.92 \times 1.04 \times 1.17 \times 0.88 = 0.985121$. 0.985121 raised to the 0.25 power is 0.996259. Subtracting one and multiplying by 100 gives the correct geometric mean return of -0.37%.

24. A sample of 25 observations has a mean of 8 and a standard deviation of 15. The standard error of the sample mean is *closest* to:

A. 1.60.
B. 3.00.
C. 3.06.

Answer = B

"Sampling and Estimation," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2011 Modular Level I, Vol. 1, p. 557
Study Session 3-10-e
Calculate and interpret the standard error of the sample mean.

The standard error of the sample mean, when we know the sample standard deviation, is: $s_{\bar{X}} = \frac{s}{\sqrt{n}}$. In this case, $s_{\bar{X}} = \frac{15}{\sqrt{25}}$ = 3.00.

25. The probability of event A is 40%. The probability of event B is 60%. The joint probability of AB is 40%. The probability that A or B occurs or both occur is *closest* to:

A. 40%.
B. 60%.
C. 84%.

Answer = B

"Probability Concepts," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 443-445
Study Session 2-8-f
Calculate and interpret 1) the joint probability of two events, 2) the probability that at least one of two events will occur, given the probability of each and the joint probability of the two events, and 3) a joint probability of any number of independent events.

P(A or B) = P(A) + P(B) – P(AB) = 40 + 60 - 40 = 60

26. A consumer purchases an automobile using a loan. The amount borrowed is €30,000 and the terms of the loan call for the loan to be repaid over five years using equal monthly payments with an annual nominal interest rate of 8% and monthly compounding. The monthly payment is *closest* to:

A. €608.29.
B. €626.14.
C. €700.00.

Answer = A

"Time Value of Money," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 286-290
Study Session 2-5-d, f
Solve time value of money problems when compounding periods are other than annual.

Draw a time line and solve time value of money applications (for example, mortgages and savings for college tuition or retirement).

Place the following values into a financial calculator: N = 60, i/y = 8/12, PV = 30000, FV = 0, and compute PMT. Note, 5 years times 12 months per year equals 60 months. The nominal rate of 8% must be divided by 12 to find the monthly periodic rate of 0.6666667%. Alternatively, using the present value of an annuity formula, solve:

$$PV = A\left[1 - \frac{1}{(1+\frac{r}{m})^{mN}}\right] \div \frac{r}{m};\ 30000 = A\left[1 - \frac{1}{(1+\frac{.08}{12})^{12\times5}}\right] \div \frac{.08}{12} = A \times 49.318433$$

$$A = 30000 / 49.318433 = 608.291829$$

27. The dollar discount on a U.S. Treasury bill with 91 days until maturity is \$2,100. The face value of the bill is \$100,000. The bank discount yield of the bill is *closest* to:

A. 8.31%.
B. 8.40%.
C. 8.58%.

Answer = A

"Discounted Cash Flow Applications," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, p. 327
Study Session 2-6-e
Calculate and interpret the bank discount yield, holding period yield, effective annual yield, and money market yield for a U.S. Treasury bill.

Solve for bank discount yield using:

$$r_{BD} = \frac{D}{F}\frac{360}{t};\ r_{BD} = \frac{2100}{100000}\frac{360}{91} = 0.083077 \sim 8.31\%$$

28. One is *most likely* to reject the null hypothesis when the p-value of the test statistic:

A. is negative.
B. exceeds a specified level of significance.
C. falls below a specified level of significance.

Answer = C

"Hypothesis Testing," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2011 Modular Level I, Vol. 1, pp. 599-600
Study Session 3-11-e
Explain and interpret the p-value as it relates to hypothesis testing.

If the p-value is less than our specified level of significance, we reject the null hypothesis.

29. When an investigator wants to test whether a particular parameter is larger than a specific value, the null and alternative hypothesis are *best* defined as:

A. $H_0$: $\theta = \theta_0$ versus $H_a$: $\theta \neq \theta_0$
B. $H_0$: $\theta \leq \theta_0$ versus $H_a$: $\theta > \theta_0$
C. $H_0$: $\theta \geq \theta_0$ versus $H_a$: $\theta < \theta_0$

Answer = B

"Hypothesis Testing," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 592-593
Study Session 3-11-a
Define a hypothesis, describe the steps of hypothesis testing, interpret and discuss the choice of the null and alternative hypothesis, and distinguish between one-tailed and two-tailed tests of hypotheses.

A positive "hoped for" condition means that we will only reject the null (and accept the alternative) if the evidence indicates that the population parameter is greater than $\theta_0$. Thus, $H_0$: $\theta \leq \theta_0$ versus $H_a$: $\theta > \theta_0$ is the correct statement of the null and alternative hypotheses.

30. A hypothesis test fails to reject a false null hypothesis. This is *best* described as a:

A. Type I error.
B. Type II error.
C. test with little power.

Answer = B

"Hypothesis Testing," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 594-595
Study Session 3-11-b
Define and interpret a test statistic, a Type I and a Type II error, and a significance level, and explain how significance levels are used in hypothesis testing.

When we do not reject a false null hypothesis we have a Type II error.

31. Which of the following statements is *most* accurate?

A. The first quintile generally exceeds the median.
B. The first quintile generally exceeds the first decile.
C. The first quintile generally exceeds the first quartile.

Answer = B

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, pp. 375-378
Study Session 2-7-f
Describe, calculate, and interpret quartiles, quintiles, deciles, and percentiles.

The first quintile is the $20^{th}$ percentile. The first decile is the $10^{th}$ percentile, the first quartile is the $25^{th}$ percentile, and the median is the $50^{th}$ percentile. While it is possible that these various percentiles or some subsets of them might be equal (for example the $10^{th}$ percentile possibly could be equal to the $20^{th}$ percentile), in general the order from smallest to largest would be: first decile, first quintile, first quartile, median.

32. Assuming no short selling, diversification benefit is *most likely* to occur when the correlations among the securities contained in the portfolio are:

A. equal to positive one.
B. less than positive one.
C. greater than positive one.

Answer = B

"Probability Concepts," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level I, Vol. 1, p. 463
Study Session 2-8-k
Calculate and interpret covariance and correlation.

Diversification benefit requires correlations less than positive one.

**Questions 33 through 44 relate to Economics**

33. Over a given period, the price of a commodity falls by 5.0% and the quantity demanded rises by 7.5%. The price elasticity of demand for the commodity is *best* described as:

A. elastic.
B. inelastic.
C. perfectly elastic.

Answer = A

"Elasticity," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 11-12
Study Session 4-13-b
Calculate elasticities on a straight-line demand curve, differentiate among elastic, inelastic, and unit elastic demand, and describe the relation between price elasticity of demand and total revenue.

If demand is elastic, a 1 percent price cut increases the quantity sold by more than 1 percent and total revenue increases.

34. Regarding a company's production function, both labor costs and capital costs are *best* described as:

A. fixed in the long run.
B. variable in the long run.
C. variable in the short run.

Answer = B

"Output and Costs," Michael Parkin
2011 Modular Level I, Vol. 2, p. 146
Study Session 4-17-d
Explain the company's production function, its properties of diminishing returns and diminishing marginal product of capital, the relation between short-run and long-run costs, and how economies and diseconomies of scale affect long-run costs.

In the short run, a company can vary the quantity of labor but the quantity of capital is fixed. In the long run, a firm can vary both the quantity of labor and the quantity of capital.

35. Consider the following data for a firm operating in perfect competition.

| Quantity | Total Revenue | Total Cost |
|---|---|---|
| 21 | $210 | $138 |
| 22 | $220 | $145 |
| 23 | $230 | $154 |
| 24 | $240 | $165 |

The firm's profit-maximizing output (in units) is *most likely*:

A. 21.
B. 23.
C. in excess of 24.

Answer = B

"Perfect Competition," Michael Parkin
2011 Modular Level I, Vol. 2, p. 166
Study Session 5-18-b
Determine the profit maximizing (loss minimizing) output for a perfectly competitive company and explain marginal cost, marginal revenue, and economic profit and loss.

Under perfect competition, economic profits are maximized where marginal revenue equals marginal cost; in this case where marginal cost crosses $10 per unit. Profits are maximized at 23 units of production.

36. Assume that two firms in a duopoly enter into a collusive agreement in an attempt to form a cartel and restrict output, raise prices, and increase profits. Given this, the *most likely* outcome according to the Nash equilibrium is that:

A. both firms cheat.
B. both firms comply.
C. one firm cheats and the other firm complies.

Answer = A

"Monopolistic Competition and Oligopoly," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 246-247
Study Session 5-20-f
Describe oligopoly games including the Prisoners' Dilemma.

The Nash equilibrium of the prisoners' dilemma game is that both firms cheat.

37. The tools used by the U.S. Federal Reserve system (the Fed) to implement monetary policy *most likely* include:

A. transfer payments.
B. open market operations.
C. raising or lowering income taxes.

Answer = B

"Money, the Price Level, and Inflation," Michael Parkin
2011 Modular Level I, Vol. 2, p. 371
Study Session 6-24-d
Explain the goals of the U.S. Federal Reserve (Fed) in conducting monetary policy and how the Fed uses its policy tools to control the quantity of money, and describe the assets and liabilities on the Fed's balance sheet.

The Fed uses three main policy tools to achieve its objectives: required reserve ratios, discount rate, and open market operations.

38. Suppose inflation increases due to increases in government spending and a reduction in taxes. Such inflation is *best* described as:

A. cost-push inflation.
B. demand-pull inflation.
C. monetarist cycle theory.

Answer = B

"U.S. Inflation, Unemployment, and Business Cycles," Michael Parkin
2011 Modular Level I, Vol. 2, p. 399
Study Session 6-25-b
Describe and distinguish among the factors resulting in demand-pull and cost-push inflation and describe the evolution of demand-pull and cost-push inflationary processes.

Page 399 of the reading: "Demand-pull inflation can be kicked off by … an increase in government spending, a tax cut, …".

39. The price of a good falls from \$15 to \$13. Given this decline in price, the quantity demanded of the good rises from 100 units to 120 units. The price elasticity of demand for the good is *closest* to:

A. 1.3.
B. 1.5.
C. 10.0.

Answer = A

"Elasticity," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 10-11
Study Session 4-13-a
Calculate and interpret the elasticities of demand (price elasticity, cross elasticity, and income elasticity) and the elasticity of supply and discuss the factors that influence each measure.

Price elasticity of demand is calculated as:
Price elasticity of demand = $\%\Delta Q / \%\Delta P = (\Delta Q / Q_{ave}) / (\Delta P / P_{ave})$
In this case, (20 / 110) / (2 / 14) = 1.27 rounded to 1.3

40. The supply curve for a particular factor of production with total income consisting solely of economic rent is *most likely*:

A. vertical.
B. horizontal.
C. perfectly elastic.

Answer = A

"Markets for Factors of Production," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 292-293
Study Session 5-21-h
Differentiate between economic rent and opportunity costs.

When the total income of a factor of production consists solely of economic rent, it indicates that the factor has perfectly inelastic supply. For perfectly inelastic supply, the supply curve is a vertical line.

41. In competitive markets, when the efficient quantity is produced, the *least likely* result is to:

A. maximize total surplus.
B. generate underproduction.
C. minimize deadweight loss.

Answer = B

"Efficiency and Equity," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 45-46, 48-49
Study Session 4-14-a, d, e
Explain the various means of markets to allocate resources, describe marginal benefit and marginal cost, and demonstrate why the efficient quantity occurs when marginal benefit equals marginal cost.
Discuss the relationship between consumer surplus, producer surplus, and equilibrium.
Explain 1) how efficient markets ensure optimal resource utilization and 2) the obstacles to efficiency and the resulting underproduction or overproduction, including the concept of deadweight loss.

When the efficient quantity is produced, total surplus (the sum of consumer surplus and producer surplus) is maximized. Deadweight loss reduces total surplus and occurs when there is either underproduction or overproduction, i.e. when the quantity produced differs from the efficient quantity. When the efficient quantity is produced, underproduction does not occur.

42. A minimum wage above the equilibrium wage is *best* characterized as a:

A. price floor.
B. price ceiling.
C. means of minimizing unemployment.

Answer = A

"Markets in Action," Michael Parkin
2011 Modular Level I, Vol. 2, p. 75
Study Session 4-15-b
Describe labor market equilibrium and explain the effects and inefficiencies of a minimum wage above the equilibrium wage.

When a price floor is applied to labor markets, it is called a minimum wage. Being above the equilibrium wage is irrelevant.

43. The crowding-out effect is *most likely* associated with:

A. falling real interest rates.
B. government budget deficits.
C. government budget surpluses.

Answer = B

"Fiscal Policy," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 440-441
Study Session 6-26-b
Discuss the sources of investment finance and the influence of fiscal policy on capital markets, including the crowding-out effect.

The tendency for a government budget deficit to decrease private investment is called the crowding-out effect.

44. Successful product development, advertising, and the creation of brand names are *most likely* to have a positive impact on the economic profits of the producer under:

A. a monopoly.
B. perfect competition.
C. monopolistic competition.

Answer = C

"Monopolistic Competition and Oligopoly," Michael Parkin
2011 Modular Level I, Vol. 2, pp. 228-233
Study Session 5-20-a, d
Describe the characteristics of monopolistic competition and an oligopoly.
Explain the importance of innovation, product development, advertising, and branding under monopolistic competition.

Product development, advertising, and the creation of brand names are most likely to have a positive impact on the economic profits of the producer under monopolistic competition. Under perfect competition, all producers (and all consumers) are price takers and economic profits do not exist. Under monopoly, product development, advertising, and the creation of brand names are of little consequence in determining economic profits.

**Questions 45 through 68 relate to Financial Statement Analysis**

45. Common-size financial statements are *most likely* an output of which step in the financial analysis framework?

A. Collect data
B. Process data
C. Analyze/interpret data

Answer = B

"Financial Statement Analysis: An Introduction," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, p.25
Study Session: 7-29-f
Describe the steps in the financial statement analysis framework.

Preparing common-size financial statements is part of the Process data step.

46. Which of the following statements is *most* accurate?

A. Accrued revenue arises when a company receives cash prior to earning the revenue.
B. A valuation adjustment for an asset converts its historical cost to its depreciated value.
C. Accrued expenses arise when a company incurs expenses that have not yet been paid as of the end of the accounting period.

Answer = C

"Financial Reporting Mechanics," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Karen O'Connor Rubsam, CFA, Elaine Henry, CFA, and Michael A. Broihahn., CFA
2011 Modular Level 1, Vol.3, pp.63-66
Study Session: 7-30-d
Explain the need for accruals and other adjustments in preparing financial statements.

The statement about accrued expenses is correct; a valuation adjustment for an asset converts its historical cost to current market value; accrued revenue arises when revenue has been earned but not yet received.

47. Under IFRS, which of the following is *most likely* one of the fundamental principles underlying the preparation of financial statements?

A. Reliability
B. Consistency
C. Understandability

Answer = B

"Financial Reporting Standards," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Karen O'Connor Rubsam, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.107-108, 112-113
Study Session: 7-31-d, e
Describe the International Financial Reporting Standards (IFRS) framework, including the qualitative characteristics of financial statements, the required reporting elements, and the constraints and assumptions in preparing financial statements.
Explain the general requirements for financial statements.

Based on International Accounting Standard (IAS) general requirements for financial statements, fundamental principles include fair presentation, going concern, accrual basis, consistency and materiality.

48. To be recognized as a financial statement element under the IFRS Framework for the Preparation and Presentation of Financial Statements an element *most* appropriately needs to:

A. have a cost or value that can be measured with reliability.
B. normally be carried at historical cost, current cost or fair market value.
C. provide certainty that any future economic benefit associated with the item will flow to or from the enterprise.

Answer = A

"Financial Reporting Standards," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Karen O'Connor Rubsam, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.110-111
Study Session: 7-31-d
Describe the International Financial Reporting Standards (IFRS) framework, including the qualitative characteristics of financial statements, the required reporting elements, and the constraints and assumptions in preparing financial statements.

For recognition in the financial statements, an element must have a cost or value that can be measured with reliability; certainty is not a requirement for economic benefits associated with an item to flow to or from the enterprise: all that is required is that it is probable that they will.

49. A company uses the percentage-of-completion method to recognize revenue from its long term construction contracts and estimates percent completion based on expenditures incurred as a percentage of total estimated expenditures. A three-year contract for €10 million was undertaken with a 30% gross profit anticipated. The project is now at the end of its second year, and the following end-of-year information is available:

| | **Year 1** | **Year 2** |
|---|---|---|
| Costs incurred during year | €3,117,500 | €2,582,500 |
| Estimated total costs | 7,250,000 | 7,600,000 |

The gross profit recognized in year 2 is *closest* to:

A. €617,500.
B. €880,000.
C. €960,000.

Answer = A

"Understanding the Income Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.147-149
Study Session: 8-32-b
Explain the general principles of revenue recognition and accrual accounting, demonstrate specific revenue recognition applications (including accounting for long-term contracts, installment sales, barter transactions, and gross and net reporting of revenue), and discuss the implications of revenue recognition principles for financial analysis.

| | | |
|---|---|---|
| **Percent Completed** | Costs Incurred/Total Costs Anticipated x 100 | |
| **Gross Profit** | % Complete x Anticipated Profit - Profit Already Recognized | |
| | **Year 1** | **Year 2** |
| Costs Incurred | 3,117,500 | 3,117,500+2,582,500= 5,700,000 |
| Percent Complete | 3,117,500/7,250,000 = 43.0% | 5,700,000/7,600,000 = 75.0% |
| Gross Profit | 43.0% x (10,000,000 - 7,250,000) = 1,182,500 | 75.0% x (10,000,000 - 7,600,000) – 1,182,500 = **617,500** |

50. The following financial information is available at the end of the year.

| | **Share Information** | | |
|---|---|---|---|
| **Security** | **Authorized** | **Issued & outstanding** | **Other features** |
| Common stock | 500,000 | 250,000 | Currently pays a dividend of $1 per share. |
| Preferred stock, series A | 50,000 | 12,000 | Nonconvertible, cumulative; pays a dividend of $4 per share. |
| Preferred stock, series B | 50,000 | 30,000 | Convertible; pays a dividend of $7.50 per share. Each share is convertible into 2.5 common shares. |
| **Additional Information**:<br>Retained earnings at start of year = $6,000,000<br>Reported income for the year = $1,000,000 | | | |

The diluted EPS is *closest* to:

A. $2.91.
B. $2.93.
C. $3.08.

Answer = A

“Understanding the Income Statement,” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.170-175
Study Session: 8-32-g, h

Describe the components of earnings per share and calculate a company's earnings per share (both basic and diluted earnings per share) for both a simple and complex capital structure.
Differentiate between dilutive and antidilutive securities, and discuss the implications of each for the earnings per share calculation.

| | | | |
|---|---|---|---|
| The convertible preferred shares are anti-dilutive, as shown in the table below; therefore the diluted EPS is the same as the basic EPS, $2.91. | | | |
| | | | |
| | **Basic EPS** | **Diluted EPS** | |
| Net Income | 1,000,000 | 1,000,000 | |
| Pref Div, Series A | (48,000) | (48,000) | 12,000 sh x 4/sh |
| Pref Div, Series B | (225,000) | 0 | 30,000 sh x 7.50/sh<br>Using If-Converted Method |
| Earnings available to common shareholders | 727,000 | 952,000 | |
| | | | |
| Weighted Average Number of Common Shares (WACS) | | | |
| Shares o/s | 250,000 | 250,000 | |
| If converted | ______ | 75,000 | 2.5 com/pf x 30,000 pf |
| WACS | 250,000 | 325,000 | |
| EPS = (Earnings available to Common Shareholders)/ (WACS) | **2.91** | **2.93*** | |
| *** Exceeds Basic EPS**; Series B is antidilutive and is therefore not included | | | |

51. At the start of the year, a company acquired new equipment at a cost of €50,000, estimated to have a 3 year life and a residual value of €5,000. If the company depreciates the asset using the double declining balance method, the depreciation expense that the company will report for the third year is *closest* to:

A. €555.
B. €3,328.
C. €3,705.

Answer = A

"Understanding the Income Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.160-163
"Long-Lived Assets," Elaine Henry, CFA, and Elizabeth A. Gordon
2011 Modular Level 1, Vol. 3, pp 422-426
Study Session: 8-32-d, 9-37-d
Demonstrate the appropriate method of depreciating long-term assets, accounting for inventory, or amortizing intangibles, based on facts that might influence the decision.
Calculate depreciation expense given the necessary information

| | | | |
|---|---|---|---|
| Under double declining balance method, the depreciation rate would be 2 x the straight line rate of 33.3%, i.e., 66.6%, or 2/3 depreciation rate per year. However, the asset should not be depreciated below its assumed residual value in any year. | | | |
| | | | |
| | **Double Declining Method of Depreciation** | | |
| **Year** | **Net BV at Start of Year** | **Depreciation** | **Net BV at End of Year** |
| 1 | 50,000 | 33,333 | 16,667 |
| 2 | 16,667 | 11,111 | 5,555 |
| 3 | 5,555 * | **555** ** | 5,000 |
| * | Alternative calculation for start of Year 3 Net Book Value:<br>50,000 x (1-0.667) x (1-0.667) = 5,555 | | |
| ** | Depreciation cannot be 2/3 x 5,555 = 3,705 since that would reduce book value to below the estimated 5,000 | | |

52. Assume a company has the following portfolio of marketable securities which was acquired at the end of 2009:

| **Category** | **Original Cost in €<br>as at the Year End, 2009** | **Fair Market Value in €<br>as at the Year End, 2010** |
|---|---|---|
| Held for trading | 12,000,000 | 12,500,000 |
| Available for sale | 17,000,000 | 16,000,000 |

If the company reports under IFRS instead of U.S. GAAP, its net income will *most likely* be:

A. the same.
B. €500,000 lower.
C. €500,000 higher.

Answer = A

“Understanding the Income Statement,” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, p. 184
“Understanding the Balance Sheet,” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, pp. 223-225, 227
“International Standards Convergence,” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, pp. 637-639
Study Session: 8-32-j; 8-33-f; 10-43-a, b
State the accounting classification for items that are excluded from the income statement but affect owners’ equity, and list the major types of items receiving that treatment.
Demonstrate the appropriate classification and related accounting treatments for marketable and nonmarketable financial instruments held as assets or owned by the company as liabilities.
Identify and explain the major international accounting standards for each asset and liability category on the balance sheet and the key differences from U.S. generally accepted accounting principles (GAAP).
Identify and explain the major international accounting standards for major revenue and expense categories on the income statement and the key differences from U.S. GAAP.

Whether securities are classified as held for trading or available for sale, they are measured at their fair value on the balance sheet, but all gains/losses on held for trading securities are reported on the income statements. The unrealized gains/losses on available for sale securities are reported in equity. However, this treatment is the same for both IFRS and U.S. GAAP reporting.

53. The use of financial ratio analysis is *most likely* limited in which of the following situations? When:

A. providing a means of evaluating management’s ability.
B. comparing companies using different accounting methods.
C. providing insights into microeconomic relationships within a company that help analysts project earnings and free cash flow.

Answer = B

"Understanding The Balance Sheet,” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp. 240-241
“Financial Analysis Techniques,” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA

2011 Modular Level 1, Vol.3, pp. 310-311
Study Session: 8-33-h, 8-35-a
Interpret balance sheets and statements of changes in equity.
Evaluate and compare companies using ratio analysis, common-size financial statements, and charts in financial analysis.

Financial ratio analysis is limited by the use of alternative accounting methods. Accounting methods play an important role in the interpretation of financial ratios. The lack of consistency across companies makes comparability difficult to analyze and limits the usefulness of ratio analysis.

54. Which of the following statements is *most* accurate regarding cash flow statements prepared under IFRS and U.S. GAAP?

A. Under U.S. GAAP, bank overdrafts should be classified as a financing cash flow.
B. Under IFRS, interest paid can be reported either as an operating or an investing cash flow.
C. Both the direct and indirect formats of cash flow statements are allowed under IFRS and U.S. GAAP, but indirect is encouraged under IFRS only.

Answer = A

"Understanding The Cash Flow Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp. 252-254
"International Standards Convergence," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp. 650-651
Study Session: 8-34-c, 10-43-c
Compare and contrast the key differences in cash flow statements prepared under international financial reporting standards and U.S. generally accepted accounting principles.
Identify and explain the major differences between international and U.S. GAAP accounting standards concerning the treatment of interest and dividends on the statement of cash flows.

Under U.S. GAAP, bank overdrafts are not considered part of cash and cash equivalents and are classified as financing cash flows.

55. The following is selected data from a company's operations:

| | |
|---|---|
| Net Income | $100,000 |
| Increase in Accounts receivable | 12,000 |
| Increase in Accounts payable | 9,000 |
| Depreciation and amortization | 8,000 |

The cash flow from operations is *closest* to:

A. $89,000.
B. $105,000.
C. $111,000.

Answer = B

"Understanding the Cash Flow Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.275-277
Study Session: 8-34-d, e
Demonstrate the difference between the direct and indirect methods of presenting cash from operating activities and explain the arguments in favor of each.
Demonstrate the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using income statement and balance sheet data.

| | |
|---|---|
| Net Income | 100,000 |
| plus Depreciation & Amortization | 8,000 |
| less Increase in Accounts Receivable | (12,000) |
| plus Increase in Accounts Payable | 9,000 |
| Net Cash from Operations | **105,000** |

56. An equity analyst is forecasting the next year's net profit margin of a heavy equipment manufacturing firm, by using the average net profit margin over the past three years. In making his profit projection, he is concerned about the following three items:

| | |
|---|---|
| 1. | The company suffered losses from discontinued operations in each of the past three years. |
| 2. | The most recent year's tax rate was only one half the prior two years' rate as a result of a fiscal stimulus. |
| 3. | The company experienced gains on the sale of investments in each of the past three years. |

Which of the following statements about the preparation of the forecast is *most* accurate? The analyst would:

A. use the most recent tax rate because that is the best predictor of future tax rates.
B. exclude the gains on the sale from investments because the company is a manufacturing firm.
C. include the discontinued operations because they appear to be an on-going feature for this company.

Answer = B

"Understanding the Income Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.165-169
"Financial Statement Analysis Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, pp. 598-601
Study Session: 8-32-f, 10-42-b
Discuss the financial reporting treatment and analysis of nonrecurring items (including discontinued operations, extraordinary items, and unusual or infrequent items) and changes in accounting standard.
Prepare a basic projection of a company's net income and cash flow.

The company is a heavy equipment manufacturer - since gains on investments is not a core part of its business, they should not be viewed as an ongoing source of earnings. Discontinued operations are considered to be nonrecurring items (even though they have occurred in the past three years); they are normally treated as random and unsustainable and should not be included in a short-term forecast; the change in the current tax rate is best viewed as temporary (in the absence) of additional information and should not be the basis of the calculation of the average tax rate.

57. An analyst gathered the following data for two companies in the same industry:

| | Company A | Company B |
|---|---|---|
| Days in sales outstanding | 28 | 32 |
| Days of inventory on hand | 32 | 35 |
| Days of payables | 42 | 40 |
| Current assets | $203,000 | $189,000 |
| Total assets | 581,000 | 469,000 |
| Current liabilities | 73,000 | 71,000 |
| Total liabilities | 429,000 | 350,000 |
| Shareholders' equity | 152,000 | 119,000 |

Which of the following is the *most* appropriate conclusion the analyst can make? Compared to Company B, Company A:

A. is more liquid.
B. has more financial risk.
C. has a longer time between cash outlay and cash collection.

Answer = A

"Financial Analysis Techniques," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.328-335
Study Session: 8-35-a, d
Evaluate and compare companies using ratio analysis, common-size financial statements, and charts in financial analysis.
Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.

Company A has a higher current ratio and shorter cash conversion cycle and it therefore more liquid. The lower financial leverage ratio indicates that it has less financial risk, not more, and it has less time between cash outlay and cash collection.

| **Measure** | **Definition** | **Company A** | **Company B** |
|---|---|---|---|
| Current ratio | CA/CL | 2.78 | 2.66 |
| Cash conversion cycle | DOS + DOH – Days payable | 28 + 32 – 42 = 18 | 32 + 35 – 40 = 27 |
| Financial Leverage | Total assets/Sh equity | 3.82 | 3.94 |

58. A company incurs the followings costs related to its inventory during the year:

| Cost | ¥ millions |
|---|---|
| Purchase price | 100,000 |
| Trade discounts | 5,000 |
| Import duties | 20,000 |
| Shipping of raw materials to manufacturing facility | 10,000 |
| Manufacturing conversion costs | 50,000 |
| Abnormal costs as a result of waste material | 8,000 |
| Storage cost prior to shipping to customers | 2,000 |

The amount charged to inventory cost (in millions) is *closest* to:

A. ¥175,000.
B. ¥177,000.
C. ¥185,000.

Answer = A

"Inventories," Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, p.379-380
Study Session: 9-36-a
Distinguish between costs included in inventories and costs recognized as expenses in the period in which they are incurred.

The costs to include in inventories are all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition.

| Cost | ¥ millions |
|---|---|
| Purchase price | 100,000 |
| Less Trade discounts | (5,000) |
| Import duties | 20,000 |
| Shipping of raw materials to manufacturing facility | 10,000 |
| Manufacturing conversion costs | 50,000 |
| Total inventory costs | **175,000** |

59. Compared with using the FIFO method to account for inventory, during a period of rising prices, which of the following ratios is *most likely* higher for a company using LIFO?

A. Current ratio
B. Gross margin
C. Inventory turnover

Answer = C

"Inventories," Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp. 382-383, 390-391
Study Session: 9-36-e
Compare and contrast cost of sales, ending inventory, and gross profit using different inventory valuation methods.

During a period of rising prices, ending inventory under LIFO will be lower than that of FIFO and cost of goods sold higher; therefore, inventory turnover (CGS/average inventory) will be higher.

60. A company which prepares its financial statements using IFRS wrote down its inventory value by €20,000 in 2009. In 2010, prices increased and the same inventory was worth €30,000 more than its value at the end of 2009. Which of the following statements is *most* accurate? In 2010, the company's cost of sales:

A. was unaffected.
B. decreased by €20,000.
C. decreased by €30,000.

Answer = B

"Inventories," Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp.386-388
Study Session: 9-36-f
Discuss the measurement of inventory at the lower of cost and net realisable value.

Under IFRS, the recovery of previous write-down is limited to the amount of the original write-down (€20,000) and is reported as a decrease in the cost of sales.

61. A Mexican corporation is computing the depreciation expense of a piece of manufacturing equipment for the fiscal year ended December 31, 2010 using the information below. The company takes a full year's depreciation in the year of acquisition.

| | |
|---|---|
| Date of purchase | January 1, 2010 |
| Cost of equipment | MXN 2,000,000 |
| Estimated residual value | MXN 200,000 |
| Expected useful life | 10 years |
| Total productive capacity | 5,000,000 units |
| Production in 2010 | 800,000 units |

The depreciation expense (in MXN) will *most likely* be:

A. 180,000 lower using the straight-line method compared with the double-declining balance method.
B. 140,000 higher using the units-of-production method compared with the straight-line method.
C. 112,000 higher using the double-declining method compared with the units-of-production method.

Answer = C

"Long-lived Assets," Elaine Henry, CFA and Elizabeth A. Gordon
2011 Modular Level 1, Vol.3, p.422-426
Study Session: 9-37-d
Calculate depreciation expense given the necessary information.

The difference between the double declining balance and units-of-production is:
400,000 – 288,000 = 112,000.

| | **Straight-line** | **Units of Production** | **Declining balance** |
|---|---|---|---|
| Rate | 1/10 | 5,000,000 units | 1/10 x 2 = 20% |
| Annual expense | $\frac{2,000,000 - 200,000}{10}$ | (2,000,000 – 200,000) x (800,000/5,000,000) | 0.20 x 2,000,000 |
| | = 180,000 | = 288,000 | = 400,000 |
| Difference between the declining balance and units of production is: = 400,000 – 288,000 = 112,000 | | | |

62. A company, which prepares its financial statements in accordance with IFRS uses the revaluation model to value land. At the end of the current year the land value of the land has increased and will be adjusted on the balance sheet. Which of the following statements is *most* accurate? In the current period the revaluation of the land will:

A. increase return on sales.
B. increase return on assets.
C. decrease the debt to equity ratio.

Answer = C

"Long-Lived Assets," Elaine Henry, CFA and Elizabeth A. Gordon
2011 Modular Level 1, Vol.3, pp.432
Study Session: 9-37- g
Discuss the revaluation model.

The increase in the value of the land bypasses the income statement and goes directly to a revaluation surplus account in equity. Equity increases thereby decreasing the debt to equity ratio

63. At the beginning of the year a company purchased a fixed asset for $500,000 with no expected residual value. The company depreciates similar assets on a straight-line basis over 10 years, while the tax authorities allow declining balance depreciation at the rate of 15% per year. In both cases the company takes a full year's depreciation in the first year and the tax rate is 40%. Which of the following statements concerning this asset at the end of the year is *most* accurate?

A. The tax base is $500,000.
B. The deferred tax asset is $10,000.
C. The temporary difference is $25,000.

Answer = C

"Long-Lived Assets," Elaine Henry, CFA and Elizabeth A. Gordon
2011 Modular Level 1, Vol.3, pp.422-425
"Income Taxes," Elbie Antonites, CFA and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, pp. 460-466, 470-472
Study Session 9-37-d, 9-38- c, d, f
Calculate depreciation expense given the necessary information.
Determine the tax base of a company's assets and liabilities.
Calculate income tax expense, income taxes payable, deferred tax assets, and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate.

Distinguish between temporary and permanent items in pre-tax financial income and taxable income.

The temporary difference is the difference between the net book value of the asset for accounting purposes [500,000 – (500,000/10)] = $450,000 and the net book value for taxes, [500,000 - 0.15(500,000) = $425,000]. 450,000 – 425,000 = $25,000.

64. A company, which prepares its financial statements in accordance with IFRS issues £5,000,000 face value ten year bonds on January 1, 2010 when interest rates are 5.50%. The bonds carry a coupon of 6.50%, with interest paid annually on December 31. The carrying value of the bonds as of December 31, 2011 will be *closest* to:

A. £4,695,562.
B. £5,301,000.
C. £5,316,000.

Answer = C

“Non-Current (Long-term) Liabilities,” Elizabeth A. Gordon and Elaine Henry, CFA
2011 Modular Level 1, Vol. 3, pp. 504-509
“Introduction to the Valuation of Debt Securities,” Frank J. Fabozzi, CFA
2011 Modular Level 1, Vol. 5, pp. 492-495
Study Session: 9-39-a, b; 16-65-d
Determine the initial recognition and measurement and subsequent measurement of bonds.
Discuss the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments.
Explain how the price of a bond changes as the bond approached its maturity date, and calculate the change in value that is attributable to the passage of time.

The bond proceeds are determined by taking the present value of the coupon stream and terminal payment at the interest rate of 5.5%:

Proceeds = 5,000,000 x 6.5% x PVA(10y, 5.5%) + 5,000,000 x PV(10y, 5.5%)
= 325,000 x PVA(10y, 5.5%) + 5,000,000 x PV(10y, 5.5%)
= 5,376,881

Where PVA(10y, 5.5%) is the present value interest factor for an annuity of $1 for 10years at 5.5%, and PV(10y, 5.5%) is the present value interest factor for $1 to be received in 10years when rates are 5.5%

Using the effective annual interest (EAI) rate method which is required under IFRS

| **Year** | **Carrying Amount at Start of Year** | **Interest Expense @ EAI** | **Interest Payment @ Coupon Rate** | **Amortisation of Premium** | **Carrying Amount @ End of Year** |
|---|---|---|---|---|---|
| 2010 | 5,376,881 | 295,728 | 325,000 | 29,272 | 5,347,609 |
| 2011 | 5,347,609 | 294,119 | 325,000 | 30,881 | **5,316,728** |
| | | | | | |
| **Alternatively**, take the PV of the cash flows over the remaining 8 years at 5.5% | | | | | |
| 5,000,000 x 6.5% x PVA(8y, 5.5%) + 5,000,000 x PV(8y, 5.5%) = **5,316,728** | | | | | |

65. Compared to classifying a lease as a financing lease, if a lessee reports the lease as an operating lease it will *most likely* result in a:

A. lower return on assets.
B. higher debt-to-equity ratio.
C. lower cash from operations.

Answer = C

"Non-Current (Long-term) Liabilities," Elizabeth A. Gordon and Elaine Henry, CFA
2011 Modular Level 1, Vol.3, p. 521-522, 537
Study Session: 9-39-g, h, l
Distinguish between a finance lease and an operating lease from the perspectives of the lessor and the lessee.
Determine the initial recognition and measurement and subsequent measurement of finance leases.
Calculate and interpret leverage and coverage ratios.

The cash from operations is lower if the lease is classified as an operating lease, because the full lease payment is shown as an operating cash outflow. If it were classified as a financing lease, only the portion of the lease payment relating to interest expense reduces the operating cash flow and the portion of the lease payment that reduces the lease liability is classified as a financing cash flow. Therefore, the lessee's cash from operations tends to be lower under operating leases.

66. A company reports that to maintain good relations with its suppliers, it has entered into a financing arrangement with a bank whereby it will periodically have the bank pay its suppliers the amounts owed and it will then repay the bank in the following period. The motivation for the company's behavior is *most likely* to:

A. improve its current ratio.
B. improve its relations with its suppliers.
C. manage the timing of operating cash flows.

Answer = C

"Accounting Shenanigans on the Cash Flow Statement," Marc A. Siegel
2011 Modular Level 1, Vol. 3, pp. 579-580
Study Session: 10-41
The candidate should be able to analyze and discuss the following ways to manipulate the cash flow statement:
- o stretching out payables;
- o financing of payables;
- o securitization of receivables; and
- o using stock buybacks to offset dilution of earnings.

The company can choose when to enter into the short-term borrowing with the bank and reclassify its accounts payable into short-term financing. It will likely do so when cash flows are seasonally strong, thereby reducing operating cash flows but increasing financing cash flows. On repayment, the cash outflow is treated as a financing activity (loan repayment) not an operating cash flow. The result is that the company can manipulate the timing of reported cash flows since the timing and extent of vendor financing is at management's discretion.

67. An equity manager conducted a stock screen on 5,000 U.S. stocks that comprise her investment universe. The results of the screen are presented in the table below.

| **Criterion** | **% of Stocks Meeting Criterion** |
|---|---|
| Price per share/Sales per share <1.25 | 35.0 |
| Total asset/Equity ≤ 2.5 | 48.2 |
| Dividends >0 | 58.6 |
| Consensus forecast EPS >0 | 75.0 |
| Meeting all 4 criteria simultaneously | 10.8 |

If all the criteria were completely independent of each other, the number of stocks meeting all four criteria would be *closest* to:

A. 293.
B. 371.
C. 540.

Answer = B

"Probability Concepts," Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2011 Modular Level 1, Vol. 1, p. 445-446
"Financial Statement Analysis Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, p. 608-610
Study Session: 2-8-g, h; 10-42-d
Distinguish between dependent and independent events.
Calculate and interpret, using the total probability rule, an unconditional probability;
Discuss the use of financial statement analysis in screening for potential equity investments.

If the criteria are independent of one another, the probability that all will occur is the product of the individual probabilities (Multiplication Rule for Independent Events), i.e., 0.35 x 0.482 x 0.586 x 0.75 = 0.074, or 7.4%, which would produce 371 meeting the criteria, i.e., 7.4% x 5,000.

68. When analyzing a company that prepares its financial statements according to U.S. GAAP, calculating the price/tangible book value ratio instead of the price/book value ratio is *most* appropriate if it:

A. grows primarily through acquisitions.
B. develops its patents and processes internally.
C. invests a substantial amount in new capital assets.

Answer = A

"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol.3, pp. 618-620
"Overview of Equity Securities," Ryan C. Fuhrmann, CFA and Asjeet S. Lamba, CFA
2011 Modular Level 1, Vol.5 pp. 192-193
"Equity Valuation: Concepts and Basic Tools", John J Nagorniak, CFA and Stephen E. Wilcox, CFA
2011 Modular Level 1, Vol. 5, p. 288
Study Session: 10-42-e; 14-58-h, 14-60-h
Determine and justify appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.
Distinguish between the market value and book value of equity securities.
Calculate and interpret the following multiples: price to earnings, price to an estimate of operating cash flow, price to sales, and price to book value.

A company that grows primarily through acquisition will have more goodwill and other intangible assets on its balance sheet than a company with fewer acquisitions or that has grown internally. To provide for comparisons with companies that do not follow such a growth strategy, an analyst would remove all intangibles and focus on tangible book value.

**Questions 69 through 78 relate to Corporate Finance**

69. A project has the following annual cash flows:

| Year 0: | Year 1: | Year 2: | Year 3: | Year 4: |
|---|---|---|---|---|
| -\$4,662,005 | \$22,610,723 | -\$41,072,261 | \$33,116,550 | -\$10,000,000 |

Which of the following discount rates *most likely* produces the highest net present value (NPV)?

A. 8%
B. 10%
C. 15%

Answer = C

"Capital Budgeting," John D. Stowe, CFA and Jacques R. Gagne, CFA
2011 Modular Level I, Vol.4, pp. 10-11, 17-19, 23
Study Session 11-44-d, e
Calculate and interpret the results using each of the following methods to evaluate a single capital project: net present value (NPV), internal rate of return (IRR), payback period, discounted payback period, and profitability index (PI).
Explain the NPV profile, compare and contrast the NPV and IRR methods when evaluating independent and mutually exclusive projects, and describe the problems associated with each of the evaluation methods.

The NPV at 15% is \$99.93. The NPV at 10% is -\$0.01. The NPV at 8% is -\$307.59. Where NPV = -4.662,005 + $[22{,}610{,}723/(1+i)^1] - [41{,}072{,}261/(1+i)^2] + [33{,}116{,}550/(1+i)^3] – [10{,}000{,}000/(1+i)^4]$

70. The cost of which source of capital *most likely* requires adjustment for taxes in the calculation of a firm's weighted average cost of capital?

A. Bonds
B. Common stock
C. Preferred stock

Answer = A

"Cost of Capital" Yves Courtois, CFA, Gene C. Lai, and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol.4, pp. 40-42
Study Session 11-45-b

Describe how taxes affect the cost of capital from different capital sources.

Bonds are a form of debt which must be adjusted for taxes when considering its contribution to the weighted average cost of capital.

71. Other factors held constant, the reduction of a company's average accounts payables due to suppliers offering less trade credit will *most likely*:

A. reduce the operating cycle.
B. increase the operating cycle.
C. not affect the operating cycle.

Answer = C

"Financial Analysis Techniques," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level I, Vol.3, p. 329
"Working Capital Management" Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol.4, pp. 162-167
Study Session 8-35-d; 11-48-c
Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.
Evaluate overall working capital effectiveness of a company, using the operating and cash conversion cycles, and compare its effectiveness with other peer companies.

Payables are not part of the operating cycle calculation. Operating cash cycle includes inventory and accounts receivable.

72. Which method of calculating the firm's cost of equity is *most likely* to incorporate the long-run return relationship between the firm's stock and the market portfolio?

A. Dividend discount model
B. Capital asset pricing model
C. Bond-yield-plus risk-premium

Answer = B

"Cost of Capital" Yves Courtois, CFA, Gene C. Lai, and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol.4, pp. 52-58
Study Session 11-45-h

Calculate and interpret the cost of equity capital using the capital asset pricing model approach, the dividend discount model approach, and the bond-yield-plus risk-premium approach.

The capital asset pricing model uses the firm's equity beta, which is computed from a market model regression of the company's stock returns against market returns.

73. An inventory system that reduces average inventory without affecting sales will *most likely* reduce the:

A. quick ratio.
B. inventory turnover.
C. cash conversion cycle.

Answer = C

"Financial Analysis Techniques," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2011 Modular Level 1, Vol. 3, pp. 329-331
"Working Capital Management" Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol.4, pp. 162-167
Study Session 8-35-d; 11-48-c
Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.
Evaluate overall working capital effectiveness of a company, using the operating and cash conversion cycles, and compare its effectiveness with other peer companies.

The inventory turnover will increase which means the days in inventory will reduce which will reduce the cash conversion cycle (also called net operating cycle).

74. A company currently has sales of €1,200 thousand and it makes the following forecasts for the next year:

| | |
|---|---|
| Sales growth next year: | 10% |
| Cost of goods sold as a proportion of sales: | 75% |
| Salary, general, and administrative expenses as a proportion of sales: | 10% |

The expected gross profit for next year (in thousands) is *closest* to:

A. €198.
B. €300.
C. €330.

Answer = C

"Financial Statement Analysis" Pamela Peterson Drake, CFA
2011 Modular Level I, Vol.4, pp. 219-220, 223-224
Study Session 11-49
The candidate should be able to demonstrate the use of pro forma income and balance sheet statements.

The expected gross profit in thousands is: €1,200 × (1 + 10%) × (1 - 75%) = €330.

75. The following information is available for a firm.

| | |
|---|---|
| Market Risk Premium: | 7.0% |
| Risk-free Rate: | 2.0% |
| Comparable Firm Return: | 10.4% |
| Comparable Firm Debt-to-Equity Ratio: | 1.0 |
| Comparable Firm Tax Rate: | 40.0% |

The firm's unlevered beta is *closest* to:

A. 0.75.
B. 1.05.
C. 1.20.

Answer = A

"Cost of Capital," Yves Courtois, CFA, Gene Lai, and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol. 4, pp. 60-62
Study Session 11-45-h, i
Calculate and interpret the cost of equity capital using the capital asset pricing model approach, the dividend discount model approach, and the bond-yield-plus-risk-premium approach.
Calculate and interpret the beta and cost of capital for a project.

Find the comparable firm's beta: (10.4% - 2.0%) ÷ 7.0% = 1.20.
Un-lever the comparable firm's beta: $\beta_{L,comparable}$ ÷ (1 + (1 – tax rate) x debt-to-equity ratio) = 1.20 ÷ (1 + (1 – 40%) x 1.0) =0.75.

76. The following information is available for a firm:

| | |
|---|---|
| Revenue: | £ 800,000 |
| Variable Cost: | 400,000 |
| Fixed Cost: | 200,000 |
| Operating Income: | 200,000 |
| Interest: | 60,000 |
| Net Income: | £ 140,000 |

The firm's degree of total leverage (DTL) is *closest* to:

A. 1.43.
B. 2.00.
C. 2.86.

Answer = C

"Measures of Leverage," Pamela Peterson Drake, CFA, Raj Aggarwal, CFA, Cynthia Harrington, CFA, and Adam Kobor, CFA
2011 Modular Level I, Vol. 4, pp. 107-108
Study Session 11-46-b
Calculate and interpret the degree or operating leverage, the degree of financial leverage, and the degree of total leverage

DTL = (Revenue – Variable Cost) ÷ Net Income = (£ 800,000 - £ 400,000) ÷ £ 140,000 = 2.86

77. A share repurchase method that requires existing shareholders to indicate the number of shares they will tender over a range of prices is *most likely* an example of a:

A. Dutch auction.
B. repurchase by direct negotiation.
C. purchase of shares on the open market.

Answer = A

"Dividends and Share Repurchases: Basics," George H. Troughton, CFA and Gregory Noronha, CFA
2011 Modular Level I, Vol. 4, pp. 138-141
Study Session 11-47-c
Compare and contrast share repurchase methods.

In a Dutch auction, the company stipulates a range of acceptable prices. Shareholders indicate how many shares they will tender at the various prices.

78. The annual cost of trade credit assuming a 365-day year for terms 3/10 net 40 is *closest* to:

A. 32.0%.
B. 43.3%.
C. 44.9%.

Answer = C

"Working Capital Management" Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol.4, pp. 192-193
Study Session 11-48-g
Evaluate the choices of short-term funding available to a company and recommend a financing method.

Cost of trade credit = $\left(1+\frac{Discount}{(1-Discount)}\right)^{\left(365/Number\ of\ days\ beyond\ discount\ period\right)}-1$

Cost of trade credit = $\left(1+\frac{3\%}{(1-3\%)}\right)^{\left(365/30\right)}-1=44.9\%$

**Questions 79 through 90 relate to Equity Investments**

79. The type of efficiency that exists in an economy that uses resources in such a way that they are most valuable is *best* described as:

A. operational.
B. allocational.
C. informational.

Answer = B

"Market Organization and Structure," Larry E. Harris
2011 Modular Level I, Vol. 5, pp. 62-63
Study Session 13-55-k
Describe the characteristics of a well-functioning financial system.

Economies that use resources in such a way that they are most valuable are allocationally efficient.

80. A market has the following limit orders standing on its book for a particular stock:

| Buyer | Bid Size (# of shares) | Limit Price ($) | Seller | Offer Size (# of shares) | Limit Price ($) |
|---|---|---|---|---|---|
| 1 | 500 | 18.50 | 1 | 200 | 20.20 |
| 2 | 300 | 18.90 | 2 | 300 | 20.35 |
| 3 | 400 | 19.20 | 3 | 400 | 20.50 |
| 4 | 200 | 20.10 | 4 | 100 | 20.65 |
| 5 | 100 | 20.15 | 5 | 200 | 20.70 |

If a trader submits an immediate-or-cancel limit buy order for 700 shares at a price of $20.50, the *most likely* average price the trader would pay is:

A. $20.35.
B. $20.50.
C. $20.58.

Answer = A

"Market Organization and Structure," Larry E. Harris
2011 Modular Level I, Vol. 5, pp. 47-49, 60
Study Session 13-55-h
Compare and contrast market orders with limit orders.

The limit buy order will be filled first with the most aggressively priced limit sell order and will be followed by filling with the higher priced limit sell orders that are needed up to and including the limit buy price until the order is filled.
Average price = [(200 x $20.20) + (300 x $20.35) + (200 x $20.50)] / 700 = $20.35

81. Which of the following statements is *most* accurate with respect to rebalancing and reconstitution of security market indices?

A. Equal weighted indices require frequent rebalancing.
B. Turnover within an index results from a reconstitution but not from rebalancing.
C. A price-weighted index requires rebalancing more than a market-capitalization-weighted index.

Answer = A

"Security-Market Indices," Paul D. Kaplan, CFA and Dorothy C. Kelly, CFA
2011 Modular Level I, Vol. 5, pp. 92-93, 99-100
Study Session 13-56-f

Discuss rebalancing and reconstitution.

After an equal weighted index is constructed and the prices of constituent securities change, the index is no longer equally weighted. Therefore, maintaining equal weights requires frequent adjustments (rebalancing) to the index.

82. The data for four stocks in an index are as follows:

| Stock | Shares Outstanding | % Shares in Market Float | Beginning of Period Price ($) | End of Period Price ($) | Dividends Per Share ($) |
|---|---|---|---|---|---|
| A | 5,000 | 90 | 40 | 45 | 1.00 |
| B | 2,000 | 100 | 68 | 60 | 0.50 |
| C | 6,000 | 70 | 60 | 70 | 1.50 |
| D | 4,000 | 40 | 20 | 24 | 0.80 |

Assuming the beginning value of the float-adjusted market-capitalization-weighted equity index is 100, the ending value is *closest* to:

A. 109.1.
B. 110.9.
C. 111.3.

Answer = A

"Security-Market Indices," Paul D. Kaplan, CFA and Dorothy C. Kelly, CFA
2011 Modular Level I, Vol. 5, pp. 96-98
Study Session 13-56-e
Calculate and interpret the value and return of an index on the basis of its weighting method.

In float-adjusted market-capitalization weighting, the weight on each constituent security is determined by adjusting its market capitalization for its market float. Per computations shown below, the ending value of the index so computed equals 109.1. (654,900 ÷ 600,000)

| Stock | Shares Outstanding | % Shares in Market Float | Shares in Index | Beginning of Period Price ($) | Beg. Float Adj. Market Cap ($) | End of Period Price ($) | Ending Float Adj. Market Cap ($) |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (1) x (2) = (3) | (4) | (3) x (4) = (5) | (6) | (3) x (6) |
| A | 5,000 | 90 | 4,500 | 40 | 180,000 | 45 | 202,500 |
| B | 2,000 | 100 | 2,000 | 68 | 136,000 | 60 | 120,000 |
| C | 6,000 | 70 | 4,200 | 60 | 252,000 | 70 | 294,000 |
| D | 4,000 | 40 | 1,600 | 20 | 32,000 | 24 | 38,400 |
| Total | | | | | 600,000 | | 654,900 |
| Index Value | | | | | 100 | | **109.1** |

83. If a securities market is efficient, it is *most likely* that:

A. security prices would react only to the “unexpected” elements of information.
B. investors would prefer active investment strategies to passive investment strategies.
C. the time frame for price adjustment allows many traders to earn profits with little risk.

Answer = A

**“**Market Efficiency,” W. Sean Cleary, CFA, Howard J. Atkinson, CFA and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol. 5, pp. 127-128
Study Session 13-57-a, b
Discuss market efficiency and related concepts, including their importance to investment practitioners.
Explain the factors affecting a market’s efficiency.

In an efficient market, prices should be expected to react only to the “unexpected” or “surprise” element of information releases. Investors process the unexpected information and revise expectations accordingly.

84. A financial analyst utilizing his analytical expertise and up-to-date information buys a company’s stock. His close friends, who lack information or expertise, imitate the financial analyst’s action and buy the stock. Which of the following statements concerning this behavioral bias is *most* accurate?

A. It improves market efficiency.
B. It is identical to representativeness.
C. It is inconsistent with rational behavior.

Answer = A

**“**Market Efficiency,” W. Sean Cleary, CFA, Howard J. Atkinson, CFA and Pamela Peterson Drake, CFA
2011 Modular Level I, Vol. 5, pp. 148-150
Study Session 13-57-g
Compare and contrast the behavioral finance view of investor behavior to that of traditional finance in regards to market efficiency.

This behavioral bias is an example of an information cascade wherein the transmission of information is from those participants who act first and whose decisions influence the decisions of others. The behavior of informed traders acting first and uninformed traders imitating the informed traders is consistent with rationality. The imitation trading by the uninformed traders helps the market incorporate relevant information and improves market efficiency.

85. Returns from a depository receipt are *least likely* impacted by which of the following factors?

A. Exchange rate movements
B. Analysts' recommendations
C. The number of depository receipts

Answer = C

“Overview of Equity Securities**,”** Ryan C. Fuhrmann, CFA and Asjeet S. Lamba, CFA
2011 Modular Level I, Vol. 5, p. 182
Study Session 14-58-e, f
Discuss the methods for investing in non-domestic equity securities.
Compare and contrast the risk and return characteristics of various types of equity securities.

The price of each depository receipt (and returns in turn) will be affected by factors that affect the price of the underlying shares, such as company fundamentals, market conditions, analysts’ recommendations, and exchange rate movements. The number of depository receipts issued affects their price, but does not impact the returns.

86. Firms with which of the following characteristics are *most likely* candidates for a management buyout (MBO)?

A. High dividend payout ratios
B. Large amounts of overvalued assets and low debt levels
C. Large amounts of undervalued assets and high levels of cash flow

Answer = C

"Overview of Equity Securities**,"** Ryan C. Fuhrmann, CFA and Asjeet S. Lamba, CFA
2011 Modular Level I, Vol. 5, pp. 177-178
Study Session 14-58-c
Distinguish between public and private equity securities.

Companies with large amounts of undervalued assets (which can be sold to reduce debt) and which generate high levels of cash flow (which is used to make interest and principal payments on the debt) are likely candidates for MBO transactions.

87. An industry experiencing intense competitive rivalry among incumbent companies is *best* characterized by:

A. differentiated products and low exit barriers.
B. a small number of competitors and low fixed costs.
C. customers basing purchase decisions largely on price.

Answer = C

"Introduction to Industry and Company Analysis," Patrick W. Dorsey, CFA, Anthony M. Fiore, CFA and Ian Rossa O'Reilly, CFA
2011 Modular Level I, Vol. 5, pp. 225, 227, 239
Study Session 14-59-h, i
Explain the effects of industry concentration, ease of entry, and capacity on return on invested capital and pricing power.
Discuss the principles of strategic analysis of an industry.

The factor that most influences customer purchase decisions is likely to also be the focus of competitive rivalry in the industry. In general, industries where price is a large factor in customer purchase decisions tend to be more competitive than industries in which customers value other attributes more highly.

88. Industry analysis is *least* useful to those who are engaged in:

A. a top-down investment approach.
B. portfolio performance attribution.
C. indexing and passive investing strategies.

Answer = C

"Introduction to Industry and Company Analysis," Patrick W. Dorsey, CFA, Anthony M. Fiore, CFA and Ian Rossa O'Reilly, CFA
2011 Modular Level I, Vol. 5, pp. 206-207

Study Session 14-59-a
Explain the uses of industry analysis and the relation of industry analysis to company analysis.

Indexing and passive investing strategies would not engage in over- or underweighting of industries, industry rotation, or timing investments in industries. Therefore, industry analysis is not useful to such investors or portfolio managers.

89. An analyst gathers the following information about a company:

| **Balance Sheet** | | | |
|---|---|---|---|
| **Assets** | | **Liabilities and Shareholders' Equity** | |
| Cash | $ 5,000 | Accounts payable | $ 10,000 |
| Accounts receivable | 15,000 | Notes payable | 15,000 |
| Inventory | 25,000 | Long-term debt | 40,000 |
| Net fixed assets | 80,000 | Common shareholders' equity | 60,000 |
| **Total assets** | **$125,000** | **Total liabilities and equity** | **$125,000** |

| **Additional Information** | |
|---|---|
| Number of outstanding shares | 7,000 |
| Market value of long-term debt | $45,000 |
| Market value of accounts receivable and inventory | 90% of reported values |
| Net fixed assets | 120% of reported value |
| Accounts payable and notes payable | Same as the reported value |

Using asset-based valuation approach, the estimated value per share is *closest* to:

A. $ 9.57.
B. $10.29.
C. $11.00.

Answer = A

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA
2011 Modular Level I, Vol. 5, pp. 300-303
Study Session 14-60-j
Explain asset-based valuation models and demonstrate the use of asset-based models to calculate equity value.

| | | |
|---|---|---|
| Market value of assets | $5,000 + $40,000(0.90) + $80,000(1.20) | $137,000 |
| Market value of liabilities | 10,000 + $15,000 + $45,000 | $70,000 |
| Estimated value per share | ($137,000 - $70,000) / 7,000 shares | **$9.57/share** |

90. A stock selling at $50 has a P/E multiple of 20 on the basis of the current year's earnings. An analyst estimates that next's earnings per share will be 10% higher and that the stock should be valued on a forward looking basis at the industry average P/E of 18. Based on the analyst's assessment, it is *most likely* that the stock is currently:

A. overvalued.
B. fairly valued.
C. undervalued.

Answer = A

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA
2011 Modular Level I, Vol. 5, pp. 268-270, 288-295
Study Session 14-60-a, h
Evaluate whether a security, given its current market price and a value estimate, is overvalued, fairly valued, or undervalued by the market.
Calculate and interpret the following multiples: price to earnings, price to an estimate of operating cash flow, price to sales, and price to book value.

The stock is currently overvalued by $0.50 as its intrinsic value is $49.50 compared to the price of $50: Next year's EPS = ($50 / 20) x 1.10 = $2.75; Intrinsic value = $2.75 x 18 = $49.50.

**Questions 91 through 96 relate to Derivative Investments.**

91. Two parties agree to a forward contract on a non-dividend paying stock at a price of $103.00. At contract expiration the stock trades at $105.00. In a cash-settled forward contract, the:

A. short pays the long $2.00.
B. short pays the long $103.00.
C. long pays the short $105.00.

Answer = A

"Forward Markets and Contracts", Don M. Chance, CFA
2011 Modular Level I, Vol. 6, p. 32
Study Session 17-69-a

Explain delivery/settlement and default risk for both long and short positions in a forward contract.

A is correct because a cash-settled forward permits the long and short to pay the net cash value of the position on the delivery date. The long is due to receive a stock from the short with a market value of $105.00. Through the forward contract, the long agreed to purchase the stock at $103.00. Therefore, the short must pay the net cash value of $2.00 to the long.

92. A combination of interest rate calls is referred to as an interest rate:

A. cap.
B. floor.
C. collar.

Answer = A

“Option Markets and Contracts”, Don M. Chance, CFA
2011 Modular Level I, Vol. 6, p. 94
Study Session 17-71-g
Define interest rate caps, floors, and collars.

A is correct because an interest rate call is an option in which the holder has the right to make a known interest payment and receive an unknown interest payment. The underlying is the unknown interest rate. If the unknown underlying rate turns out to be higher than the exercise rate at expiration, the option is exercised. Thus, the interest rate paid will not be higher than the exercise rate. A combination of interest rate calls is referred to as an interest rate cap or sometimes just a cap.

93. A European call option on a non-dividend paying stock with a strike price of $25.00 expires in 3 months. The underlying stock currently trades at $29.00. The risk-free rate is 5.00%. The lower bound for the European call is *closest* to:

A. $0.00.
B. $4.00.
C. $4.30.

Answer = C

“Option Markets and Contracts” Don M. Chance, CFA
2011 Modular Level I, Vol. 6, p. 105
Study Session 17-71-j

Determine the minimum and maximum values of European options and American options.

C is correct because the lower bound on a European call price is either zero or the underlying price minus the present value of the exercise price, whichever is greater.
$c_0 \geq \text{Max}[\ 0,\ S_0 – X / ( 1 + r )^T]$
$\text{Max}[0, 29 – 25/(1.05)^{3/12}] = 4.30$

94. If the volatility of returns of an underlying security increases, then:

A. both call and put option prices increase.
B. both call and put option prices decrease.
C. call prices increase and put prices decrease.

Answer = A

"Option Markets and Contracts", Don M. Chance, CFA
2011 Modular Level I, Vol. 6, pp. 117-118
Study Session 17-71-p
Indicate the directional effect of an interest rate change or volatility change on an option's price.

A is correct because higher volatility increases the possible upside value of the underlying which increases the price of calls and does not hurt puts. Higher volatility also increases the possible downside value of the underlying which increases the price of puts and does not hurt calls.

95. Prices of a futures contract for five consecutive trading-days are provided in the table below. The initial margin requirement is set at $6.00 per contract and the maintenance margin is $3.60 per contract.

| **Day** | **Futures Price** |
|---|---|
| 0 | $120 |
| 1 | 118 |
| 2 | 117 |
| 3 | 119 |
| 4 | 123 |
| 5 | 125 |

On day 0, a trader enters into a short position for 15 contracts. The ending balance for the margin account on day 5 is *closest* to:

A. $15.
B. $60.
C. $210.

Answer = B

"Futures Markets and Contracts", Don M. Chance, CFA
2011 Modular Level I, Vol. 6, pp. 55-59
Study Session 17-70-c, d
Differentiate between margin in the securities markets and margin in the futures markets, and explain the role of initial margin, maintenance margin, variation margin, and settlement in futures trading.
Describe price limits and the process of marking to market, and calculate and interpret the margin balance, given the previous day's balance and the change in the futures price.

B is correct. The calculations are provided in the table below:

| | | |
|---|---|---|
| IM | $6 | per contract |

| | | | | | | |
|---|---|---|---|---|---|---|
| MM | $3.6 | per contract | | | | |
| Contracts | 15 | | | | | |
| Position | Short | | | | | |
| Day | Beginning Balance | Funds Deposited | Futures Price | Price Change | Gain/ Loss | Ending Balance |
| 0 | 0 | 90 | 120 | | | 90 |
| 1 | 90 | 0 | 118 | -2 | 30 | 120 |
| 2 | 120 | 0 | 117 | -1 | 15 | 135 |
| 3 | 135 | 0 | 119 | 2 | -30 | 105 |
| 4 | 105 | 0 | 123 | 4 | -60 | 45 |
| 5 | 45 | 45 | 125 | 2 | -30 | 60 |

On day 0, the trader must deposit an initial margin of $90 (= $6 × 15). Subsequent gains and losses on the short position are reflected in the ending margin balance for the day. The ending balance on day 4 is $45, which is below the maintenance margin of $54 (= $3.60 × 15). On any day in which the amount of money in the margin account at the end of the day falls below the maintenance margin requirement, the trader must deposit sufficient funds to bring the balance back up to the initial margin requirement. Therefore, the trader must deposit $45 on day 5 to bring the margin balance up to $90. After reflecting a loss of $30, the ending balance on day 5 is $60.

96. A dealer quotes a forward rate agreement (FRA) expiring in 30 days, for which the underlying is 90-day LIBOR, at 4.5%. An investor shorts the contract and the dealer goes long for a notional principal of $15 million. At the expiration of the FRA the rate on 90-day LIBOR is 4.0%. The investor is *most likely* to:

A. pay the dealer $6,229.
B. pay the dealer $18,564.
C. receive from the dealer $18,564.

Answer = C

"Forward Markets and Contracts", Don M. Chance, CFA
2011 Modular Level I, Vol. 6, pp. 41-42
Study Session 17-69-f
Describe the characteristics and calculate the gain/loss of forward rate agreements (FRAs).

C is correct because the party which is short the FRA will benefit from a rate decrease with payment based on the following calculation:

$$15{,}000{,}000\left[\frac{(0.04-.045)\left(\frac{90}{360}\right)}{1+[0.04\left(\frac{90}{360}\right)]}\right]=-18{,}564.36$$

**Questions 97 through 108 relate to Fixed Income Investments.**

97. A 10-year bond is issued on January 1, 2010. Its contract requires that its coupon rate change over time as shown in the following table:

| Coupon Payment Date Range | Coupon Rate |
|---|---|
| 01/01/2010-12/31/2011 | 2.0% |
| 01/01/2012-12/31/2013 | 5.0% |
| 01/01/2014-12/31/2015 | 7.5% |
| 01/01/2016-12/31/2019 | 9.0% |

This security is *best* described as an example of a:

A. step-up note.
B. floating-rate bond.
C. deferred coupon bond.

Answer = A

"Features of Debt Securities," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, p. 326
Study Session 15-61-b
Describe the basic features of a bond, the various coupon rate structures, and the structure of floating-rate securities.

A is correct because a step-up note has contractually mandated changes in its coupon rate.

98. A 5-year floating-rate security was issued on January 1, 2006. The coupon rate formula was 1-year LIBOR + 300 bps with a cap of 10% and a floor of 5% and annual reset. The 1-year LIBOR rate on January 1st of each year of the security's life is provided in the following table:

| **Year** | **1-Year LIBOR** |
|---|---|
| 2006 | 3.5% |
| 2007 | 4.0% |
| 2008 | 3.0% |
| 2009 | 2.0% |
| 2010 | 1.5% |

During 2010, the payments owed by the issuer were based on a coupon rate closest to:

A. 4.5%.
B. 5.0%.
C. 6.5%.

Answer = B

"Features of Debt Securities," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, p. 326-328
Study Session 15-61-b
Describe the basic features of a bond, the various coupon rate structures, and the structure of floating-rate securities.

B is correct because LIBOR + 300 bps at the reset date equals 1.5% + 3.00% = 4.5%, which is below the floor of 5.00% so the coupon rate will be equal to the floor.

99. Which of these is the *best* example of an embedded option granted to bondholders?

A. A prepayment option
B. A floor on a floating rate security
C. An accelerated sinking fund provision

Answer = B

"Features of Debt Securities," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, p. 337
Study Session 15-61-e

Identify the common options embedded in a bond issue, explain the importance of embedded options, and state whether such options benefit the issuer or the bondholder.

B is correct because the floor benefits the bondholder by keeping the coupon from falling below a certain threshold if market rates decline to very low levels.

100. A bond has a 10-year maturity, a $1,000 face value, and a 7% coupon rate. If the market requires a yield of 8% on the bond, it will *most likely* trade at a:

A. discount.
B. premium.
C. discount or premium, depending on its duration.

Answer = A

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 353
Study Session 15-62-b
Identify the relations among a bond's coupon rate, the yield required by the market, and the bond's price relative to par value (i.e., discount, premium, or equal to par.)

A is correct because when the required yield is higher than the coupon rate, the bond trades at a discount to par.

101. When interest rates fall, the price of a callable bond will:

A. fall less than an option-free bond.
B. rise less than an option-free bond.
C. rise more than an option-free bond.

Answer = B

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, p. 355
Study Session 15-62-d
Identify the relationship among the price of a callable bond, the price of an option-free bond, and the price of the embedded call option.

B is correct because when interest rates fall, the price of the embedded call option increases. Since, price of a callable bond = price of option-free bond – price of embedded call option, the price of the callable bond will not increase as much as an option-free bond since the price of the call option is increasing. As interest rates fall, the bond is more likely to be called, limiting the upside price increase potential.

102. A bond is selling for 98.2. It is estimated that the price will fall to 96.6 if yields rise 30 bps and that the price will rise to 100.1 if yields fall 30 bps. Based on these estimates, the duration of the bond is *closest to*:

A. 1.78.
B. 5.94.
C. 11.88.

Answer = B

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 357-358
Study Session 15-62-f
Calculate and interpret the duration and dollar duration of a bond.

B is correct because the duration equals

$$\frac{price\ if\ \ yields\ decline - price\ if\ \ yields\ rise}{2 \times initial\ \ price \times change\ in\ \ yield} = \frac{100.1 - 96.6}{2 \times 98.2 \times 0.003} = 5.94.$$

103. The *most* direct disadvantage of investing in a callable security relative to an otherwise identical option-free security is:

A. increased default risk.
B. lower interest payments.
C. decreased price appreciation potential.

Answer = C

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 363-364
Study Session 15-62-h
Explain the disadvantages of a callable or prepayable security to an investor.

C is correct because when interest rates decline, more borrowers will prepay, limiting the potential for the bond price to increase.

104. An investor fears that economic conditions will worsen and the market prices of her portfolio of investment-grade corporate bonds will decrease more than her portfolio of government bonds. The investor's fear is *best* described as a fear of:

A. default risk.
B. downgrade risk.
C. credit spread risk.

Answer = C

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 365-366
Study Session 15-62-j
Describe the various forms of credit risk and describe the meaning and role of credit ratings.

C is correct because the when the market is willing to pay less for investing in risky bonds, the spreads on those bonds widens relative to default-free bonds. Thus the investor is concerned about credit spread risk.

105. What type of risk does the bid-ask spread *most* closely measure?

A. Default risk
B. Inflation risk
C. Liquidity risk

Answer = C

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 369-371
Study Session 15-62-k
Explain liquidity risk and why it might be important to investors even if they expect to hold a security to the maturity date.

C is correct because the size of the spread between the bid price and the ask price is the primary measure of liquidity of the issue. Liquidity risk is the risk that the investor will have to sell a bond below its indicated value. The wider the bid-ask spread, the greater the liquidity risk.

106. On January 1st of the year, an investor purchases $100,000 in par value of a new Treasury Inflation Protection Security (TIPS) issue that has a 2.5% coupon rate. The annual rate of inflation over the first six months of the year is 4.0% and the annual rate of inflation for the second six months of the year is 3.0%. The amount of coupon interest paid to the investor after the second six months of the year is *closest to*:

A. $1,275.
B. $1,294.
C. $1,339.

Answer = B

"Overview of Bond Sectors and Instruments," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 395-397
Study Session 15-63-b
Describe the types of securities issued by the U.S. Department of the Treasury (e.g., bills, notes, bonds, and inflation protection securities), and differentiate between on-the-run and off-the-run Treasury securities.

B is correct because the inflation-adjusted principal after the second six month period is $100,000 × (1.02) × (1.015) = $103,530 and $103,530 × (2.5%/2) = $1,294.

107. A level payment, fixed-rate, fully amortizing mortgage loan for $220,000 is obtained with a term of 15 years, a mortgage rate of 6.0% with monthly compounding, and a monthly payment of $1,856.49. Assuming that the borrower does not prepay or default, the principal that is repaid during the first 3 months is *closest to*:

A. $660.
B. $2,281.
C. $3,667.

Answer = B

"Overview of Bond Sectors and Instruments," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 401-404
Study Session 15-63-e
Describe the types and characteristics of mortgage-backed securities and explain the cash flow, prepayments, and prepayment risk for each type.

B is correct according to the table below showing the remaining principal balance after 3 monthly payments.

| Month | Beginning Balance | Mortgage Payment | Interest | Principal Repayment | Ending Balance |
|---|---|---|---|---|---|
| 1 | 220,000.00 | 1,856.49 | 1,100.00 | 756.49 | 219,243.51 |
| 2 | 219,243.51 | 1,856.49 | 1,096.22 | 760.27 | 218,483.24 |
| 3 | 218,483.24 | 1,856.49 | 1,092.42 | 764.07 | 217,719.17 |

108. The primary motivation for creating a collateralized mortgage obligation (CMO) is *best* described as the desire to redistribute which risk of investment in residential mortgages?

A. Default risk.
B. Liquidity risk.
C. Prepayment risk.

Answer = C

"Overview of Bond Sectors and Instruments," Frank J. Fabozzi, CFA
2011 Modular Level I, Vol. 5, pp. 406-408
Study Session 15-63-f
State the motivation for creating a collateralized mortgage obligation.

C is correct because the motivation for creating a CMO is to distribute prepayment risk among different classes of bonds.

**Questions 109 through 114 relate to Alternative Investments.**

109. One advantage of exchange traded funds relative to open-end mutual funds is:

A. they trade throughout the day.
B. they offer greater diversification.
C. they have smaller bid-ask spreads.

Answer = A

"Alternative Investments", Global Investments, Sixth Edition, by Bruno Solnik and Dennis McLeavey, CFA
2011 Modular Level I, Volume 6, pp. 195-197
Study Session 18-74-c
Explain the advantages and risks of ETFs.

A is correct. Exchange traded funds trade throughout the trading day at market prices that are updated continuously, rather than only trading once a day at closing market prices, as do the traditional open-end mutual funds.

110. A fund manager is compensated with a base management fee plus an incentive fee proportional to the fund's return above a benchmark. This *best* describes the fee structure of:

A. a hedge fund.
B. a mutual fund.
C. an exchange traded fund.

Answer = A

"Alternative Investments", Global Investments, Sixth Edition, by Bruno Solnik and Dennis McLeavey, CFA
2011 Modular Level I, Volume 6, pp. 220-221
Study Session 18-74-i
Discuss the objectives, legal structure, and fee structures typical of hedge funds, and describe the various classifications of hedge funds.

A is correct. A hedge fund manager is compensated through a base management fee based on the value of the assets under management plus an incentive fee proportional to the fund's return above a benchmark.

111. The real estate valuation approach that uses a perpetuity discount type model is the:

A. cost approach.
B. income approach.
C. sales comparison approach.

Answer = B

"Alternative Investments", Global Investments, Sixth Edition, by Bruno Solnik and Dennis McLeavey, CFA
2011 Modular Level I, Volume 6, p. 205
Study Session 18-74-e
Describe the various approaches to the valuation of real estate.

B is correct. The income approach to real estate valuation values a property using a perpetuity discount type of model.

112. Capital provided for companies beginning operation but before commercial manufacturing and sales have occurred *best describes* which stage in venture capital investing?

A. Seed-stage
B. Early-stage
C. Later-stage

Answer = B

"Alternative Investments", Global Investments, Sixth Edition, by Bruno Solnik and Dennis McLeavey, CFA
2011 Modular Level I, Volume 6, p. 214
Study Session 18-74-g
Explain the stages in venture capital investing, venture capital investment characteristics, and challenges to venture capital valuation and performance measurement.

B is correct. Early-stage financing is capital provided for companies moving into operation and before commercial manufacturing and sales have occurred.

113. A fund that calculates net asset value by subtracting liabilities from assets and dividing the result by a fixed number of shares is *most likely*:

A. a hedge fund.
B. an open-end mutual fund.
C. a closed-end mutual fund.

Answer = C

"Alternative Investments", Global Investments, Sixth Edition, by Bruno Solnik and Dennis McLeavey, CFA
2011 Modular Level I, Volume 6, p. 189-190
Study Session 18-74-a
Differentiate between an open-end and a closed-end mutual fund, and explain how net asset value of a fund is calculated and the nature of fees charged by investment companies.

C is correct. Closed-end mutual funds calculate NAV as follows:
NAV = (Assets – Liabilities)/Number of shares Outstanding

114. A commodity market is in contango when futures prices are:

A. lower than the spot price.
B. higher than the spot price.
C. the same as the spot price.

Answer = B

"Investing in Commodities", Global Perspectives on Investment Management: Learning from the Leaders, edited by Rodney N. Sullivan, CFA
2011 Modular Level I, Volume 6, pp. 262
Study Session 18-75-a
Explain the relationship between spot prices and expected future prices in terms of contango and backwardation.

B is correct. When a commodity market is in contango, futures prices are higher than the spot price because market participants believe the spot price will be higher in the future.

**Questions 115 through 120 relate to Portfolio Management.**

115. In general, which of the following institutions will *most likely* have a high need for liquidity and a short investment time horizon?

A. Banks
B. Endowments
C. Defined benefit pension plans

Answer = A

"Portfolio Management: An Overview", by Robert M. Conroy and Alistair Byrne.
2011 Modular Level I, Vol. 4, pp. 286-292
Study Session 12-51-b
Discuss the types of investment management clients and the distinctive characteristics and needs of each.

A is correct. Banks have a short term horizon and high liquidity needs. See Exhibit 14, page 291.

116. Which of the following is *most likely* a part of the feedback step in the portfolio management process?

A. Portfolio construction
B. Performance measurement
C. Developing the investment policy statement

Answer = B

"Portfolio Management: An Overview", by Robert M. Conroy and Alistair Byrne.
2011 Modular Level I, Vol. 4, pp. 292-296
Study Session 12-51-c
Describe the steps in the portfolio management process.

B is correct. Performance measurement along with portfolio monitoring and rebalancing is part of the feedback loop.

117. The following table presents historical information for two stocks, RTF and KIU:

| | |
|---|---|
| Variance of returns for RTF | 0.0625 |
| Variance of returns for KIU | 0.0900 |
| Correlation coefficient between RTF and KIU | 0.4500 |

The covariance between RTF and KIU is *closest* to:

A. 0.0025.
B. 0.0338.
C. 0.0675.

Answer = B

"Portfolio Risk and Return: Part I", by Vijay Singal.
2011 Modular Level I, Vol. 4, pp. 329-331.
Study Session 12-52-c
Calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data.

B is correct because $Cov_{ij} = \sigma_i \sigma_j \; r_{ij} = 0.0625^{1/2} \times 0.090^{1/2} \times 0.450 = 0.0338$

118. Relative to an investor with a steeper indifference curve, the optimal portfolio for an investor with a flatter indifference curve will *most likely* have:

A. a lower level of risk and return.
B. a higher level of risk and return.
C. the same level of risk and return.

Answer = B

“Portfolio Risk and Return: Part I”, by Vijay Singal.
2011 Modular Level I, Vol. 4, pp. 343-350.
Study Session 12-52-h
Discuss the selection of an optimal portfolio, given an investor’s utility (or risk aversion) and the capital allocation line.

B is correct because a less risk-averse investor’s highest utility, given the low slope of his indifference curve, is likely to touch the capital allocation line at a point which would represent a portfolio with higher risk and more expected return.

119. The following table shows data for the stock of JKU and a market-index.

| | |
|---|---|
| Expected return of JKU | 15% |
| Expected return of market index | 12% |
| Risk free rate | 5% |
| Standard deviation of JKU returns | 20% |
| Standard deviation of market index returns | 15% |
| Correlation of JKU and market index returns | 0.75 |

Based on the capital asset pricing model (CAPM), JKU is *most likely*:

A. overvalued.
B. undervalued.
C. fairly valued.

Answer = B

“Portfolio Risk and Return: Part II”, by Vijay Singal.
2011 Modular Level I, Vol. 4, pp. 414-415, 429-430.
Study Session 12-53-e, h
Calculate and interpret beta.
Illustrate applications of the CAPM and the SML.

B is correct because:

$\beta_{JKU} = \rho_{JKU,M} \times \sigma_{JKU} / \sigma_M = 0.75 \times 0.2/0.15 = 1.0$
$E(R_{JKU}) = RFR + \beta_{JKU} \text{ x } (R_M - RFR) = 0.05 + 1 \text{ x } (0.12 - 0.05) = 0.12$
The required rate of return of JKU is 12% and the expected return of JKU is 15% therefore JKU is undervalued relative to the Security Market Line (SML). The risk-return relationship lies above the SML.

120. A portfolio with equal parts invested in a risk-free asset and a risky portfolio will *most likely* lie on:

A. the efficient frontier.
B. the security market line.
C. a capital allocation line.

Answer = C

"Portfolio Risk and Return: Part II", by Vijay Singal.
2011 Modular Level I, Vol. 4, pp. 392-400
Study Session 12-53-b
Explain and interpret the capital allocation line (CAL) and the capital market line (CML).

C is correct. A capital allocation line shows possible combinations of a risky portfolio and the risk-free asset.