

### 2013 Level I Mock Exam: Afternoon Session

The afternoon session of the 2013 Level I Chartered Financial Analyst (CFA®) 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
	<b>Total:</b>	<b>180</b>

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

1. Carlos Cruz, CFA, is one of two founders of an equity hedge fund. Cruz manages the fund's assets, and the other co-founder, Brian Burkeman, CFA, is responsible for fund sales and marketing. Cruz notices the most recent sales material used by Burkeman indicates assets under management are listed at a higher value than the current market value. Burkeman justifies the discrepancy by stating recent market declines account for the difference. In order to comply with the CFA Institute Standards of Professional Conduct, Cruz should *least likely* take which of the following actions?
  - A. Correct the asset information and provide updates to prospective clients.
  - B. Report the discrepancy to CFA Institute's Professional Conduct Program.
  - C. Provide a disclaimer within marketing material indicating prices are as of a specific date.

Answer = B

"Guidance for Standards I-VII", CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard I (A) Knowledge of the Law, Guidance 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 a violation of Standard I (A) Knowledge of the Law is likely to occur unless the asset base information is corrected. Cruz has yet to violate any CFA Institute standards, so he need not report a violation. If Cruz does not take action, he will be in violation of the standards, and at that point, he would need to report this violation because Standard I (A) applies; the member should know his conduct may contribute to a violation of applicable laws, rules, regulations, or the Code and Standards related to the inaccurate sales materials. Cruz should seek to have the information corrected and accurate information provided to prospective clients. It may also be prudent to seek the advice of legal counsel.

2. Linda Chin, CFA, is a member of a political group advocating less governmental regulation in all aspects of life. She works in a country where local securities laws are minimal and insider trading is not prohibited. Chin's politics are reflected in her investment strategy, where she follows her country's mandatory legal and regulatory requirements. Which of the following actions by Chin is *most* consistent with the CFA Institute Standards of Professional Conduct?
  - A. Follow the CFA Code and Standards.
  - B. Continue her current investment strategy.
  - C. Disclose her political advocacy to clients.

Answer = A

"Guidance for Standards I-VII", CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard I (A) Knowledge of the Law, Standard II (A) Material Nonpublic Information, Guidance

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 because Standard I (A) Knowledge of the Law requires members and candidates to comply with the more strict law, rules, or regulations and follow the highest requirement, which in this case would be the CFA Institute Standards of Professional Conduct. Standard II (A) Material Nonpublic Information would also apply because members and candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information. Disclosure that she meets local mandatory legal requirements, not the more strict law rule or regulation of the Code and Standards, would not excuse the member from following the Code and Standards.

3. Wouter Duyck, CFA, is the sole proprietor of an investment advisory firm serving several hundred middle-class retail clients. Duyck claims to be different from his competitors because he conducts research himself. He discloses that to simplify the management of all these accounts, he has created a recommended list of stocks, from which he selects investments for all of his clients based on their suitability. Duyck's recommended list of stocks is obtained from his primary broker, who has completed due diligence on each stock. Duyck's recommended list *least likely* violates which of the following CFA Institute Standards of Professional Conduct?
- A. Fair Dealing
  - B. Misrepresentation
  - C. Diligence and Reasonable Basis

Answer = A

"Guidance for Standards I-VII", CFA Institute

2013 Modular Level I, Vol. 1, Standard I (C) Misrepresentation, Guidance, Standard III (B) Fair Dealing, Guidance, Standard V (A) Diligence and Reasonable Basis, Guidance

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 Standard III (B) Fair Dealing concerns the fair treatment of clients when making investment recommendations or taking investment action, but there is no indication the adviser has discriminated against any clients in regard to his recommendations because he invests all clients in the same universe of stocks. The adviser has violated Standard I (C) Misrepresentation with his research, which is not independently created and instead relies upon information provided by his broker. This is contrary to the adviser telling clients he does his own independent investment research. In addition, the adviser has violated Standard V (A) Diligence and Reasonable Basis because he has not made reasonable and diligent efforts to determine if the third party's research is sound.

4. Lisa Hajak, CFA, specialized in research on real estate companies at Cornerstone Country Bank for 20 years. Hajak recently started her own investment research firm, Hajak Investment

Advisory. One of her former clients at Cornerstone asks Hajak to update a research report she wrote on a real estate company when she was at Cornerstone. Hajak updates the report, which she had copied to her personal computer without the bank's knowledge, and replaces references to the bank with her new firm, Hajak Investment Advisory. Hajak also incorporates the conclusions of a real estate study conducted by the Realtors Association that appeared in the *Wall Street Journal*. She cites the *Journal* as her source in her report. She provides the revised report free of charge along with a cover letter for the bank's client to become a client of her firm. Concerning the reissued research report, Hajak *least likely* violated the CFA Institute Standards of Professional Conduct because she:

- A. solicited the bank's client.
- B. did not obtain consent to use the bank report.
- C. did not cite the actual source of the real estate study.

Answer = A

"Guidance for Standards I-VII", CFA Institute  
2013 Modular Level I, Vol. 1, Standard I (C) Misrepresentation, Guidance, Standard IV (A) Loyalty, Guidance, Standard V (C) Record Retention, Guidance  
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 soliciting the bank's client did not violate Standard IV (A) Loyalty because the manager is no longer an employee of the bank and there is no indication she obtained the client information from bank sources. The member, however, has violated Standard V (C) Record Retention because when she left the bank, she took the property of the bank without express permission to do so. In addition, the analyst violated Standard I (C) Misrepresentation by creating research materials without attribution, which is demonstrated when the manager adds to the new report a real estate study she saw in the *Wall Street Journal*, referencing the *Journal* only. In all instances, a member or candidate must cite the actual source of the information. If she does not obtain the report and review the information, the manager runs the risk of relying on second-hand information that may misstate facts. Best practice would be either to obtain the complete study from its original author and cite only that author or to use the information provided by the intermediary and cite both sources.

5. Tonya Tucker, CFA, is a financial analyst at Bowron Consolidated. Bowron has numerous subsidiaries and is actively involved in mergers and acquisitions to expand its businesses. Tucker analyzes a number of companies, including Hanchin Corporation. When Tucker speaks with the CEO of Bowron, she indicates many of the companies she has looked at would be attractive acquisition targets for Bowron. After her discussion with the CEO, Tucker purchases 100,000 shares of Hanchin Corporation at \$200 per share. Bowron does not have any pre-clearance procedures, so the next time she meets with the CEO, Tucker mentions she owns shares of Hanchin. The CEO thanks her for this information but does not ask for any details. Two weeks later, Tucker sees a company-wide email from the CEO announcing Bowron's acquisition of Hanchin for \$250 a share. In regard to her purchase of Hanchin stock, Tucker *least likely* violated the CFA Institute Standards of Professional Conduct concerning:

- A. Loyalty.
- B. Priority of Transactions.
- C. Material Nonpublic Information.

Answer = C

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Standard II (A) Material Nonpublic Information, Guidance, Standard IV (A) Loyalty, Standard VI (B) Priority of Transactions

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 there is no indication the analyst had access to material nonpublic information and was in violation of Standard II (A) Material Nonpublic Information. Specifically, Tucker did not have information concerning any decision by Bowron to acquire Hanchin stock because she is not a part of the decision-making team at Bowron, which determines the companies it plans to take over. The analyst had indicated numerous companies were viable options for take over, and she did not single out any one company in particular.

6. When a client asks her how she makes investment decisions, Petra Vogler, CFA, tells the client she uses mosaic theory. According to Vogler, the theory involves analyzing public and nonmaterial nonpublic information, including the evaluation of statements made to her by company insiders in one-on-one meetings where management discusses new earnings projections not known to the public. Vogler also gathers general industry information from industry experts she has contacted. Vogler *most likely* violates the CFA Institute Standards of Professional Conduct because of her use of:

- A. industry expert information.
- B. one-on-one meeting information.
- C. nonmaterial nonpublic information.

Answer = B

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Standard II (A) Material Nonpublic Information

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 a violation of Standard II (A) Material Nonpublic Information is likely to occur when using information that is selectively disclosed by corporations to a small group of investors, analysts, or other market participants. Earnings estimates given in a one-on-one meeting would likely be considered material and nonpublic information. Information made available to analysts remains nonpublic until it is made available to investors in general. Under the mosaic theory, it is acceptable to use information from industry contacts as long as the

analyst uses appropriate methods to arrive at her conclusions. Additionally, it is acceptable to use nonmaterial nonpublic information in her analysis, and this use is not a violation of Standard II (A) Material Nonpublic Information.

7. Lin Liang, CFA, is an investment manager and an auto industry expert. Last month, Liang sent securities regulators an anonymous letter outlining various accounting irregularities at Road Rubber Company. Shortly before he sent the letter to the regulators, Liang shorted Road stock for his clients. Once the regulators opened an investigation, which Liang learned about from his sources inside the company, Liang leaked this information to multiple sources in the media. When news of the investigation became public, the share price of Road immediately dropped 30%. Liang then covered the short positions and made \$5 per share for his clients. Liang *least likely* violated which of the CFA Institute Standards of Professional Conduct?
- A. Misconduct
  - B. Market Manipulation
  - C. Priority of Transactions

Answer = C

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Standard I (A) Knowledge of the Law, Standard I (D) Misconduct, Standard II (B) Market Manipulation, Standard VI (B) Priority of Transactions, Guidance 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 the member has engaged in information-based manipulation of Road stock in violation of Standard II (B) Market Manipulation and Standard I (D) Misconduct. Members and candidates must refrain from “pumping up” (or down, in this case) the price of an investment by issuing misleading positive (or negative) information for their or their clients’ benefit. The member has not violated Standard VI (B) Priority of Transactions because this standard concerns client investment transactions having priority over member or candidate investment transactions and is not applicable here.

8. Sanjay Gupta, CFA, is interviewed by the First Faithful Church to manage the church’s voluntary retirement plan’s equity portfolio based upon his superior return history. Each church staff member chooses whether to opt in or out of the retirement plan according to his or her own investment objectives. The plan trustees tell Gupta that stocks of companies involved in the sale of alcohol, tobacco, gambling, or firearms are not acceptable investments given the objectives and constraints of the portfolio. Gupta tells the trustees he cannot reasonably execute his strategy with these restrictions and that all his other accounts hold shares of companies involved in these businesses because he believes they have the highest alpha. By agreeing to manage the account according to the Trustees’ wishes, does Gupta violate the CFA Institute Standards of Professional Conduct?

- A. No
- B. Yes, because the manager was hired based upon his previous investment strategy
- C. Yes, because the restrictions provided by the Trustees are not in the best interest of the members

Answer = A

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Standard III (A) Loyalty, Prudence, and Care

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. According to Standard III (A) Loyalty, Prudence, and Care, Gupta’s duty of loyalty, prudence, and care is owed to the participants and beneficiaries (members) of the pension plan. As a church plan, the restrictions are appropriate given the objectives and constraints of the portfolio.

9. Jorge Lopez, CFA, is responsible for proxy voting on behalf of his bank’s asset management clients. Lopez recently performed a cost–benefit analysis, showing that proxy-voting analysis might not benefit the bank’s clients. As a result, Lopez immediately changes the proxy-voting policies and procedures without informing anyone else of the change. Lopez now votes client proxies on the side of management on all issues with the exception of major mergers where a significant impact on the stock price is expected. Lopez *least likely* violated the CFA Institute Standards of Professional in regard to:
- A. cost–benefit analysis.
  - B. voting with management.
  - C. proxy-voting policy disclosures.

Answer = A

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Standard III (A) Loyalty, Prudence, and Care

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 there is no violation of Standard III (A) Loyalty, Prudence, and Care by performing a cost–benefit analysis showing that voting all proxies might not benefit the client and concluding voting proxies may not be necessary in all instances. However, even though voting proxies may not be necessary in all instances, part of a member’s or candidate’s duty of loyalty under Standard III (A) Loyalty, Prudence, and Care includes voting proxies in an informed and responsible manner, which is not being done by Lopez by automatically voting with management on the majority of issues. In addition, members and candidates should disclose to clients their proxy-voting policies, including any changes to that policy as required by Standard III (A) Loyalty, Prudence, and Care, which has not been done.

10. Tamlorn Mager, CFA, is an analyst at Pyallup Portfolio Management. CFA Institute recently notified Mager that his CFA Institute membership was suspended for a year because he violated the CFA Code of Ethics. A hearing panel also came to the same conclusion. Mager subsequently notified CFA Institute he does not accept the sanction, or the hearing panel's conclusion. Which of the following actions by Mager is *most* consistent with the CFA Institute Professional Conduct Program?
- A. Presenting himself to the public as a CFA charterholder
  - B. Providing evidence for his position to an outside arbitration panel
  - C. Using his CFA designation upon expiration of the suspension period

Answer = C

"Code of Ethics and Standards of Professional Conduct", CFA Institute  
2013 Modular Level I, Vol. 1, Reading 1, Code of Ethics and Standards of Professional Conduct  
CFA Institute Professional Conduct Program

Study Session 1-1-a

Describe the structure of the CFA Institute Professional Conduct Program and the disciplinary review process for the enforcement of the Code of Ethics and Standards of Professional Conduct.

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 the Designated Officer may impose a summary suspension on a member or candidate, which may be rejected or accepted by the member or candidate. If the member or candidate does not accept the proposed sanction, the matter is referred to a hearing panel composed of DRC members and CFA Institute member volunteers affiliated with the DRC. In this case, the hearing panel also affirmed the suspension decision by the Designated Officer, and therefore, the member loses the right to use his designation for a one-year period. Upon expiration of the suspension period, the analyst would be able to use his CFA designation.

11. Edo Ronde, CFA, an analyst for a hedge fund, One World Investments, is attending a key industry conference for the microelectronics industry. At lunch in a restaurant adjacent to the conference venue, Ronde sits next to a table of conference attendees and is able to read their nametags. Ronde realizes the group includes the president of a publicly traded company in the microelectronics industry, Fulda Manufacturing, a company Ronde follows. Ronde overhears the president complain about a production delay problem Fulda's factories are experiencing. The president mentions the delay will reduce Fulda earnings more than 20% during the next year if not solved. Ronde relays this information to the portfolio manager he reports to at One World explaining that in a recent research report he recommended Fulda as a buy. The manager asks Ronde to write up a negative report on Fulda so the fund can sell the stock. According to the CFA Institute Code of Ethics and Standards of Professional Conduct, Ronde should *least likely*:



- A. revise his research report.
- B. leave his research report as it is.
- C. request the portfolio manager not act on the information.

Answer = A

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard II (A) Material Nonpublic Information, Guidance

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 because Ronde should refuse to follow his supervisor’s request. If Ronde revises his research report based on the information he overheard at the industry conference, he would violate Standard II (A) Material Nonpublic Information. The production delay information is material and considered nonpublic until it is widely distributed. Therefore, it should not be included in Ronde’s research report or acted on until it becomes public. Ronde should try to encourage Fulda to make the information public.

12. Jennifer Ducumon, CFA, is a portfolio manager for high-net-worth individuals at Northeast Investment Bank. Northeast holds a large number of shares in Baby Skin Care Inc., a manufacturer of baby care products. Northeast obtained the Baby Skin Care shares when it underwrote the company’s recent IPO. Ducumon has been asked by the investment-banking department to recommend Baby Skin Care to her clients, who currently do not hold any shares in their portfolios. Although Ducumon has a favorable opinion of Baby Skin Care, she does not consider the shares a buy at the IPO price nor at current price levels. According to the CFA Institute Code of Ethics and Standards of Professional Conduct, the *most* appropriate action for Ducumon is to:

- A. ignore the request.
- B. recommend the shares after additional analysis.
- C. follow the request as soon as the share price declines.

Answer = A

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard I (B) Independence and Objectivity

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 because Ducumon should refuse to recommend the shares because her opinion of the Baby Skin Care shares must not be affected by internal pressure. If Ducumon followed the request from the investment-banking department at her company, she would be in violation of Standard I (B) Independence and Objectivity. Ducumon must refuse to recommend the Baby

Skin Care shares until they are an attractive purchase based on fundamental analysis and market pricing.

13. Heidi Halvorson, CFA, is the chief investment officer for Tukwila Investors, an asset management firm specializing in fixed-income investments. Tukwila is in danger of losing one of its largest clients, Quinault Jewelers, which accounts for nearly one-third of its revenues. Quinault recently told Halvorson that Tukwila would be fired unless the performance of Quinault's portfolio improves significantly. Shortly after this conversation, Halvorson purchases two corporate bonds she believes are suitable for any of her clients based upon third-party research from a reliable and diligent source. Immediately after the purchase, one bond increases significantly in price while the other bond declines significantly. At the end of the day, Halvorson allocates the profitable bond trade to Quinault and the other bond to two of her largest institutional accounts. Halvorson *most likely* violated the CFA Institute Standards of Professional in regard to:
- A. client suitability.
  - B. trade allocations.
  - C. third-party research.

Answer = B

"Guidance for Standards I-VII", CFA Institute  
2013 Modular Level I, Vol. 1, Reading 2, Standard III (B) Fair Dealing, Guidance, Standard III (C) Suitability, Guidance, Standard V (A) Diligence and Reasonable Basis, Guidance  
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 the investment officer failed to deal fairly for her clients by allocating profitable trades to a favored client at the expense of others, a violation of Standard III (B) Fair Dealing. The standard requires members and candidates to treat all clients fairly when taking investment action. Tukwila should have a systematic approach to allocating trades, such as pro rata, before or at the time of trade execution or as soon as possible after trades are executed.

14. Kelly Amadon, CFA, an investment adviser, has two clients: Ryan Randolph, 65 years old, and Keiko Kitagawa, 45 years old. Both clients earn the same amount in salary. Randolph, however, has a large amount of assets, whereas Kitagawa has few assets outside her investment portfolio. Randolph is single and willing to invest a portion of his assets very aggressively; Kitagawa wants to achieve a steady rate of return with low volatility so she can pay for her child's current college expenses. Amadon recommends investing 20% of both clients' portfolios in the stock of very low yielding small-cap companies. Amadon *least likely* violated the CFA Institute Code of Ethics and Standards of Professional Conduct in regard to his investment recommendations for:
- A. both clients' portfolio.
  - B. only Randolph's portfolio.
  - C. only Kitagawa's portfolio.

Answer = B

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard III (C) Suitability, Guidance

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 in Randolph’s case, the investment may be appropriate given this client’s financial circumstances and aggressive investment position. This investment would not be suitable for Kitagawa because of her need for a steady rate of return and her low risk profile.

15. Thomas Turkman recently hired Georgia Viggen, CFA, as a portfolio manager for North South Bank. Although Viggen worked many years for a competitor, West Star Bank, the move was straightforward because she did not have a non-compete agreement with her previous employer. Once Viggen starts working for Turkman, the first thing she does is to bring a trading software package she developed and used at West Star to her new employer. Using public information, Viggen contacts all of her former clients to convince them to move with her to North South. Viggen also convinces one of the analysts she worked with at West Star to join her at her new employer. Viggen *most likely* violated the CFA Institute Code of Ethics and Standards of Professional Conduct concerning her actions involving:

- A. clients.
- B. the analyst.
- C. trading software.

Answer = C

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard IV (A) Loyalty, Guidance

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 the portfolio manager violated Standard IV (A) Loyalty by taking proprietary trading software from her former employer. Although the manager created the software, it was during a period of time when West Star employed her, so the software is not her property to take with her to her new employer. The member contacted clients using public information, so she did not violate Standard IV (A) Loyalty. Because Viggen was not obligated to abide by a non-compete agreement that would likely restrict recruitment of former colleagues, Viggen is most likely free to recruit the analyst from her former employer.

16. Suni Kioshi, CFA, is an analyst at Pacific Asset Management, where she covers small-capitalization companies. On her own time, Kioshi often speculates in low-price thinly traded stocks for her own account. Over the last three months, Kioshi has purchased 50,000 shares of Basic Biofuels Company, giving her a 5% ownership stake. A week after this purchase, Kioshi is

asked to write a report on stocks in the biofuels industry, with a request to complete the report within two days. Kioshi wants to rate Basic as a “buy” in this report but is uncertain how to proceed. Concerning the research report, what action should Kioshi *most likely* take to prevent violating any of the CFA Institute Code of Ethics and Standards of Professional Conduct?

- A. Sell her shares.
- B. Do not recommend a buy.
- C. Disclose her stock ownership.

Answer = C

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard VI (A) Disclosure of Conflicts

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 the manager’s ownership stake is a potential conflict of interest, which should be disclosed as required by Standard VI (A) Disclosure of Conflicts, but there is no requirement to sell the shares. As long as the analyst has completed a well-informed investment recommendation consistent with Standard (V) Diligence and Reasonable Basis and disclosed her ownership position, she could include the buy recommendation in her report.

17. Solomon Sulzberg, CFA, is a research analyst at Blue Water Management. Sulzberg’s recommendations typically go through a number of internal reviews before they are published. In developing his recommendations, Sulzberg uses a model developed by a quantitative analyst within the firm. Sulzberg made some minor changes to the model but retained the primary framework. In his reports, Sulzberg attributes the model to both the quantitative analyst and himself. Before the internal reviews of his reports are completed, Sulzberg buys shares in one of the companies. After the internal review is complete, he fails to recommend the purchase of the stock to his clients and erases all of his research related to this company. Sulzberg *least likely* violated the CFA Institute Code of Ethics and Standards of Professional Conduct related to:

- A. Record Retention.
- B. Misrepresentation.
- C. Priority of Transactions.

Answer = B

“Guidance for Standards I-VII”, CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard I (C) Misrepresentation, Standard V (C) Record Retention, Guidance, Standard VI (A) Disclosure of Conflicts, Guidance, Standard VI (B) Priority of Transactions, Guidance

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 the research analyst has not violated Standard I (C) Misrepresentation because he has not knowingly made any misrepresentations related to investment analysis, recommendations, actions or other professional activities. The research analyst has correctly attributed the model to both the quantitative analyst and to himself because he has revised the original model. Research developed while employed by a firm is the property of the firm, and the analyst is in violation of Standard V (C) Record Retention because members and candidates must develop and maintain appropriate records to support their investment analysis, recommendations, actions, and other investment-related communications with clients and prospective clients. As a general matter, records created as part of a member's or candidate's professional activity on behalf of his or her employer are the property of the firm. The analyst also violated Standard VI (B) Priority of Transactions by taking advantage of his knowledge of the stock's value before allowing his employer to benefit from that information.

18. Chris Rodriguez, CFA, is a portfolio manager at Nisqually Asset Management, which specializes in trading highly illiquid shares. Rodriguez has been using Hon Securities Brokers almost exclusively when making transactions for Nisqually clients, as well as for his own relatively small account. Hon always executes Rodriguez's personal trades at a more preferential price than for Rodriguez's clients' accounts. This occurs regardless of whether or not Rodriguez personally trades before or after clients. Rodriguez should *least likely* do which of the following in order to comply with the CFA Institute Code of Ethics and Standards of Professional Conduct?
- A. Eliminate the exclusive trading arrangement.
  - B. Trade client accounts before his own account.
  - C. Average trade prices across all trading accounts.

Answer = C

"Guidance for Standards I-VII", CFA Institute

2013 Modular Level I, Vol. 1, Reading 2, Standard IV(A) Loyalty, Guidance, Standard VI (B)

Priority of Transactions

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 Rodriguez is in violation of Standard IV (A) Loyalty, which requires that, in matters related to their employment, members and candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer. Rodriguez should not accept the special treatment from Hon, and he should seek such favors for the clients of Nisqually, specifically the lower costs Rodriguez has been getting for his transactions. Rodriguez should not average transaction costs because his clients should be given the lower preferential prices according to Standard III (A) Loyalty, Prudence, and Care.

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

19. A borrower is considering three competing mortgage loan offers from her bank. The amount borrowed on the mortgage is \$100,000 with monthly compounding.

<b>Mortgage type</b>	<b>Nominal (stated) annual interest rate at initiation of the loan</b>	<b>Year in which rate first adjusts</b>
30-year fixed-rate	5.000%	N/A
15-year fixed-rate	4.385%	N/A
30-year 3/5 adjustable-rate mortgage (ARM)	3.750%	3

The rate on the ARM resets at the end of Year 3. Assuming the ARM is reset at 5.500% (i.e., the remaining balance on the loan will now be repaid with 5.500% nominal annual interest), which of the three loans will have the *smallest* monthly payment after the rate reset at the end of Year 3?

- A. 30-year ARM
- B. 15-year fixed-rate loan
- C. 30-year fixed-rate loan

Answer = C

“The Time Value of Money,” Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 5, Section 7.3

Study Session 2-5-d, e, f

Solve time value of money problems for different frequencies of compounding.

Calculate and interpret the future value (FV) and present value (PV) of a single sum of money, an ordinary annuity, an annuity due, a perpetuity (PV only), and a series of unequal cash flows.

Demonstrate the use of a time line in modeling and solving time value of money problems.

C is correct. After Year 3, the 30-year fixed-rate loan has the lowest payment. The loan payments are calculated using a financial calculator.

<b>Loan</b>	<b>Initial Payment (\$)</b>	<b>Loan Payment after 3 Years (\$)</b>
30-year fixed	536.82	536.82
15-year fixed	759.13	759.13
ARM	463.12	559.16

Payment on the 30-year fixed is:

$N = 12 \times 30 = 360$ ,  $I/Y = (5/12) = 0.41667$ ,  $PV = 100,000$ ,  $FV = 0$ , calculate  $PMT = 536.82$ .

Payment on the 15-year fixed is:

$N = 12 \times 15 = 180$ ,  $I/Y = (4.385/12) = 0.36542$ ,  $PV = 100,000$ ,  $FV = 0$ , calculate  $PMT = 759.13$ .

Calculations for the ARM

Initial payment:

$N = 12 \times 30 = 360$ ,  $I/Y = (3.75/12) = 0.31250$ ,  $PV = 100,000$ ,  $FV = 0$ , calculate  $PMT = 463.12$ .

Balance at end of Year 3:

$N = 12 \times 27 = 324$ ,  $I/Y = (3.75/12) = 0.31250$ ,  $FV = 0$ ,  $PMT = 463.12$ , calculate  $PV = 94,271.43$ .

Payment after the end of Year 3:

$N = 324$ ,  $I/Y = (5.5/12) = 0.45833$ ,  $PV = 94,271.43$ ,  $FV = 0$ , calculate  $PMT = 559.16$ .

Note: Numbers may differ slightly from those given above because of rounding.

20. A U.S. Treasury bill (T-bill) has 90 days to maturity and a bank discount yield of 3.25%. The effective annual yield (EAY) for the T-bill is *closest* to:

- A. 3.29%.
- B. 3.32%.
- C. 3.36%.

Answer = C

“Discounted Cash Flow Applications,” Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 6, Section 4, Table 7

Study Session 2-6-e, f

Calculate and interpret the bank discount yield, holding period yield, effective annual yield, and money market yield for U.S. Treasury bills and other money market instruments.

Convert among holding period yields, money market yields, effective annual yields, and bond equivalent yields.

C is correct. First, calculate the initial price ( $P_0$ ) of the T-bill:

$$r_{BD} = \frac{D}{F} \times \frac{360}{t}, P_0 = 100 - D$$

$$0.0325 = \frac{D}{100} \times \frac{360}{90}, D = 0.8125$$

$$P_0 = 100 - 0.8125 = 99.1875.$$

Then, calculate the holding period yield (HPY) (recall that T-bills are pure discount instruments and do not pay coupons):

$$HPY = (P_t - P_0) \div P_0$$

$$HPY = (100 - 99.1875) \div 99.1875 = 0.00819.$$

Finally, convert the HPY into effective annual yield:

$$EAY = (1 + HPY)^{365/t} - 1$$

$$EAY = (1 + 0.00819)^{365/90} - 1 = 0.03364 = 3.36\%.$$

21. By definition, the probability of any event,  $E$ , is a number between:

- A. zero and positive one.
- B. zero and positive infinity.
- C. minus one and positive one.

Answer = A

“Probability Concepts,” Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 8, Section 2

Study Session 2-8-b

State the two defining properties of probability and distinguish among empirical, subjective, and a priori probabilities.

A is correct. The two defining properties of a probability are as follows:

1. The probability of any event,  $E$ , is a number between 0 and 1.
2. The sum of the probabilities of any set of mutually exclusive and **exhaustive** events equals 1.

22. A variable is normally distributed with a mean of 5.00 and a variance of 4.00. Calculate the probability of observing a value of negative 0.40 or less. That is, calculate  $P(X_i \leq -0.40)$  given  $X$  is distributed as  $N(5, 4)$ . Use this excerpt from the cumulative distribution function for the standard normal random variable table to calculate your answer.

**Cumulative Probabilities for a Standard Normal Distribution**

**$P(Z \leq x) = N(x)$  for  $x \geq 0$  or  $P(Z \leq z) = N(z)$  for  $z \geq 0$**

x or z	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1.10	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.20	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.30	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.40	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
...										
2.50	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.60	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.70	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.80	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.90	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.00	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.10	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993

The calculated value is *closest* to:

- A. 0.35%.
- B. 0.62%.
- C. 8.85%.

Answer = A

“Common Probability Distributions,” Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 9, Section 3.2

Study Session 3-9-c, I



Interpret a cumulative distribution function.

Determine the probability that a normally distributed random variable lies inside a given interval.

A is correct. First, standardize the value of interest,  $-0.40$ , for the given normal distribution:

$$Z = (X - \mu)/\sigma = (-0.40 - 5.00)/2 = -2.70.$$

Then, use the given table of values to find the probability of a Z value being 2.70 standard deviations *below* the mean (i.e., when  $z \leq 0$ ). The value is  $1 - P(Z \leq +2.70)$ .

In this problem, the solution is:  $1 - 0.9965 = 0.0035 = 0.35\%$ .

23. In setting the confidence interval for the population mean of a normal or approximately normal distribution and given that the sample size is small, Student's *t*-distribution is the preferred approach when the variance is:

- A. large.
- B. known.
- C. unknown.

Answer = C

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

2013 Modular Level I, Vol. 1, Reading 10, Section 4.2, Table 3

Study Session 3-10-i

Describe the properties of Student's *t*-distribution and calculate and interpret its degrees of freedom.

C is correct. When the sample size is small, the Student's *t*-distribution is preferred if the variance is unknown.

24. A two-tailed test of the null hypothesis that the mean of a distribution is equal to 4.00 has a p-value of 0.0567. Using a 5% level of significance (i.e.,  $\alpha = 0.05$ ), the *best* conclusion is to:

- A. reject the null hypothesis.
- B. fail to reject the null hypothesis.
- C. increase the level of significance to 5.67%.

Answer = B

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

2013 Modular Level I, Vol. 1, Reading 11, Section 2

Study Session 3-11-e

Explain and interpret the p-value as it relates to hypothesis testing.

B is correct. Because the p-value (0.0567) exceeds the stated level of significance (0.05), we cannot reject the null hypothesis.

25.

Population	1	2
Sample size	$n_1 = 5$	$n_2 = 5$
Sample variance	$s_1^2 = 4$	$s_2^2 = 28$
The samples are drawn independently, and both populations are assumed to be normally distributed		

Using the above data, an analyst is trying to test the null hypothesis that the population variances are equal ( $H_0: s_1^2 = s_2^2$ ) against the alternative hypothesis that the variances are not equal ( $H_A: s_1^2 \neq s_2^2$ ) at the 5% level of significance. The table of the F-Distribution is provided below.

**Table of the F-Distribution**

**Panel A: Critical values for right-hand tail areas equal to 0.05**

	df1 (read across)	1	2	3	4	5
df2 (read down)	1	161	200	216	225	230
	2	18.5	19.0	19.2	19.2	19.3
	3	10.1	9.55	9.28	9.12	9.01
	4	7.71	6.94	6.59	6.39	6.26
	5	6.61	5.79	5.41	5.19	5.05

**Panel B: Critical values for right-hand tail areas equal to 0.025**

	df1 (read across)	1	2	3	4	5
df2 (read down)	1	648	799	864	900	922
	2	38.51	39.00	39.17	39.25	39.30
	3	17.44	16.04	15.44	15.10	14.88
	4	12.22	10.65	9.98	9.60	9.36
	5	10.01	8.43	7.76	7.39	7.15

Which of the following statements is *most* appropriate? The critical value is:

- A. 6.39 and reject the null.
- B. 7.15 and do not reject the null.
- C. 9.60 and do not reject the null.

Answer = C

“Hypothesis Testing,” Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 11, Section 4.2

Study Session 3-11-i

Identify the appropriate test statistic and interpret the results for a hypothesis test concerning 1) the variance of a normally distributed population, and 2) the equality of the variances of two normally distributed populations based on two independent random samples.

C is correct. The test statistic is the ratio of the variances, with the larger variance in the numerator. Here, the test statistic is  $28 \div 4 = 7$ . The degrees of freedom are 4 by 4. Because it is a two-tailed test, the correct critical value at  $\alpha = 5\%$  is 9.60. And because the test statistic is less than the critical value, we cannot reject the null hypothesis. We thus accept the null hypothesis.

26. In Elliott Wave Theory, Wave 2 commonly exhibits a pattern *best* described as a(n):

- A. basing pattern consisting of five smaller waves.
- B. Fibonacci ratio percentage retracement composed of three smaller waves.
- C. uptrend moving above the high of Wave 1 and consisting of five smaller waves.

Answer = B

“Technical Analysis,” Barry M. Sine, CFA and Robert A. Strong, CFA

2013 Modular Level I, Vol. 1, Reading 12, Section 4

Study Session 3-12-g

Describe the key tenets of Elliott Wave Theory and the importance of Fibonacci numbers.

B is correct. Wave 2 is a correction, retracing much of the gain from Wave 1, but not all of it. The lost proportion is usually a percentage equal to a Fibonacci ratio, and it consists of three smaller waves.

27. An investor wants to maximize the possibility of earning at least 5% on her investments each year. Using Roy’s safety-first criterion, which of the following portfolios is the *most* appropriate choice?

Portfolio	Expected return	Standard deviation	Roy’s Safety-First value
1			0.35
2			0.64
3	22%	40%	

- A. Portfolio 1
- B. Portfolio 2
- C. Portfolio 3

Answer = B

“Common Probability Distributions,” Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 9, Section 3.3, Example 9

Study Session 3-9-n

Define shortfall risk, calculate the safety-first ratio, and select an optimal portfolio using Roy's safety-first criterion.

B is correct. The portfolio with the highest SFRatio is preferred. The SFRatio is calculated by subtracting the target return from the expected return and dividing by the standard deviation.

$SFRatio = [E(R_p) - R_L] / \sigma_p$ . For the choices given:

Portfolio 1 = 0.35

Portfolio 2 = 0.64

Portfolio 3  $(22 - 5) / 40 = 0.43$

B has the highest SFRatio, so it is the most appropriate choice.

28. Which of the following is the *least likely* characteristic of the normal probability distribution?  
The normal probability distribution:

A. has kurtosis of 3.0.

B. has the same value for mean, median, and mode.

C. is more suitable as a model for asset prices than for returns.

Answer = C

"Common Probability Distributions," Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 9, Section 3.2

Study Session 3-9-j

Explain the key properties of the normal distribution.

C is correct. A normal distribution is more suitable as a model for returns than for asset prices.

29. A technical analyst observes a head and shoulders pattern in a stock she has been following. She notes the following information:

Head price	\$83.50
Shoulder price	\$72.00
Neckline price	\$65.75

Based on this information, her estimate of the price target is *closest* to:

A. \$48.00.

B. \$59.50.

C. \$89.75.

Answer = A

"Technical Analysis," Barry M. Sine, CFA and Robert A. Strong, CFA

2013 Modular Level I, Vol. 1, Reading 12, Section 3.3.1.3

Study Session 3-12-d

Identify and interpret common chart patterns.

A is correct.

Price target = Neckline – (Head – Neckline).

In this example,  $PT = 65.75 - (83.50 - 65.75)$   
 $= 65.75 - 17.75 = 48.00$

30. The following table represents the history of an investment in a company:

Time	Activity	Price per Share	Dividends Paid per Share
Beginning of Year 1	Purchase 10 shares	€160	
End of Year 1	Purchase 5 shares	€168	€3.00
End of Year 2		€175	€4.00
End of Year 3	Sell 15 shares	€165	€0.00

The investor does not reinvest the dividends that he receives. Assuming no taxes on dividends, the time-weighted rate of return on this investment is *closest* to:

- A. 1.93%.
- B. 2.40%.
- C. 2.57%.

Answer = B

“Discounted Cash Flow Applications”, Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 6, Section 3, 3.2

Study Session 2-6-c, d

Calculate and interpret a holding period return (total return).

Calculate and compare the money-weighted and time-weighted rates of return of a portfolio and evaluate the performance of portfolios based on these measures.

B is correct. First, calculate the portfolio value at the beginning and end of each period and the dividends received over the three years:

	Year 1	Year 2	Year 3
Beginning Value	$10 \times €160 = €1,600$	$15 \times €168 = €2,520$	$15 \times €175 = €2,625$
Ending Value	$10 \times €168 = €1,680$	$15 \times €175 = €2,625$	$15 \times €165 = €2,475$
Dividend Received	$10 \times €3.00 = €30$	$15 \times €4.00 = €60$	$15 \times €0.00 = €0$

Then, calculate the holding period return (HPR) for the three years by using the following formula:

$$HPR = (P_{t+1} - P_t + D_{t+1}) / P_t$$

$$HPR_{\text{Year 1}} = (\€1,680 - \€1,600 + \€30) / \€1,600 = 6.88\%$$

$$HPR_{\text{Year 2}} = (\€2,625 - \€2,520 + \€60) / \€2,520 = 6.55\%$$

$$HPR_{\text{Year 3}} = (\€2,475 - \€2,625) / \€2,625 = -5.71\%$$

The time-weighted return (TWR) is found by taking the geometric mean of the three holding period returns:

$$TWR = \sqrt[3]{(1 + HPR_{Year\ 1}) \times (1 + HPR_{Year\ 2}) \times (1 + HPR_{Year\ 3})} - 1$$

$$TWR = \sqrt[3]{(1 + 6.88\%) \times (1 + 6.55\%) \times (1 - 5.71\%)} - 1 = \sqrt[3]{1.0738} - 1 = 2.40\%$$

$$\text{Alternatively: } TWR = \sqrt[3]{[(\text{€}168 + \text{€}3)/\text{€}160] \times [(\text{€}175 + \text{€}4)/\text{€}168] \times (\text{€}165/\text{€}175)} - 1 = \sqrt[3]{1.0688 \times 1.0655 \times 0.9429} - 1 = 2.40\%.$$

31. Which of the following *most* accurately describes a distribution that is more peaked than normal?

- A. Platykurtotic
- B. Mesokurtotic
- C. Leptokurtotic

Answer = C

“Statistical Concepts and Market Returns”, Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 7, Section 9

Study Session 2-7-I

Explain measures of sample skewness and kurtosis.

C is correct. A distribution that is more peaked than normal is called leptokurtotic.

32. A fund manager would like to estimate the probability of a daily loss higher than 5% on the fund he manages. He decides to employ a method that uses the relative frequency of occurrence based on historical data. The resulting probability is *best* known as:

- A. a priori probability.
- B. empirical probability.
- C. subjective probability.

Answer = B

“Probability Concepts”, Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2013 Modular Level I, Vol. 1, Reading 8, Section 2

Study Session 2-8-b

State the two defining properties of probability and distinguish among empirical, subjective, and a priori probabilities.

B is correct. An empirical probability is “a probability estimated from data as a relative frequency of occurrence.”

**Questions 33 through 44 relate to Economics**

33. The market demand function for item X is a function of its price, household income, and the price of item Y.

Own-price elasticity of demand for X	-0.8
Income elasticity of demand for X	1.5
Cross-price elasticity of demand for X with respect to the price of Y	0.4

Given the above elasticity coefficients for the two items, which of the following statements is *most* accurate?

- A. X and Y are substitutes.
- B. Demand for X is elastic.
- C. Item X is an inferior good.

Answer = A

“Demand and Supply Analysis: Introduction,” Richard V. Eastin and Gary L. Arbogast, CFA  
2013 Modular Level I, Vol. 2, Reading 13, Sections 4.1, 4.3, 4.4  
Study Session 4-13-I

Calculate and interpret price, income, and cross-price elasticities of demand and describe factors that affect each measure.

A is correct. The cross-price elasticity is positive, indicating that as the price of Y increases, more of X is demanded, making X and Y substitutes.

34. The monthly demand curve for playing tennis at a particular club is given by the following equation:  $P_{\text{Tennis Match}} = 9 - 0.20 \times Q_{\text{Tennis Match}}$ . The club currently charges members \$4.00 to play a match but is considering changing to a new flat-rate monthly membership fee for unlimited play. The most that the club will be able to charge for the flat-rate monthly membership is *closest* to:

- A. \$40.00.
- B. \$62.50.
- C. \$162.50.

Answer = B

“Demand and Supply Analysis: Introduction,” Richard V. Eastin and Gary L. Arbogast, CFA  
2013 Modular Level I, Vol. 2, Reading 13, Section 3.9

“Demand and Supply Analysis: Consumer Demand,” Richard V. Eastin and Gary L. Arbogast, CFA  
2013 Modular Level I, Vol. 2, Reading 14, Section 6.2, Example 6  
Study Session 4-13-i, 4-14-e

Calculate and interpret consumer surplus, producer surplus, and total surplus.  
Compare substitution and income effects.

B is correct. On rearrangement, the demand function is

$$Q_{\text{Tennis Match}} = 45 - 5.0 \times P_{\text{Tennis Match}}.$$

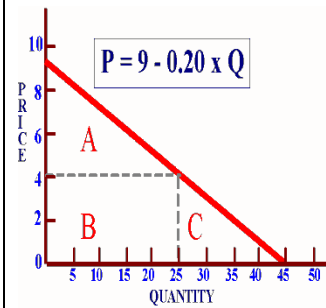
The number of matches played per month at \$4.00/match =  $45 - 5.0 \times 4.00 = 25$ .

The Y-intercept of the demand curve occurs when  $Q = 0$ :  $P = 9$

The X-intercept of the demand curve occurs when  $P = 0$ :  $Q = 45$

The club will be able to charge the consumer surplus: the area under the demand curve above the current price per match to a total of 25 matches:  $\frac{1}{2} \times (\$9.00 - \$4.00) \times 25 = \underline{\$62.50}$ .

This is illustrated in the diagram as **Triangle A**.



35. With its existing production facilities, a monopolist firm can produce up to 100 units. It faces the following demand and cost schedules:

Output (units)	Price (\$/unit)	Total Costs (\$)
0	3,000	600
20	2,800	10,600
40	2,600	32,600
60	2,400	66,600
80	2,200	112,600
100	2,000	170,600

The optimal output level for this producer (in units) is *closest* to:

- A. 20.
- B. 60.
- C. 100.

Answer = B

"The Firm and Market Structures," Richard G. Fritz and Michele Gambera, CFA

2013 Modular Level I, Vol. 2, Reading 16, Sections 6.1, 6.2, 6.3

Study Session 4-16-b, c, d

Explain the relationships between price, marginal revenue, marginal cost, economic profit, and the elasticity of demand under each market structure.

Describe the firm's supply function under each market structure.

Describe and determine the optimal price and output for firms under each market structure.

B is correct. The optimal output level is 60 units because it produces the highest profit:

Output (units)	Price (\$/unit)	Total Revenue (\$)	Total Costs (\$)	Profit (\$)
20	2,800	56,000	10,600	45,400
40	2,600	104,000	32,600	71,400
60	2,400	144,000	66,600	<b>77,400</b>
80	2,200	176,000	112,600	63,400
100	2,000	200,000	170,600	29,400



36. The following information applies to an economy:

Total population	1,100
Working age population	975
Labor force	750
Underemployed	120
Unemployed	95
Discouraged workers	80
Frictionally unemployed	25
Voluntarily unemployed	40

The unemployment rate in the economy is *closest* to:

- A. 9.7%.
- B. 12.6%.
- C. 16.0%.

Answer = B

“Understanding Business Cycles,” Michele Gambera, CFA, Milton Ezrati, and Bolong Cao, CFA  
2013 Modular Level I, Vol. 2, Reading 18, Section 4.1

Study Session 5-18-d

Describe types of unemployment and measures of unemployment.

B is correct. Unemployment rate =  $\frac{\text{Unemployed}}{\text{Labor force}} \times 100 = \frac{95}{750} \times 100 = \mathbf{12.6\%}$ .

37. In an economy, consumption is 70% of pre-tax income and the average tax rate is 25% of total income. If planned government expenditures are expected to increase by \$1.25 billion, the increase in total incomes and spending (\$ in billions) is *closest* to:

- A. \$1.3.
- B. \$2.6.
- C. \$4.2.

Answer = C

“Monetary and Fiscal Policy,” Andrew Clare, PhD and Stephen Thomas, PhD  
2013 Modular Level I, Vol. 2, Reading 19, Section 3.2.2

Study Session 5-19-o, q

Describe the tools of fiscal policy including their advantages and disadvantages.

Explain the implementation of fiscal policy and the difficulties of implementation.

C is correct. The fiscal multiplier is $\frac{1}{1-c(1-T)}$		
where		
	c	marginal propensity to consume = consumption ÷ disposable income
	T	the tax rate

Assuming pre-tax income of \$100	
Disposable income	$\$100 \times (1 - 0.25) = \$75$
Marginal propensity to consume (c)	$\$70 \div \$75 = 0.933$
The fiscal multiplier	$1 \div [1 - (0.933 \times (1 - 0.25))] = 3.33$
With government expenditure of \$1.25 billion, total incomes and spending will rise by \$1.25 billion $\times$ 3.33 = <b>\$4.2 billion.</b>	

38. In early 2011, the British pound (GBP) to New Zealand dollar (NZD) spot exchange rate was 2.0979. LIBOR interest rates, quoted on a 360-day year basis, were 1.6025% for the British pound and 3.2875% for the New Zealand dollar. The 180-day forward points (scaled up by four decimal places) in GBP/NZD would be *closest* to:

- A. -343.
- B. -173.
- C. 176.

Answer = B

“Currency Exchange Rates,” William A. Barker, CFA, Paul D. McNelis, and Jerry Nickelsburg  
2013 Modular Level I, Vol. 2, Reading 21, Section 3.3, Example 6,  
Study Session 6-21-e, g

Convert forward quotations expressed on a points basis or in percentage terms into outright forward quotations.

Calculate and interpret a forward rate consistent with a spot rate and the interest rate in each currency.

B is correct. Covered interest arbitrage will ensure identical terminal values by investing the same initial amounts at the respective country’s domestic interest rates:

GBP investment:  $\pounds 2.0979 \times (1 + 0.016025 \times 180/360) = \pounds 2.1147$

NZD investment:  $\text{NZ\$}1 \times (1 + 0.032875 \times 180/360) = \text{NZ\$}1.0164$

The forward rate is determined by equating these two terminal amounts:

GBP/NZD forward Rate =  $\pounds 2.1147 / \text{NZ\$}1.0164 = \pounds 2.0806 / \text{NZ\$}$

Forward points =  $(\text{Forward} - \text{Spot}) \times 10,000 = (2.0806 - 2.0979) \times 10,000 = \underline{\underline{-173.0}}$ .

39. A country implements policies that are expected to increase taxes by €100 million, increase government spending by €50 million, and reduce investments and private sector savings by €25 million each. As a result, the country’s current account balance will *most likely*:

- A. increase by €50 million.
- B. decrease by €50 million.
- C. increase by €100 million.

Answer = A

“International Trade and Capital Flows,” Usha Nair-Reichert, PhD and Daniel Robert Witschi, PhD, CFA

2013 Modular Level 1, Vol. 2, Reading 20, Section 4.4, formula (7)

Study Session 6-20-g, h

Describe the balance of payments accounts including their components.

Explain how decisions by consumers, firms, and governments affect the balance of payments.

A is correct.

$$CA = S_p - I + (T - G - R)$$

CA = Current account balance

$S_p$  = Private sector savings

I = Investments

T = Taxes

G = Government spending

R = Transfers

$$\Delta CA = -25 - (-25) + (100 - 50 - 0) = 50.$$

40. An Australian firm purchased a patent for USD20,000 and machinery for USD21,500 from a U.S. firm when the exchange rates were as follows:

Ratio	Exchange Rate
USD/EUR	1.29
AUD/EUR	1.24

The impact of these transactions on the capital account of Australia (in AUD) is *closest* to:

A. 19,225.

B. 20,667.

C. 20,806.

Answer = A

“International Trade and Capital Flows,” Usha Nair-Reichert, PhD and Daniel Robert Witschi, PhD, CFA

2013 Modular Level 1, Vol. 2, Reading 20, Section 4.2

“Currency Exchange Rates,” William A. Barker, CFA, Paul D. McNelis, and Jerry Nickelsburg

2013 Modular Level I, Vol. 2, Reading 21, Section 3.2

Study Session 6-20-g, 6-21-d

Describe the balance of payments accounts including their components.

Calculate and interpret currency cross rates.

A is correct. The purchase of machinery is an import and affects the current account, not the capital account, so it is ignored. The purchase of a non-produced, non-financial asset (such as a patent) affects the capital account.

The impact on the capital account in AUD is:

$$\text{USD}20,000 \times (1/1.29) \times 1.24 = 19,225\text{AUD}.$$

41. Which of the following statements with respect to Giffen and Veblen goods is *least* accurate?

- A. Both types of goods violate the fundamental axioms of demand theory.
- B. Giffen goods are “inferior” whereas Veblen goods are “high-status” goods.
- C. Both types of goods demonstrate the possibility of a positively sloping demand curve.

Answer = A

“Demand and Supply Analysis: Consumer Demand,” Richard V. Eastin and Gary L. Arbogast, CFA  
2013 Modular Level I, Vol. 2, Reading 14, Section 6.4 and 6.5

Study Session 4-14-f

Distinguish between normal goods and inferior goods, and explain Giffen goods and Veblen goods in this context.

A is correct. Veblen goods violate the fundamental axioms of demand theory, but Giffen goods do not.

42. The following data apply to a country in its domestic currency units:

Consumer spending on goods and services	875,060	Government spending on goods and services	305,600
Business gross fixed investment	286,400	Government gross fixed investment	84,120
Change in inventories	-68,500	Capital consumption allowance	8,540
Transfer payments	9,300	Statistical discrepancy	-2,850
Exports	219,800	Imports	250,980

Using the expenditures approach, the country’s gross domestic product (GDP) is *closest* to:

- A. 1,448,650.
- B. 1,451,500.
- C. 1,466,490.

Answer = A

“Aggregate Output, Prices, and Economic Growth,” Paul R. Kutasovic, CFA and Richard G. Fritz  
2013 Modular Level I, Vol. 2, Reading 17, Section 2.2, 2.3, Example 3

Study Session 5-17-a

Calculate and explain gross domestic product (GDP) using expenditure and income approaches.

A is correct. Using the expenditures approach:

GDP = Consumer spending on goods and services + Business gross fixed investment + Change in inventories + Government spending on goods and services + Government gross fixed investment + Exports – Imports + Statistical discrepancy

Consumer spending on goods and services	875,060
Business gross fixed investment	286,400
Change in inventories	(68,500)

Government spending on goods and services	305,600
Government gross fixed investment	84,120
Exports	219,800
Imports	(250,980)
Statistical discrepancy	<u>(2,850)</u>
= Gross domestic product (GDP)	1,448,650

43. As a monetary policy tool, quantitative easing (QE) will *most likely* help revive an ailing economy in which of the following environments?

- A. Liquidity trap
- B. Deflationary trap
- C. Declining bank reserves and economic activity

Answer = C

“Monetary and Fiscal Policy,” Andrew Clare, PhD and Stephen Thomas, PhD  
 2013 Modular Level I, Vol. 2, Reading 19, Section 2.5  
 Study Session 5-19-b  
 Describe functions and definitions of money.

C is correct. Quantitative easing (QE) is an “unconventional” approach to monetary policy and is operationally similar to open market purchase operations but conducted on a much larger scale. The additional reserves created by central banks in a policy of quantitative easing can be used to buy any asset. The idea was that this additional reserve would kick-start lending, causing broad money growth to expand, which would eventually lead to an increase in real economic activity.

44. A firm in the market environment characterized by monopolistic competition will *most likely*:

- A. continue to experience economic profit in the long run.
- B. have a well-defined supply function reflecting its marginal and average costs.
- C. have many competitors, each of which follows its own product differentiation strategy.

Answer = C

“The Firm and Market Structures,” Richard G. Fritz and Michele Gambera, CFA  
 2013 Modular Level I, Vol. 2, Reading 16, Section 2.2 and Exhibit 1  
 Study Session 4-16-a

Describe the characteristics of perfect competition, monopolistic competition, oligopoly, and pure monopoly.

C is correct. As the name implies, monopolistic competition is a hybrid market. *The most distinctive factor in monopolistic competition is product differentiation.* Although the market is made up of many firms that compose the product group, each producer attempts to distinguish

its product from that of the others, and product differentiation is accomplished in a variety of ways.

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

45. A company entered into a three-year construction project with a total contract price (all figures in '000s) of \$5,300 and expected costs of \$4,400. The company recognizes revenue using the percentage of completion method. The data below relate to the contract.

(All figures in '000s)	Year 1	Year 2	Year 3
Costs incurred and paid	\$1,200	\$2,000	\$1,200
Amounts billed and payments received	\$800	\$3,000	\$1,500

The amount of revenue (in \$'000s) the company will recognize in Year 2 is *closest* to:

- A. 1,766.
- B. 2,409.
- C. 3,000.

Answer = B

“Understanding Income Statements,” Elaine Henry, CFA and Thomas R. Robinson, CFA  
2013 Modular Level I, Vol. 3, Reading 25, Section 3.2.1, Example 2

Study Sessions: 8-25-b

Describe the general principles of revenue recognition and accrual accounting, specific revenue recognition applications (including accounting for long-term contracts, installment sales, barter transactions, gross and net reporting of revenue), and the implications of revenue recognition principles for financial analysis.

B is correct.

\$ '000s	Year 1	Year 2
Costs incurred to date	1,200	1,200 + 2,000 = 3,200
% Completed	$1,200 \div 4,400 = 27.27\%$	$3,200 \div 4,400 = 72.73\%$
Total revenue recognized to date	$27.27\% \times 5,300 = 1,445$	$72.73\% \times 5,300 = 3,854$
Current revenue to be recognized (total revenue recognized less revenue previously recognized)	1,445	$3,854 - 1,445 = \underline{2,409}$

46. In the audit report, an additional paragraph that explains an exception to an accounting standard is *best* described as a(n):

- A. adverse opinion.
- B. qualified opinion.
- C. disclaimer of opinion.

Answer = B

“Financial Statement Analysis: An Introduction,” Elaine Henry, CFA, and Thomas R. Robinson, CFA

2013 Modular Level I, Vol.3, Reading 22, Section 3.1.7

Study Session 7-22-d

Describe the objective of audits of financial statements, the types of audit reports, and the importance of effective internal controls.

B is correct. A qualified opinion is one in which there is some scope limitation or exception to accounting standards that is described in additional explanatory paragraphs.

47. Which of the following is *least likely* a characteristic of an effective financial reporting framework?

- A. Transparency
- B. Comparability
- C. Comprehensiveness

Answer = B

“Financial Reporting Standards,” Elaine Henry, CFA, Jan Hendrik van Greuning, CFA, and Thomas R. Robinson, CFA

2013 Modular Level I, Vol.3, Reading 24, Section 6.1

Study Session 7-24-g

Identify the characteristics of a coherent financial reporting framework and the barriers to creating such a framework.

B is correct. The characteristics of an effective financial reporting framework are transparency, comprehensiveness, and consistency. Comparability is a general feature of financial statements.

48. The following relates to a company's common equity over the course of the year:

Outstanding shares, at start of the year	2,000,000	
Stock options outstanding, at start and end of the year	100,000	Exercise price: \$5.00
Shares issued on April 1	300,000	
Shares repurchased (treasury shares) on July 1	100,000	

Average market price of common shares for the year		\$20/share
--	--	------------

If the company's net income for the year is \$5,000,000, its diluted EPS is *closest* to:

- A. \$2.17.
- B. \$2.20.
- C. \$2.22.

Answer = C

"Understanding Income Statements," Elaine Henry, CFA and Thomas R. Robinson, CFA  
2013 Modular Level I, Vol.3, Reading 25, Section 6.2, 6.3.3, Examples 17 and 18  
Study Session 8-25-g, h

Describe how earnings per share is calculated and calculate and interpret a company's earnings per share (both basic and diluted earnings per share) for both simple and complex capital structures.

Distinguish between dilutive and antidilutive securities, and describe the implications of each for the earnings per share calculation

C is correct.

<b>Incremental shares issued from stock option exercise (Treasury Stock Method)</b>		
<i>(Shares issued at exercise price – Shares purchased with cash received at average market price) =</i> $100,000 \text{ shares} - \frac{100,000 \times \$5}{\$20} = 75,000 \text{ shares}$		
<b>Weighted average shares outstanding</b>		
Original shares	2,000,000	2,000,000 sh × 12 months/12 months
Incremental shares issued assuming options were exercised	75,000	75,000 sh × 12 months/12 months
Shares issued, April 1	225,000	300,000 sh × 9 months/12 months
Shares repurchased, July 1	(50,000)	100,000 sh × 6 months/12 months
Weighted average shares o/s	2,250,000	
<b>Diluted EPS</b>		
Net income – preferred dividends	$\frac{\$5,000,000 - \$0}{2,250,000 \text{ sh}} = \mathbf{\$2.22/share}$	
Weighted average # of shares		

49. An analyst has compiled the following information on a company:

	<b>£ '000s</b>
Revenues for the year	12,000
Total expenses for the year	10,150
Total current assets at year-end	9,200
Total non-current assets at year-end	12,750
Investments	350



Share capital at the beginning of the year	2,000
Proceeds from shares issued during the year	500
Retained earnings at the beginning of the year	8,850
Total liabilities at year-end	9,400

The amount of dividends declared (£ '000s) during the year is *closest* to:

- A. 150.
- B. 300.
- C. 650.

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  
2013 Modular Level I, Vol.3, Reading 23, Section 3.2, Example 3  
Study Session 7-23-b

Explain the accounting equation in its basic and expanded form.

C is correct.

Total assets = Current assets + Non-current assets = 9,200 + 12,750	Total assets = 21,950
Assets = Liabilities + Equity 21,950 = 9,400 + Equity	Equity = 12,550
Equity = Share capital + Retained earnings 12,550 = (2,000 + 500) + RE	RE = 10,050
Retained earnings = Beginning retained earnings + Net income – Dividends 10,050 = 8,850 + (12,000 – 10,150) – dividends	Dividends = 650

50. A cell phone manufacturer has switched to high margin premium-priced products with the most innovative features as part of its product differentiation strategy. Which of the following other changes is *most* consistent with this strategy?

- A. An increase in inventory levels
- B. A decrease in R&D expenditures
- C. An increase in advertising expenditures

Answer = C

“Financial Statement Analysis: Applications” Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA  
2013 Modular Level I, Vol. 3, Reading 35, Section 2, Example 1  
Study Session 10-35-a

Evaluate a company’s past financial performance and explain how a company’s strategy is reflected in past financial performance.

C is correct. Expenditures on advertising and research are required to support a product differentiation strategy. The effect on inventory is uncertain.

51. Which of the following is the *most likely* reason for an analyst to choose the direct method rather than the indirect method for analyzing a firm's operating cash flows?
- A. To avoid making adjustments for non-cash items
  - B. To identify operating cash flows by source and by use
  - C. To understand the relationship between net income and operating cash flows

Answer = B

"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA  
2013 Modular Level I, Vol. 3, Reading 27, Section 2.3, 2.3.1, 2.3.2  
Study Session 8-27-d

Distinguish between the direct and indirect methods of presenting cash from operating activities and describe the arguments in favor of each method.

B is correct. The direct method cash flow statement presents specific operating cash flows by source and use.

52. In the current year, a company increased its deferred tax asset by \$500,000. During the year, the company *most likely*:
- A. became entitled to a \$500,000 tax refund.
  - B. reported a lower accounting profit than taxable income.
  - C. had permanent differences between accounting profit and taxable income.

Answer = B

"Income Taxes" Elbie Antonites, CFA and Michael A. Broihahn, CFA  
2013 Modular Level I, Vol. 3, Reading 31, Section 2.2  
Study Session 9-31-a, b, f

Describe the differences between accounting profit and taxable income, and define key terms, including deferred tax assets, deferred tax liabilities, valuation allowance, taxes payable, and income tax expense

Explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.

Distinguish between temporary and permanent differences in pre-tax accounting income and taxable income

B is correct. Deferred tax assets represent taxes that have been paid (because of the higher taxable income) but have not yet been recognized on the income statement (because of the lower accounting profit).

53. The following selected balance sheet and ratio data are available for a company:

<b>Metric</b>	<b>2012</b>	<b>2011</b>
Cash and cash equivalents	98.0	
Marketable securities	389.2	
Accounts receivables	12.0	
Other current assets	<u>120.</u> <u>1</u>	
Total current assets	619.3	
Deferred revenues	85.0	
Other current liabilities	<u>92.3</u>	
Total current liabilities	177.3	
Cash ratio		2.37
Quick ratio		2.97
Current ratio		3.27

Which of the following ratios decreased between 2011 and 2012?

- A. Cash
- B. Quick
- C. Current

Answer = B

“Understanding Balance Sheets,” Elaine Henry, CFA and Thomas R. Robinson, CFA  
2013 Modular Level I, Vol. 3, Section 7.2, Exhibit 19, Example 8

Study Session: 8-26-i

Calculate and interpret liquidity and solvency ratios.

B is correct.

<b>Metric</b>	<b>2012</b>	<b>2011</b>	<b>Result</b>
Cash ratio = (Cash + Marketable securities) ÷ Current liabilities	$(98 + 389.2) \div 177.3 = 2.75$	2.37	Increase
Quick ratio = (Cash + Marketable securities + Receivables) ÷ Current liabilities	$(98 + 389.2 + 12) \div 177.3 = 2.82$	2.97	Decrease
Current ratio = Current assets ÷ Current liabilities	$619.3 \div 177.3 = 3.49$	3.27	Increase

54. The following annual financial data are available for a company:

	<b>£ millions</b>
Beginning interest payable	90.4
Cash paid for interest	103.3
Ending interest payable	84.5

Interest expense for the year is *closest* to:

- A. 71.6.
- B. 97.4.
- C. 109.2.

Answer = B

“Understanding Cash Flow Statements,” Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A Broihahn, CFA

2013 Modular Level I, Vol. 3, Section 3.2.1.5

Study Session: 8-27-f

Describe the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using the income statement and balance sheet data.

B is correct. Interest expense is equal to ending interest payable plus cash paid for interest less beginning interest payable. The calculation is as follows:

	£ millions
Interest expense = Ending interest payable + Cash paid for interest – Beginning interest payable	84.5 + 103.3 – 90.4 = 97.4

55. Financial ratios alone are *least likely* helpful to determine a company’s:

- A. creditworthiness.
- B. past performance.
- C. current financial condition.

Answer = A

“Financial Analysis Techniques,” Elaine Henry, CFA, Thomas R. Robinson, CFA, and Jan Hendrik van Greuning, CFA

2013 Modular Level I, Vol. 3, Section 3.1.2, 6.1

Study Session: 8-28-a

Describe tools and techniques used in financial analysis, including their uses and limitations.

A is correct. Financial ratios alone are not sufficient to determine the creditworthiness of a company. Other factors must also be considered, such as examining the entire operation of the company, meeting with management, touring company facilities, and so forth.

56. A company manufactures aluminum cans for the beverage industry and prepares its financial statements in accordance with IFRS. During its latest full fiscal year, the company recorded the following data:

Inventory Item	Amount €
Raw material aluminum costs	150,000

Storage of finished cans	15,000
Wasted aluminum materials from abnormal production errors during the year	500
Transportation-in costs	640
Tax-related duties	340
Administrative overhead	7,500
Trade discounts due to volume purchases throughout the year	520

The total costs included in inventory (in €) for the year are *closest* to:

- A. 149,820.
- B. 150,460.
- C. 150,980.

Answer = B

“Inventories,” Michael A Broihahn, CFA  
 2013 Modular Level I, Vol. 3, Section 2, Example 1  
 Study Session: 9-29-a

Distinguish between costs included in inventories and costs recognized as expenses in the period in which they are incurred.

B is correct. Total inventory costs are as follows:

<b>Inventory Item</b>	<b>Amount €</b>
Raw materials	150,000
Transportation-in	640
Tax-related duties	340
Less: Trade discounts	<u>(520)</u>
Total inventory costs	150,460

Abnormal waste, storage of finished goods, and administrative overhead are expensed.

57. An accounting document that records transactions in the order in which they occur is *best* described as a:

- A. trial balance.
- B. general ledger.
- C. general journal.

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  
 2013 Modular Level 1, Vol.3, Reading 23, Section 6.1  
 Study Session: 7-23-f

Describe the flow of information in an accounting system.

C is correct. The general journal records transactions in the order in which they occur (chronological order) and is, therefore, sorted by date.

58. Which of the following statements is *most* accurate with respect to financial reporting requirements?

- A. Regulatory authorities are typically private sector, self-regulated organizations.
- B. Standard-setting bodies have authority because they are recognized by regulatory authorities.
- C. The requirement to prepare financial reports in accordance with specified accounting standards is the responsibility of standard-setting bodies.

Answer = B

“Financial Reporting Standards,” Elaine Henry, CFA, Jan Hendrik van Greuning, CFA, and Thomas R. Robinson, CFA

2013 Modular Level I, Vol. 3, Reading 24, Section 3

Study Session 7-24-b

Describe the roles and desirable attributes of financial reporting standard-setting bodies and regulatory authorities in establishing and enforcing reporting standards, and describe the role of the International Organization of Securities Commissions.

B is correct. Without the recognition of the standards by the regulatory authorities, such as the Securities and Exchange Commission, the private sector standard-setting bodies, such as U.S. FASB, would have no authority.

59. Income statements for two companies (A and B) and the common-sized income statement for the industry are provided below:

<b>All \$ figures in '000s</b>	<b>Company A</b>	<b>Company B</b>	<b>Industry</b>
Sales	\$ 10,500	\$ 8,250	100.0%
Cost of goods sold	6,353	5,239	62.8%
Selling, general, and administrative expenses	2,625	2,021	24.8%
Interest expense	840	536	7.0%
	<hr/>		
Pretax earnings	683	454	5.4%
Taxes	205	145	1.7%
Net earnings	\$ 478	\$ 309	3.7%

The *best* conclusion an analyst can make is that:

- A. Company B's interest rate is lower than the industry average.
- B. both companies' tax rates are higher than the industry average.
- C. Company A earns a higher gross margin than both Company B and the industry.

Answer = C

“Understanding Income Statements,” Elaine Henry, CFA, and Thomas R. Robinson, CFA,  
2013 Modular Level 1, Vol.3, Reading 25, Section 7

“Financial Analysis Techniques,” Elaine Henry, CFA, Thomas R. Robinson, CFA, and Jan Hendrik  
van Greuning, CFA

2013 Modular Level I, Vol. 3, Reading 28, Section 3.1, 3.2.2

Study Session 8-25-j, 8-28-b, c

Evaluate a company’s financial performance using common-sized income statements and  
financial ratios based on the income statement.

Classify, calculate and interpret activity, liquidity, solvency, profitability, and valuation ratios.

Describe the relationships among ratios and evaluate a company using ratio analysis.

C is correct. Common-sized analysis of the income statements shows that Company A has a  
lower percentage cost of goods sold and hence a higher gross margin than the industry.

	Co A	Co B	Industry	Co A	Co B
Sales	\$ 10,500	\$ 8,250	100.0%	100%	100%
Cost of goods sold	6,353	5,239	62.8%	60.5%	63.5%
Gross margin			37.2%	39.5%	36.5%

Company A earns a higher gross margin than both Company B and the industry

Pretax earnings	683	454	5.4%	6.5%	5.5%
Taxes	205	145	1.7%	2.0%	1.8%
Tax rate = Taxes ÷ Pretax earnings			32%	30%	32%

The tax rates for the companies are not higher than the industry.

The interest rate is not a function of sales and cannot be analyzed on a common-sized income  
statement. Tax rates are determined based on taxes ÷ pretax earnings, not as a percentage of  
sales (as shown in common-sized analysis).

60. The following information is from a company’s accounting records:

	€ millions
Revenues for the year	12,500
Total expenses for the year	10,000
Gains from available-for-sale securities	1,475
Loss on foreign currency translation adjustments on a foreign subsidiary	325
Dividends paid	500

The company’s total comprehensive income (in € millions) is *closest* to:

- A. 1,150.
- B. 3,150.
- C. 3,650.

Answer = C

"Understanding Income Statements," Elaine Henry, CFA, and Thomas R. Robinson, CFA  
2012 Modular Level 1, Vol.3, Reading 25, Section 8

Study Session: 8-25-k, l

Describe, calculate, and interpret comprehensive income.

Describe other comprehensive income, and identify the major types of items included in it.

C is correct. Total comprehensive income = Net income + other comprehensive income

Net income = Revenues – Expenses

Other comprehensive income includes gains or losses on available-for-sale securities and translations adjustments on foreign subsidiaries.

(Revenues – Expenses) + Gain on AFS – Loss on FX translation

$(12,500 - 10,000) + 1,475 - 325 = 3,650$ .

61.

£ millions	2012	2011
Accounts receivables, gross	6,620	4,840
Allowance for doubtful accounts	92	56
Write-offs during the year	84	42

Based on the above information about a company's trade receivables, the bad debt expense (in millions) for 2012 is *closest* to:

A. £36.

B. £84.

C. £120.

Answer = C

"Understanding Balance Sheets," Elaine Henry, CFA, and Thomas R. Robinson, CFA  
2012 Modular Level 1, Vol.3, Reading 26, Section 3.1.3

Study Session: 8-26-e

Describe different types of assets and liabilities and the measurement bases of each.

C is correct. The allowance for doubtful accounts increases by the bad debt expense recognized for the year and decreases by the amounts written off during the year.

Beginning balance allowance	56
Plus bad debt expense	?
Less write-offs	(84)
Ending balance allowance	92
Bad debt expense = 120	



62. An analyst has gathered the following information about a company:

	<b>C\$ millions</b>
Cash flow from operating activities	105.9
Cash flow from investing activities	(11.8)
Cash flow from financing activities	<u>46.5</u>
Net change in cash for the year	140.6
Interest paid (included in CFO)	22.4
Taxes paid (tax rate of 30%)	18.0
Total debt, end of year	512.8

The cash flow debt coverage ratio for the year is *closest* to:

- A. 20.6%.
- B. 23.7%.
- C. 27.4%.

Answer = A

“Understanding Cash Flow Statements,” Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA  
2013 Modular Level I, Vol. 3, Reading 27, Section 4.4

Study Session 8-27-i

Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.

A is correct. Cash flow debt coverage ratio = CFO ÷ Total debt  
 $105.9 \div 512.8 = 20.6\%$ .

63. Which inventory method *best* matches the actual historical cost of the inventory sold with their physical flow if a company is using a perpetual inventory system?

- A. FIFO
- B. LIFO
- C. Specific identification

Answer = C

“Inventories,” Michael A. Broihahn, CFA  
2013 Modular Level 1, Vol.3, Reading 29, Section 3.1  
Study Session: 9-29-b

Describe different inventory valuation methods (cost formulas).

C is correct. Specific identification matches the actual historical costs of the specific inventory items to their physical flow: The costs remain in inventory until the actual identifiable inventory is sold.

64. On 1 January, a company, which prepares its financial statements according to IFRS, arranged financing for the construction of a new plant. The company:

- borrowed NZ\$5,000,000 at an interest rate of 8%,
- issued NZ\$5,000,000 of preferred shares with a cumulative dividend rate of 6%, and
- temporarily invested NZ\$2,000,000 of the loan proceeds for the first six months of construction and earned 7% on that amount.

The amount of financing costs to be capitalized (NZ\$) to the cost of the plant in the first year is *closest* to:

- A. 330,000.
- B. 400,000.
- C. 630,000.

Answer = A

"Long-Lived Assets," Elaine Henry, CFA and Elizabeth A. Gordon  
2013 Modular Level 1, Vol.3, Reading 30, Section 2.1, Example 1

Study Session: 9-30-a

Distinguish between costs that are capitalized and costs that are expensed in the period in which they are incurred.

A is correct. The interest costs can be capitalized. Under IFRS, any amounts earned by temporarily investing the funds are deducted from the capitalized amount. The costs related to the preferred shares cannot be capitalized.	
<b>Capitalized costs</b>	
Interest costs	$0.08 \times 5,000,000 = 400,000$
Less interest income	$0.07 \times 2,000,000 \times \frac{1}{2} = (70,000)$
Total capitalized costs	330,000

65. A company purchased equipment in 2010 for £25,000. The year-end values of the equipment for accounting purposes and tax purposes are as follows:

	2011	2010
Carrying amount for accounting purposes	£20,000	£22,500
Tax base for tax purposes	£16,000	£20,000
Tax rate	25%	30%

Which of the following statements *best* describes the effect of the change in the tax rate on the company's 2011 financial statements? The deferred tax liability:

- A. increases by £250.
- B. decreases by £200.
- C. decreases by £800.

Answer = B

“Income Taxes,” Elbie Antonites, CFA and Michael A. Broihahn, CFA

2013 Modular Level 1, Vol. 3, Reading 31, Section 3.3

Study Session, 9-31-d, e

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.

Evaluate the impact of tax rate changes on a company’s financial statements and ratios.

B is correct. Deferred tax liability = Taxable temporary difference × Tax rate.

In 2011, if the rates had not changed, the deferred tax liability would have been:	$0.30 \times 4,000 =$	£1,200.
But with the lower tax rate, the deferred tax liability will be:	$0.25 \times 4,000 =$	£1,000
Effect of the change in rate, therefore, is a decrease in the liability:		£(200)
Alternative calculation = Change in rate × Taxable difference:	$-0.05 \times 4,000$	£(200)

66. A company took the following actions related to \$5 million of 10-year bonds with a coupon rate of 8% payable semi-annually on 30 June and 31 December:

A. Issued on 1 January 2006, when the market rate of interest was 6%.

B. Bought back in an open market transaction on 1 January 2012, when the market rate of interest was 8%.

Which of the following statements *best* describes the effect of the bond repurchase on the financial statements for 2012? If the company uses the indirect method of calculating the cash from operations, there will be a:

A. \$346,511 gain on the income statement.

B. \$743,873 gain on the income statement.

C. \$350,984 decrease in the cash from operations.

Answer = C

“Understanding Cash Flow Statements,” Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan

Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA

2013 Modular Level I, Vol. 3, Reading 27, Sections 2.1, 3.2.4, (Exhibit 9)

“Non-Current (Long-Term) Liabilities,” Elizabeth A. Gordon and Elaine Henry, CFA

2013 Modular Level 1, Vol.3, Reading 32, Sections 2.2, 2.4

“Introduction to the Valuation of Debt Securities,” Frank J. Fabozzi, CFA

2013 Modular Level 1, Vol.5, Reading 56, Section 2.3.3

Study Session: 8-27-a, 9-32-b, c, 16-56, c, d

Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.

Discuss the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments.

Discuss the derecognition of debt.

Calculate the value of a bond (coupon and zero-coupon);

Explain how the price of a bond changes if the discount rate changes and as the bond approaches its maturity date.

C is correct. The book value of the bonds on 1 January 2012 is equal to the present value of the remaining coupon payments and principal discounted at the market rate at time of issue (3% per period).

Coupon =  $0.08 \times \frac{1}{2} \times 5,000,000 = 200,000$ ;      there are four years remaining or eight coupon payments

Book value =  $200,000 \text{ PVAnnuity } (n = 8, i = 3\%) + 5,000,000 \text{ PV } (n = 8, i = 3\%)$   
=  $1,403,938 + 3,947,046$   
=  $5,350,984$

Using a financial calculator: PMT = 200,000; FV = 5,000,000; I% = 3%; N = 8;  
Compute PV = 5,350,984

Because the market interest rate when the bonds are bought back (8%) is equal to the coupon rate, the company can buy back the bonds at par, \$5,000,000:

Cost of repurchase	\$5,000,000
Book value	<u>5,350,984</u>
Gain on retirement	350,984

On the cash flow statement, the gain would be deducted from net income when calculating the cash from operations under the indirect method, and the cash paid to repurchase the bonds would be a cash outflow in the financing section.

67. On a cash flow statement prepared using the indirect method, which of the following would *most likely* increase the cash from investing activities?

- A. Sale of a long-term receivable
- B. Sale of held-for-trading securities
- C. Securitization of accounts receivable

Answer = A

"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA  
2013 Modular Level I, Vol. 3, Reading 27, Section 2.1

"Accounting Shenanigans on the Cash Flow Statement," Marc A. Siegel  
2013 Modular Level 1, Vol. 3, Reading 34, Section 5  
Study Session 8-27-a, 10-34-a

Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.

Analyze and describe the following ways to manipulate the cash flow statement: stretching out payables; financing of payables; securitization of receivables; and using stock buybacks to offset dilution of earnings.

A is correct. The sale of a long-term receivable would increase cash from investing activities; the other two activities mentioned are operating activities.

68. An analyst has gathered the following information about a company's capital assets:

Year ending	2012	2011
Property, plant, and equipment	€2,500	€2,500
Accumulated depreciation	375	250
Net book value	2,125	2,250

As of the end of 2012, the expected remaining life of the assets, in years, is *closest* to:

- A. 6.
- B. 17.
- C. 20.

Answer = B

"Long-lived Assets," Elaine Henry, CFA, and Elizabeth A. Gordon

2013 Modular Level 1, Vol.3, Reading 30, Section 3.1

"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van

Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA

2013 Modular Level 1, Vol. 3, Reading 35, Section 6.4

Study Session: 9-30-d, 10-35-e;

Calculate depreciation expense.

Determine and justify appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.

B is correct.

The expected remaining useful life of a company's overall asset base	= Net PPE ÷ Depreciation expense.
Depreciation expense equals the change in accumulated depreciation <sup>A</sup>	375 – 250 = 125
The expected remaining useful life	2,125 ÷ 125 = 17 years
<sup>A</sup> This is true when there are no asset dispositions or acquisitions, as appears to be the case here because the gross PPE does not change.	

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

69. Given the following information about a firm:

- debt-to-equity ratio of 50%
- tax rate of 40%
- cost of debt of 8%
- cost of equity of 13%,

the firm's weighted average cost of capital (WACC) is *closest to*:

- A. 7.5%.
- B. 8.9%.
- C. 10.3%.

Answer = C

"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela Peterson Drake, CFA  
2013 Modular Level I, Vol.4, Reading 37, Sections 2, 2.1, 2.2.

Study Session 11-37-a, b

Calculate and interpret the weighted average cost of capital (WACC) of a company.  
Describe how taxes affect the cost of capital from different capital sources.

C is correct. Convert D/E to the weight for debt:  $\frac{1}{3} = \frac{D/E}{(1+D/E)} = \frac{0.50}{(1+0.50)}$

The weight for equity is 1 minus the weight of debt:  $\frac{2}{3} = 1 - \frac{1}{3}$

$$\text{WACC} = \text{Weight of debt} \times \text{Cost of debt} \times (1 - \text{Tax rate}) + \text{Weight of equity} \times \text{Cost of equity}$$
$$\frac{1}{3} \times 0.08 \times (1 - 0.40) + \frac{2}{3} \times 0.13 = 0.1026 = 10.3\%$$

70. The unit contribution margin for a product is \$20. A firm's fixed costs of production of up to 300,000 units is \$500,000. The degree of operating leverage (DOL) is *most likely* the lowest at which of the following production levels (in units)?

- A. 100,000
- B. 200,000
- C. 300,000

Answer = C

"Measures of Leverage," Pamela Peterson Drake, CFA, Raj Aggarwal, CFA, Cynthia Harrington, CFA, and Adam Kobor, CFA

2013 Modular Level I, Vol.4, Reading 38, Section 3.3.

Study Session 11-38-b

Calculate and interpret the degree of operating leverage, the degree of financial leverage, and the degree of total leverage.

C is correct.

$$DOL = \frac{\text{quantity} \times \text{contribution margin}}{[\text{quantity} \times \text{contribution margin} - \text{fixed costs}]}$$

$$DOL (100,000 \text{ units}) = \frac{\$20 \times 100,000}{[\$20 \times 100,000 - \$500,000]} = 1.333$$

$$DOL (200,000 \text{ units}) = \frac{\$20 \times 200,000}{[\$20 \times 200,000 - \$500,000]} = 1.143$$

$$DOL (300,000 \text{ units}) = \frac{\$20 \times 300,000}{[\$20 \times 300,000 - \$500,000]} = 1.091$$

The DOL is lowest at the 300,000 unit production level.

71. Which of the following share repurchase methods will *most likely* take the longest amount of time to execute?

- A. Dutch auction
- B. fixed price tender offer
- C. open market repurchase

Answer = C

“Dividends and Share Repurchases: Basics,” George H. Troughton, CFA and Gregory Noronha, CFA

2013 Modular Level I, Vol.4, Reading 39, Section 4.1.

Study Session 11-39-c

Compare share repurchase methods.

C is correct. Of the methods listed, open market repurchases take the longest time to execute.

72. Assume a 365-day year and the following information for a company:

	Current year	Previous year
Sales	\$12,000	\$10,000
Cost of goods sold	\$9,000	\$7,500
Inventory	\$1,200	\$1,000
Accounts payable	\$600	\$600

The firm’s days in payables for the current year is *closest to*:

- A. 18.3.

- B. 23.8.  
C. 24.9.

Answer = B

“Financial Analysis Techniques,” Elaine Henry, CFA, Thomas R. Robinson, CFA, and Jan Hendrik van Greuning, CFA

2013 Modular Level I, Vol. 2, Reading 28, Section 4.2.2

“Working Capital Management,” Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA

2013 Modular Level I, Vol.4, Reading 40, Section 7.3.

Study Session 8-28-b; 11-40-c, f

Classify, calculate, and interpret activity, liquidity, solvency, profitability, and valuation ratios.

Evaluate working capital effectiveness of a company based on its operating and cash conversion cycles, and compare the company’s effectiveness with that of peer companies.

Evaluate a company’s management of accounts receivable, inventory, and accounts payable over time and compared to peer companies.

B is correct.

$$\begin{aligned} \text{The days in payables} &= \frac{\text{Accounts payable}}{(\text{Purchases} \div 365)} = \frac{\text{Accounts payable}}{((\text{Change in inventory} + \text{Cost of goods sold}) \div 365)} \\ &= \frac{\$600}{((\$1,200 - \$1,000 + \$9,000) \div 365)} = 23.8 \end{aligned}$$

73. A project has the following cash flows (£):

Year 0	Year 1	Year 2	Year 3	Year 4
-1,525	215	345	475	1,215

Assuming a discount rate of 11% annually, the discounted payback period (in years) is *closest* to:

- A. 3.4.  
B. 3.9.  
C. 4.0.

Answer = B

“Capital Budgeting,” John D. Stowe, CFA and Jacques R. Gagne, CFA

2013 Modular Level I, Vol.4, Reading 36, Section 4.4.

Study Session 11-36-d

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).

B is correct. The discounted cash flows and their cumulative sum are:

Year	Discounted CF	Cumulative Discounted CF
------	---------------	--------------------------



0	-1,525.00	-1,525.00
1	$193.69 = 215/(1.11)^1$	-1,331.31
2	$280.01 = 345/(1.11)^2$	-1,051.30
3	$347.32 = 475/(1.11)^3$	-703.98
4	$800.36 = 1,215/(1.11)^4$	96.38

After three years, \$821.02 of the \$1,525 investment is recovered, leaving \$703.98 left to recover in the fourth year. Proportionately, only 0.88 (= \$703.98/\$800.36) of the cash flow in the fourth year is necessary to recover all of the investment. This makes the discounted payback equal to 3.9 years (rounded up from 3.88).

74. Based on best practices in corporate governance procedures, it is *most* appropriate for a company's compensation committee to:

- A. include some non-independent members.
- B. be aware of any final payments to which executives might be entitled.
- C. rely on management to communicate compensation philosophy to shareholders.

Answer = B

"The Corporate Governance of Listed Companies: A Manual for Investors," Kurt Schacht, CFA, James C. Allen, CFA, and Matthew Orsagh, CFA, CIPM

2013 Modular Level I, Vol.4, Reading 41, Section: Board Committees.

Study Session 11-41-e

Describe the responsibilities of the audit, compensation, and nominations committees and identify factors an investor should consider when evaluating the quality of each committee.

B is correct. Under best practices of corporate governance, the compensation committee should be aware of any final payments that might be made to executives under both best-case and worst-case scenarios.

75. Which action is *most likely* considered a secondary source of liquidity?

- A. Increasing the availability of bank lines of credit
- B. Increasing the efficiency of cash flow management
- C. Renegotiating current debt contracts to lower interest payments

Answer = C

"Working Capital Management," Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA

2013 Modular Level I, Vol. 4, Reading 40, Sections 2.1.1, 2.1.2.

Study Session 11-40-a

Describe primary and secondary sources of liquidity and factors that influence a company's liquidity position.

C is correct. Renegotiating debt contracts is a secondary source of liquidity because it may affect the company's operating and/or financial positions.

76. A company has a fixed \$1,100 capital budget and has the opportunity to invest in the four independent projects below.

Project	Investment outlay	NPV
1	\$600	\$100
2	\$500	\$100
3	\$300	\$50
4	\$200	\$50

The combination of projects that provides the *best* choice is:

- A. 1 and 2.
- B. 1, 3, and 4.
- C. 2, 3, and 4.

Answer = C

"Capital Budgeting," John D. Stowe, CFA, and Jacques R. Gagné, CFA

2013 Modular Level I, Vol. 4, Reading 36, Section 3, 4.1

Study Session 11-36-c, d

Explain how the evaluation and selection of capital projects is affected by mutually exclusive projects, project sequencing, and capital rationing.

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).

C is correct. The company should choose the combination of projects that maximizes NPV subject to the budget constraint of \$1,100.

Projects	Investment Required	NPV	Decision
1 + 2	$600 + 500 = 1,100$	$100 + 100 = 200$	
1 + 3 + 4	$600 + 300 + 200 = 1,100$	$100 + 50 + 50 = 200$	
2 + 3 + 4	$500 + 300 + 200 = 1,000$	$100 + 50 + 50 = 200$	NPV = 200 with the smallest investment

77. Which of the following statements is the *most* appropriate treatment of flotation costs for capital budgeting purposes? Flotation costs should be:

- A. expensed in the current period.
- B. incorporated into the estimated cost of capital.
- C. deducted as one of the project's initial-period cash flows.

Answer = C

“Cost of Capital,” Yves Courtois, CFA, Gene C. Lai, and Pamela Peterson Drake, CFA  
2013 Modular Level I, Vol. 4, Reading 37, Section 4.4  
Study Session 11-37-I

Explain and demonstrate the correct treatment of floatation costs.

C is correct. Floatation costs are an additional cost of the project and should be incorporated as an adjustment to the initial-period cash flows in the valuation computation.

78. A firm is uncertain about both the number of units the market will demand and the price it will receive for them. This type of risk is *best* described as:

- A. sales risk.
- B. business risk.
- C. operating risk.

Answer = A

“Measures of Leverage,” Pamela Peterson Drake, CFA, Raj Aggarwal, CFA, Cynthia Harrington, CFA, and Adam Kobor, CFA  
2013 Modular Level I, Vol. 4, Reading 38, Section 3.1, 3.2  
Study Session 11-38-a

Define and explain leverage, business risk, sales risk, operating risk, and financial risk, and classify a risk, given a description.

A is correct. Sales risk is associated with uncertainty with respect to total revenue, which in turn, depends on price and units sold.

### Questions 79 through 90 relate to Equity Investments

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

- A. Investors prefer to invest in callable common shares rather than putable common shares.
- B. The issuing company is obligated to buy callable common shares at a predetermined price.
- C. Putable common shares facilitate raising capital because of their appeal to investors over callable common shares.

Answer = C

“Overview of Equity Securities,” Ryan C. Fuhrmann, CFA and Asjeet S. Lamba, CFA  
2013 Modular Level I, Vol. 5, Reading 49, Section 3.1  
Study Session 14-49-a

Describe characteristics of types of equity securities.

C is correct. Puttable common shares facilitate raising capital because of their appeal to investors over callable common shares. The put feature gives investors the right to sell the shares back to the issuing company when the market price is below the pre-specified put price.

80. An investor who wants to estimate the enterprise value multiple (EV/EBITDA) of a company has gathered the following data:

Market value of debt	\$10 million
Market capitalization	\$45 million
Cash and short-term investments	\$2.5 million
EBITDA	\$15 million
Firm's marginal tax rate	40%

The company's EV/EBITDA multiple is *closest* to:

- A. 2.5.
- B. 3.5.
- C. 5.8.

Answer = B

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA and Stephen E. Wilcox, CFA 2013 Modular Level I, Vol. 5, Reading 51, Section 5.4

Study Session 14-51-i

Explain the use of enterprise value multiples in equity valuation and demonstrate the use of enterprise value multiples to estimate equity value.

B is correct. Enterprise value (EV) = Market capitalization + MV of debt + MV of preferred stock – Cash and short-term investments.

$$EV = 45 + 10 - 2.5 = 52.5; EV/EBITDA = 52.5/15 = 3.5$$

81. An investor gathers the following data to estimate the intrinsic value of a company's stock using the justified forward P/E approach.

Next year's earnings per share	\$3.00
Return on equity	12.5%
Dividend payout ratio	60%
Required return on shares	10%

The intrinsic value per share is *closest* to:

- A. \$36.
- B. \$48.
- C. \$72.

Answer = A

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA and Stephen E. Wilcox, CFA

2013 Modular Level I, Vol. 5, Reading 51, Sections 5.1 and 5.3

Study Session 14-51-h

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 is correct. Given that the intrinsic value:  $P_0 = P_0/E_1 \times E_1$

Justified forward P/E:  $P_0/E_1 = p/(r - g)$ ;

Where:  $p$  = payout ratio

Dividend growth rate =  $(1 - \text{Payout ratio}) \times \text{ROE} = (1 - 0.6) \times 12.5 = 5\%$ ;

Justified forward P/E:  $P_0/E_1: 0.60/(0.10 - 0.05) = 12 \times \text{Intrinsic value} = 12 \times \$3 = \$36$ .

82. A company's series B, 8% preferred stock has the following features:

- A par value of \$50 and pays quarterly dividends.
- Its current market value is \$35.
- The shares are retractable (at par) with the retraction date set for three years from today.
- Similarly rated preferred issues have an estimated nominal required rate of return of 12%.
- Analysts expect a sustainable growth rate of 4% for the company's earnings.

The intrinsic value estimate of a share of this preferred issue is *closest* to:

A. \$33.33.

B. \$45.02.

C. \$52.00.

Answer = B

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA and Stephen E. Wilcox, CFA

2013 Modular Level I, Vol. 5, Reading 51, Section 4.1, Example 5, Case 2

Study Session 14-51-d

Calculate the intrinsic value of a non-callable, non-convertible preferred stock.

B is correct. Because the current market value is well below the retraction price, retraction is likely and the preferred share will be priced on the basis of its retraction feature.

Quarterly dividend =  $(\$50 \times 0.08) \div 4 = \$1$  a share;

Quarterly required return =  $12\% \div 4 = 3\%$

$V_0 = [\$1/1.03 + 1/1.03^2 + 1/1.03^3 + \dots + 1/1.03^{11} + 1/1.03^{12} + 50/1.03^{12}] = \$45.02$

Using a financial calculator:

PMT = \$1; N = 12; FV = \$50; I = 3%; Compute PV = \$45.02

83. Which of the following inferences concerning market efficiency is *most* accurate?

- A. Exploitable over- and under-reactions often occur in efficient markets.
- B. Market pricing anomalies and behavioral biases are contrary to the existence of market efficiency.

- C. If a market is semi-strong-form efficient, neither technicians nor fundamental analysts can expect to consistently earn abnormal returns.

Answer = C

“Market Efficiency,” W. Sean Cleary, CFA, Howard J. Atkinson, CFA and Pamela Peterson Drake, CFA

2013 Modular Level I, Vol. 5, Reading 48, Sections 3.4, 4.3.4 and 4.4

Study Session 13-48-d, e, f

Contrast weak-form, semi-strong form, and strong-form market efficiency.

Explain the implications of each form of market efficiency for fundamental analysis, technical analysis and the choice between active and passive portfolio management.

Describe selected market anomalies

C is correct. If securities markets are semi-strong-form efficient, active trading to exploit price patterns or public information is not likely to generate abnormal returns. Thus, both technical and fundamental analyses become futile exercises.

84. Which of the following multiples is *most* useful when comparing companies with significant differences in capital structure?

- A. EV/EBITDA
- B. Price-to-book ratio
- C. Price-to-cash flow ratio

Answer = A

“Overview of Equity Securities,” Ryan C. Fuhrmann, CFA and Asjeet S. Lamba, CFA

2013 Modular Level I, Vol. 5, Reading 49, Section 7.1

“Equity Valuation: Concepts and Basic Tools,” John J. Nagorniak, CFA and Stephen E. Wilcox, CFA

2013 Modular Level I, Vol. 5, Reading 51, Sections 5.2 - 5.4

Study Session 14-49-g, 14-51-h, i

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.

Explain the use of enterprise value multiples in equity valuation and demonstrate the use of enterprise value multiples to estimate equity value.

A is correct. The EV/EBITDA approach is most useful when comparing companies with significant differences in capital structure. EBITDA is computed prior to payment to any of the company’s financial stakeholders and is not impacted by the amount of debt leverage.

85. An investor buys stock on margin and holds the position for exactly one year.

Shares purchased	700
Purchase price	\$22/share
Call money rate	4%

Dividend	\$0.60/share
Leverage ratio	1.6
Total return on the investment	12%

Assuming that the interest on the loan and the dividend are both paid at the end of the year, the price at which the investor sold the stock is *closest* to:

- A. \$23.05.
- B. \$23.38.
- C. \$23.98.

Answer = B

“Market Organization and Structure,” Larry Harris  
2013 Modular Level I, Vol. 5, Reading 46, Section 5.2  
Study Session 13-46-f

Calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call.

B is correct.

Total purchase value = Purchase price × Shares purchased	$\$22 \times 700$	\$15,400
Initial equity = Total purchase value ÷ Leverage ratio	$\$15,400 \div 1.6$	\$9,625
Amount borrowed = Total purchase value – Initial equity	$\$15,400 - \$9,625$	\$5,775
Margin interest paid = Call money rate × Amount borrowed	$4\% \times \$5,775$	\$231
Dividend income = Dividend per share × Shares purchased	$\$0.60 \times 700$	\$420
Total return on the initial equity	$12\% \times \$9,625$	\$1,155
Gain from price appreciation = Total return – Dividend + Margin interest	$\$1,155 - \$420 + \$231$	\$966
Price at which investor sold the stock = Gain from price appreciation per share + Purchase price	$(\$966 \div 700) + \$22$	\$23.38

86. A market index only contains the following three securities:

Security	Beginning of period price per share (\$)	Market cap (\$ in millions)
X	100	100
Y	200	150
Z	110	300

Which approach to indexing will *most likely* give Security X a weight of 18%?

- A. Price
- B. Equal
- C. Market-capitalization

Answer = C

“Security Market Indices,” Paul D. Kaplan, CFA, and Dorothy C. Kelly, CFA.

2013 Modular Level I, Vol. 5, Reading 47, Section 3.2

Study Session 13-47-d, e

Compare the different weighting methods used in index construction.

Calculate and analyze the value and return of an index on the basis of its weighting method.

C is correct. Per computations shown below, the market-capitalization index will give Security X the lowest weight in the index.

Index Weighting Method	Method of Computation	Weight of Security X in the index
Price	$100 \div (100 + 200 + 110) =$	0.244 or 24.4%
Equal	$1/3 =$	0.333 or 33.3%
Market-cap	$100 \div (100 + 150 + 300) =$	0.182 or 18.2%

87. Which of the following is *most* accurate concerning key characteristics of different types of preference shares?

A. Preference shares have characteristics of both debt and equity securities.

B. Preference shareholders rank above subordinated bondholders with respect to claims on the company's net assets upon liquidation.

C. The price of convertible preference shares tends to be more volatile than their underlying common shares because they do not allow investors to share in profits of the company.

Answer = A

“Overview of Equity Securities,” Ryan C. Fuhrmann, CFA, and Asjeet S. Lamba, CFA

2013 Modular Level I, Vol. 5, Reading 49, Section 3.2

Study Session 14-49-a, b, e

Describe characteristics of types of equity securities.

Describe differences in voting rights and other ownership characteristics among different equity classes.

Compare the risk and return characteristics of types of equity securities.

A is correct. Preference shares have characteristics of both debt securities and common shares.

Similar to interest payments on debt securities, the dividends on preference shares are fixed but not contractual obligations. Similar to common shares, preference shares can be perpetual and can pay dividends indefinitely.

88. An equity portfolio manager is evaluating her sector allocation strategy for the upcoming year. She expects global economic slowdown for the next two years. Further, she believes that companies will be facing diminishing growth rates with respect to revenues and profits. Owing to these beliefs, the portfolio manager will *most likely*:

A. overweight materials.

B. overweight consumer staples.

C. underweight telecommunications.



Answer = B

“Introduction to Industry and Company Analysis” Patrick W. Dorsey, CFA, Anthony M. Fiore, CFA, and Ian Rossa O’Reilly, CFA

2013 Modular Level I, Vol. 5, Reading 50, Section 3.2

Study Session 14-50-c

Explain the factors that affect the sensitivity of a company to the business cycle and the uses and limitations of industry and company descriptors such as “growth,” “defensive,” and “cyclical”.

B is correct. Non-cyclical companies produce goods or services for which demand remains relatively stable throughout the business cycle. The consumer staples sector exhibits relatively less economic sensitivity and thus tends to be over-weighted during economic slowdowns and when revenues and profits are expected to be under pressure.

89. A company has issued non-callable, non-convertible preferred stock with the following features:

- Par value per share \$10
- Annual dividend per share \$2
- Maturity 15 years

If an investor’s required rate of return is 8% and the current market price per share of the preferred stock is \$25, the *most likely* conclusion is that the preferred stock is:

- A. overvalued by \$4.73.
- B. fairly valued at \$25.00.
- C. undervalued by \$15.00.

Answer = A

“Equity Valuation: Concepts and Basic Tools” John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA  
2013 Modular Level I, Vol. 5, Reading 51, Section 4.1

Study Session 14-51- a, d

Evaluate whether a security, given its current market price and a value estimate, is overvalued, fairly valued, or undervalued by the market.

Calculate the intrinsic value of a non-callable, non-convertible preferred stock.

A is correct. Using a financial calculator:  $FV = \$10$ ;  $n = 15$ ;  $PMT = 2$ ;  $r = 8\%$ ; Compute  $PV = \$20.27$   
The preferred stock is overvalued by \$4.73 (Market price of \$25 – Estimated value of \$20.27).

90. Which of the following statements is *least* accurate? A firm’s free-cash-flow-to-equity (FCFE):

- A. is a measure of the firm’s dividend-paying capacity.
- B. increases with an increase in the firm’s net borrowing.
- C. is significantly affected by the amount of dividends paid by the firm.

Answer = C

“Equity Valuation: Concepts and Basic Tools,” John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA

2013 Modular Level I, Vol. 5, Reading 51, Section 4

Study Session 14-51-c

Explain the rationale for using present-value of cash flow models to value equity and describe the dividend discount and free-cash-flow-to-equity models.

C is correct. Dividends, a discretionary cash flow from financing activities, have no bearing on a firm’s free-cash-flow-to-equity—as can be seen from the formula furnished below:

$FCFE = CFO - FCInv + \text{Net borrowing}$ .

### Questions 91 through 96 relate to Derivative Investments

91. Which of the following statements *best* describes an advantage of a forward contract over a futures contract? A forward contract:

- A. is essentially free of default risk.
- B. can easily be offset prior to expiration.
- C. allows parties to enter into a customized transaction.

Answer = C

“Derivative Markets and Instruments,” Don M. Chance, CFA

2013 Modular Level I, Vol. 6, Reading 60, Section 2.1

Study Session 17-60-c

Define forward contracts, futures contracts, options (calls and puts), and swaps and compare their basic characteristics.

C is correct. Unlike futures contracts, which have standardized features, forward contracts can be customized to suit the needs of the parties involved.

92. A forward rate agreement (FRA) that expires in 180 days and is based on 90-day LIBOR is quoted at 2.2%. At expiration of the FRA, 90-day LIBOR is 2.8%. For a notional principal of USD1,000,000, the payoff of this FRA is *closest* to:

- A. USD1,469.31.
- B. USD1,489.57.
- C. USD1,500.00.

Answer = B

“Forward Markets and Contracts,” Don M. Chance, CFA

2013 Modular Level I, Vol.6, Reading 61, Section 3.2.2

Study Session 17-61-g

Calculate and interpret the payoff of a FRA and explain each of the component terms of the payoff formula.

B is correct.  $1,000,000 \times (0.028 - 0.022) \times (1/4) / (1 + (0.028/4)) = 1,489.57$ .

93. Consider a U.S. Treasury bond futures contract where the hypothetical deliverable bond has a coupon of 3.0%. At expiration of the futures contract, the short chooses to deliver a bond with a coupon of 3.8%. The conversion factor of this bond is *most likely*:

- A. equal to 1.
- B. less than 1.
- C. greater than 1.

Answer = C

“Futures Markets and Contracts,” Don M. Chance, CFA

2013 Modular Level I, Vol. 6, Reading 62, Section 6.2

Study Session 17-62-f

Describe the characteristics of the following types of futures contracts: Treasury bill, Eurodollar, Treasury bond, stock index, and currency.

C is correct. If the short delivers a bond with a coupon greater than the coupon of the hypothetical deliverable bond, the conversion factor is greater than 1.

94. An investor purchases a put option on AAA shares that has a strike price of €50 and expires in three months. One month later, AAA shares are trading at €54. At that time, the put *most likely* has:

- A. positive intrinsic value but no time value.
- B. positive time value but no intrinsic value.
- C. positive time value and positive intrinsic value.

Answer = B

“Option Markets and Contracts,” Don M. Chance, CFA

2013 Modular Level I, Vol. 6, Reading 63, Section 5.1

Study Session 17-63-i

Define intrinsic value and time value and define their relationship.

B is correct. The put option has no intrinsic value because the share price is above the strike price. Because the option has a remaining life of two months, it has positive time value.

95. The tenor of a swap is *best* described as the:

- A. size of the contract.
- B. original time to maturity.
- C. net amount owed by one party to the other.

Answer = B

“Swap Markets and Contracts,” Don M. Chance, CFA  
 2013 Modular Level I, Vol. 6, Reading 64, Section 1.1  
 Study Session 17-64-a

Describe the characteristics of swap contracts and explain how swaps are terminated.

B is correct. The original time to maturity is referred to as the tenor of the swap.

96. An investor purchases 100 shares of common stock at €50 each and simultaneously sells call options on 100 shares of the stock with a strike price of €55 at a premium of €1 per option. At the expiration date of the options, the share price is €58. The investor's profit is *closest* to:

- A. €400.
- B. €600.
- C. €900.

Answer = B

“Risk Management Applications of Option Strategies,” Don M. Chance, CFA  
 2013 Modular Level I, Vol. 6, Reading 65, Section 1.2.1  
 Study Session 17-65-b

Determine the value at expiration, profit, maximum profit, maximum loss, breakeven underlying price at expiration, and payoff graph of a covered call strategy and a protective put strategy, and explain the risk management applications of each strategy.

B is correct. Because  $S_T > X$ , the investor collects the premium plus the difference between strike price and purchase price.  $(X - S_0 + c_0)$ , in this case  $100 \times (\text{€}55 - \text{€}50 + \text{€}1) = \text{€}600$ .

### Questions 97 through 108 relate to Fixed Income Investments

97. An investor purchases the bonds of JLD Corp., which pay an annual coupon of 10% and mature in 10 years, at an annual yield to maturity of 12%. The bonds will *most likely* be selling at:

- A. par.
- B. a discount.
- C. a premium.

Answer = B

“Risks Associated with Investing in Bonds,” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Section 2.1

Study Session 15-53-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).

B is correct because the coupon rate on the bonds is lower than the yield to maturity, implying that the bonds should be selling at a price lower than their par value—that is, at a discount.

98. A portfolio manager holds the following three bonds, which are option free and have the indicated durations.

Bond	Par value owned	Market value owned	Duration
A	\$8,000,000	\$12,000,000	3.0
B	\$8,000,000	\$6,000,000	7.0
C	\$4,000,000	\$6,000,000	6.0

The portfolio's duration is *closest* to:

- A. 4.75.
- B. 5.20.
- C. 5.33.

Answer = A

"Introduction to the Measurement of Interest Rate Risk," Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Section 4.8

Study Session 16-58-g

Calculate the duration of a portfolio, given the duration of the bonds comprising the portfolio, and explain the limitations of portfolio duration.

A is correct because the portfolio's duration is a weighted average of the durations of the individual holdings, computed as:

$$(12/24) \times (3.0) + (6/24) \times (7.0) + (6/24) \times (6.0) = 4.75.$$

99. For a collateralized mortgage obligation (CMO), the first tranche of bonds *most likely* has the:

- A. highest level of prepayment risk and interest rate risk.
- B. lowest level of prepayment risk and highest level of interest rate risk.
- C. highest level of prepayment risk and lowest level of interest rate risk.

Answer = C

"Overview of Bond Sectors and Instruments," Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 54, Section 4.2.3

Study Session 15-54-f

Explain the motivation for creating a collateralized mortgage obligation.

C is correct. The first tranche of bonds in a CMO receives all monthly principal first until it is paid off; thus, it has the shortest duration of all remaining tranches and, therefore, the lowest interest rate risk. The first tranche also absorbs all prepayments and, therefore, has the highest prepayment risk compared with the remaining tranches.

100. A bond with a par value of \$100 matures in 10 years with a coupon of 4.5%, paid semiannually; is priced to yield 5.83%; and has a modified duration of 7.81. If the yield of the bond declines by 0.25%, the approximate percentage price change for the bond is *closest* to:

- A. 0.98%.
- B. 1.95%.
- C. 3.91%.

Answer = B

“Introduction to the Measurement of Interest Rate Risk,” Frank J. Fabozzi, CFA  
2013 Modular Level I, Vol. 5, Reading 58, Section 4.2

Study Session 16-58-e

Calculate the approximate percentage price change for a bond, given the bond’s effective duration and a specified change in yield.

B is correct. Approximate percentage price change =  $-(7.81 \times (-0.0025)) = 0.01953$  or 1.95%.

101. When are credit spreads *most likely* to narrow? During:

- A. economic expansions.
- B. economic contractions.
- C. a period of flight to quality.

Answer = A

“Understanding Yield Spreads,” Frank J. Fabozzi, CFA  
2013 Modular Level I, Vol. 5, Reading 55, Section 4.3

Study Session 15-55-f

Describe credit spreads and relationships between credit spreads and economic conditions.

A is correct. Credit spreads narrow during economic expansions and widen during economic contractions. During an economic expansion, corporate revenues and cash flows rise, making it easier for corporations to service their debt, and investors purchase corporates instead of Treasuries, thus causing spreads to narrow.

102. If the yield to maturity on an annual-pay bond is 7.75%, the bond-equivalent yield is *closest* to:

- A. 7.61%.
- B. 7.90%.
- C. 8.05%.

Answer = A

“Yield Measures, Spot Rates, and Forward Rates,” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 57, Section 3.2.4

Study Session 16-57-d

Calculate and interpret the bond equivalent yield of an annual-pay bond and the annual-pay yield of a semiannual-pay bond.

A is correct. The bond-equivalent yield =  $2 \times [1.0775^{0.5} - 1] = 0.07605$  or 7.61%.

103. The duration and convexity of an option-free bond priced at \$90.25 are 10.34 and 75.80, respectively. If yields increase by 200 basis points, the percentage change of the price is *closest* to:

- A. -23.71%.
- B. -20.68%.
- C. -17.65%.

Answer = C

“Introduction to the Measurement of Interest Rate Risk” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 58, Sections 4.2 and 5.1

Study Session 16-58-h

Describe the convexity measure of a bond and estimate a bond’s percentage price change, given the bond’s duration and convexity and a specified change in interest rates.

C is correct; the percentage change in price is calculated as follows: Duration effect:  $-10.34 * (+0.02) = -20.68\%$  and convexity effect:  $75.80 * (0.02)^2 = 3.03\%$ . Total percentage change is the sum of duration effect and convexity effect:  $-20.68\% + 3.03\% = -17.65\%$ .

104. Which of the following is *most likely* a limitation of the yield-to-maturity measure?

- A. It does not reflect the timing of the cash flows.
- B. It assumes coupon payments can be invested at the yield to maturity.
- C. It does not consider the capital gain or loss the investor will realize by holding the bond to maturity.

Answer = B

“Yield Measures, Spot Rates, and Forward Rates” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 57, Section 3.2.2

Study Session 16-57-b

Calculate and interpret traditional yield measures for fixed-rate bonds and explain their limitations and assumptions.

B is correct because yield to maturity does consider reinvestment income; however, it assumes that the coupon payments can be reinvested at an interest rate equal to the yield to maturity. This is one of the limitations for the yield-to-maturity measure because the investor is facing re-investment risk (future interest rates will be less than the yield to maturity at the time the bond is purchased).

105. Which of the following *most likely* exhibits negative convexity?

- A. A puttable bond
- B. A callable bond
- C. An option-free bond

Answer = B

“Introduction to the Measurement of Interest Rate Risk” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 58, Section 3.2

Study Session 16-58-b, c

Describe the price volatility characteristics for option-free, callable, prepayable, and puttable bonds when interest rates change.

Describe positive convexity and negative convexity, and their relation to bond price and yield.

B is correct because a callable bond exhibits negative convexity at low yield levels and positive convexity at high yield levels.

106. An investor is *least likely* exposed to reinvestment risk from owning a(n):

- A. callable bond.
- B. zero-coupon bond.
- C. amortizing security.

Answer = B

“Risks Associated with Investing in Bonds” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 53, Section 4, 5

Study Session 15-53-i

Identify the factors that affect the reinvestment risk of a security and explain why prepayable amortizing securities expose investors to greater reinvestment risk than nonamortizing securities.

B is correct because there are no interim cash flows for a zero-coupon bond until the maturity.



107. All other things being equal, a decrease in expected yield volatility *most likely* increases the price of:

- A. a puttable bond.
- B. a callable bond.
- C. an option-free bond.

Answer = B

“Risks Associated with Investing in Bonds” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 53, Section 10

Study Session 15-53-n

Explain how yield volatility affects the price of a bond with an embedded option and how changes in volatility affect the value of a callable bond and a puttable bond.

B is correct because the price of a callable bond is equal to the value of an option-free bond minus the value of the embedded call option. A decrease in yield volatility will decrease the value of the call option and, therefore, increase the value of the callable bond.

108. Which of the following is *least likely* an interest rate policy tool available to the U.S. Federal Reserve?

- A. A change in capital gains tax rates
- B. Conducting open market operations
- C. A change in bank reserve requirements

Answer = A

“Understanding Yield Spreads” Frank J. Fabozzi, CFA

2013 Modular Level I, Vol. 5, Reading 55, Section 2

Study Session 15-55-a

Identify the interest rate policy tools available to a central bank (e.g., the U.S. Federal Reserve).

A is correct because the capital gain tax is not one of the Federal Reserve’s interest rate policy tools.

#### Questions 109 through 114 relate to Alternative Investments

109. U.S. farmers have become concerned that the future supply of wheat production will exceed demand. Any hedging activity to sell forward would *most likely* protect against which market condition?

- A. Contango
- B. Full carry
- C. Backwardation

Answer = C

“Investing in Commodities”, Ronald G. Layard-Liesching  
2013 Modular Level I, Vol. 6, Reading 67, Section 1  
Study Session 18-67-a

Explain the relationship between spot prices and expected future prices in terms of contango and backwardation.

C is correct because when a commodity market is in backwardation, the futures price is below the spot price because market participants believe the spot price will be lower in the future. When futures prices are above spot prices, the market is said to be in contango.

110. Relative to traditional investments, alternative investments are *best* characterized as having:

- A. greater liquidity.
- B. higher correlations.
- C. more unique legal and tax considerations.

Answer = C

“Introduction to Alternative Investments”, Terri Duhon, George Spentzos, CFA, and Scott D. Stewart, CFA  
2013 Modular Level I, Vol. 6, Reading 66, Section 2  
Study Session 18-66-a  
Compare alternative investments with traditional investments.

C is correct because alternative investments are more likely characterized as having unique legal and tax considerations because of the broad range and complexity of the investments.

111. Adding alternative investments to a portfolio of traditional investments will *most likely* result in a new combined portfolio with returns and standard deviation that are, respectively:

	<u>Returns</u>	<u>Standard Deviation</u>
A.	lower	lower
B.	higher	lower
C.	higher	higher

Answer = B

“Introduction to Alternative Investments”, Terri Duhon, George Spentzos, CFA, and Scott D. Stewart, CFA

2013 Modular Level I, Vol. 6, Reading 66, Section 2.3

Study Session 18-66-c

Describe potential benefits of alternative investments in the context of portfolio management.

B is correct because the risk/return profile of the overall portfolio will potentially improve. The overall risk will most likely drop, and the overall return will most likely rise.

112. For a hedge fund investor, a benefit of investing in a fund of funds is *least likely* the:

- A. multilayered fee structure.
- B. higher level of due diligence expertise.
- C. ability to negotiate better redemption terms.

Answer = A

“Introduction to Alternative Investments”, Terri Duhon, George Spentzos, CFA, and Scott D. Stewart, CFA

2013 Modular Level I, Vol. 6, Reading 66, Section 3

Study Session 18-66-d

Describe hedge funds, private equity, real estate, commodities, and other alternative investments, including, as applicable, strategies, sub-strategies, potential benefits and risks, fee structures, and due diligence.

A is correct because funds of funds typically have a multilayered fee structure that may dilute the returns to the investor.

113. Which attributes would a private equity firm *most likely* consider when deciding if a company is particularly attractive as a leveraged buyout target?

- A. Sustainable cash flow
- B. Efficiently managed companies
- C. Market value exceeds intrinsic value

Answer = A

“Introduction to Alternative Investments”, Terri Duhon, George Spentzos, CFA, and Scott D. Stewart, CFA

2013 Modular Level I, Vol. 6, Reading 66, Section 4.2.1.2

Study Session 18-66-d

Describe hedge funds, private equity, real estate, commodities, and other alternative investments, including, as applicable, strategies, sub-strategies, potential benefits and risks, fee structures, and due diligence.

A is correct because private equity firms look for companies with strong cash flow and that have a significant amount of physical assets. These physical assets can be used as security and borrowed against.

114. High-water marks are typically used when calculating the incentive fee on hedge funds. They are *most likely* used by clients to:
- A. avoid prime brokerage fees.
  - B. claw back the management fees.
  - C. prevent paying twice for the same performance.

Answer = C

“Introduction to Alternative Investments”, Terri Duhon, George Spentzos, CFA, and Scott D. Stewart, CFA

2013 Modular Level I, Vol. 6, Reading 66, Section 3.3.1

Study Session 18-66-f

Describe, calculate, and interpret management and incentive fees and net-of-fees returns for hedge funds.

C is correct because high-water marks prevent clients from paying twice for the same performance. When a hedge fund’s value drops, the manager will not receive an incentive fee until the value of the fund returns back to its previous level.

#### Questions 115 through 120 relate to Portfolio Management

115. Which of the following is *least likely* a part of the execution step of the portfolio management process?
- A. Security analysis
  - B. Portfolio construction
  - C. Performance measurement

Answer = C

“Portfolio Management: An Overview”, Robert M. Conroy, CFA and Alistair Byrne, CFA

2013 Modular Level I, Vol. 4, Reading 42, Section 4

Study Session 12-42-c

Describe the steps in the portfolio management process.

C is correct. Performance measurement is a part of the feedback step of the portfolio management process. The execution step includes asset allocation, security analysis, and portfolio construction.

116. The correlation between the historical returns of Stock A and Stock B is 0.75. If the variance of Stock A is 0.16 and the variance of Stock B is 0.09, the covariance of returns of Stock A and Stock B is *closest* to:

- A. 0.01.
- B. 0.09.
- C. 0.16.

Answer = B

“Portfolio Risk and Return: Part I”, Vijay Singal, CFA  
2013 Modular Level I, Vol. 4, Reading 43, Section 2.3.3  
Study Session 12-43-b

Calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data.

B is correct.  $\text{Cov}(A,B) = \rho_{AB}\sigma_A\sigma_B = 0.75 \times 0.4 \times 0.3 = 0.09$ .

117. The point of tangency between the capital allocation line (CAL) and the efficient frontier of risky assets *most likely* identifies the:

- A. optimal risky portfolio.
- B. optimal investor portfolio.
- C. global minimum-variance portfolio.

Answer = A

“Portfolio Risk and Return Part I”, Vijay Singal, CFA  
2013 Modular Level I, Vol. 4, Reading 43, Section 5.4  
Study Session 12-43-h

Discuss the selection of an optimal portfolio, given an investor’s utility (or risk aversion) and the capital allocation line.

A is correct. The optimal risky portfolio lies at the point of tangency between the capital allocation line and the efficient frontier of risk assets.

118. The stock of GBK Corporation has a beta of 0.65. If the risk-free rate of return is 3% and the expected market return is 9%, the expected return for GBK is *closest* to:

- A. 3.9%.
- B. 6.9%.
- C. 10.8%.

Answer = B

“Portfolio Risk and Return: Part II”, Vijay Singal, CFA  
2013 Modular Level I, Vol. 4, Reading 44, Section 3.2.6  
Study Session 12-44-g

Calculate and interpret the expected return of an asset using the CAPM.

B is correct.  $E(R_{GBK}) = R_f + \beta_{GBK} \times [E(R_{Mkt}) - R_f] = 0.03 + 0.65 \times (0.09 - 0.03) = 0.069$ .

119. A return-generating model that provides an estimate of the expected return of a security based on factors such as earnings growth and cash flow generation is *best* described as a:

- A. market factor model.
- B. fundamental factor model.
- C. macroeconomic factor model.

Answer = B

“Portfolio Risk and Return Part II”, Vijay Singal, CFA  
2013 Modular Level I, Vol. 4, Reading 44, Section 3.2.1  
Study Session 12-44-d

Explain return generating models (including the market model) and their uses.

B is correct. A return-generating model based on such factors as earnings growth and cash flow generation is a fundamental factor model.

120. A portfolio manager generated a rate of return of 15.5% on a portfolio with beta of 1.2. If the risk-free rate of return is 2.5% and the market return is 11.8%, Jensen’s alpha for the portfolio is *closest* to:

- A. 1.84%.
- B. 3.70%.
- C. 4.34%.

Answer = A

“Portfolio Risk and Return Part II”, Vijay Singal, CFA  
2013 Modular Level I, Vol. 4, Reading 44, Section 4.3.2  
Study Session 12-44-h

Describe and demonstrate applications of the CAPM and the SML.

A is correct. Jensen’s alpha =  $R_p - [R_f + \beta_p(R_m - R_f)] = 0.155 - [0.025 + 1.2 \times (0.118 - 0.025)] = 0.0184$ .

