

Question block created by wizard

You have 180 minutes to complete this session.

1. Hui Chen, CFA, develops marketing materials for an investment fund he founded three years ago. The materials show the three-year, two-year and one-year returns for the fund. He includes a footnote that states in small print "Past performance does not guarantee future returns." He does not claim compliance with the GIPS standards in the disclosures or footnotes. He also includes a separate sheet showing the fund's most recent semiannual and quarterly returns, which notes that those returns have been neither audited nor verified. Has Chen *most likely* violated any Codes and Standards?
- A. Yes, because he did not adhere to the Global Investment Performance Standards
 - B. No
 - C. Yes, because he included unaudited and unverified results

Answer = B

The Standards require members to make reasonable efforts to make sure performance information is fair, accurate, and complete. The Standards do not require compliance with the (GIPS) standards, auditing, or verification requirements. See Standard III(D).

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute

2. Umi Grabbo, CFA, is a highly regarded portfolio manager for Atlantic Advisors, a mid-sized mutual fund firm investing in domestic securities. She has watched the hedge fund boom and on numerous occasions suggested her firm creates such a fund. Senior management has refused to commit resources to hedge funds. Attracted by potential higher fees associated with hedge funds, Grabbo and several other employees begin development of their own hedge fund to invest in international securities. Grabbo and her colleagues are careful to work on the fund development only on their own time. Because Atlantic management thinks hedge funds are a fad, she does not inform her supervisor about the hedge fund creation. According to the *Standards of Practice Handbook*, Grabbo should *most likely* address which one of the Codes and Standards immediately?
- A. Priority of Transactions
 - B. Disclosure of Conflicts
 - C. Additional Compensation Arrangements

Answer = B

According to Standard VI(A) Disclosure of Conflicts, Grabbo should disclose to her employer her hedge fund development because this activity could possibly interfere with her responsibilities at Atlantic. In setting up a hedge fund, Grabbo was not acting for the benefit of her employer. She should have informed Atlantic she wanted to organize the hedge fund and come to some mutual agreement on how this process would occur.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute

Standard IV(B), Standard VI(A), Standard VI(B)

3. Jiro Sato, CFA, deputy treasurer for May College, manages the Student Scholarship Trust. Sato issued a request for proposal (RFP) for domestic equity managers. Pamela Peters, CFA, a good friend of Sato, introduces him to representatives from Capital Investments, which submitted a proposal. Sato selected Capital as a manager based on the firm's excellent performance record. Shortly after the selection, Peters, who had outstanding performance as an equity manager with another firm, accepted a lucrative job with Capital. Which of the CFA charterholders violated the CFA Institute Standards of Professional Conduct?
- A. Neither
 - B. Peters
 - C. Both

Answer = A

Members should use reasonable care and judgment to maintain independence and objectivity, as stated in Standard I (B). There is no indication of inappropriate behavior in the selection of the equity manager or in the acceptance of employment with that manager; both decisions were based on the excellent performance records of the manager and the member, respectively.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard I(B)

4. Francesca Ndenda, CFA, and Grace Rutabingwa work in the same department for New Age Managers, with Rutabingwa reporting to Ndenda. Ndenda learns that Rutabingwa received a Notice of Enquiry from the Professional Conduct Program at CFA Institute regarding a potential cheating violation when she sat for the CFA exam in June. As Rutabingwa's supervisor, Ndenda is afraid that Rutabingwa's behavior will be seen as a violation of the Code and Standards. Does Ndenda *most likely* have cause for concern?
- A. No, not until Rutabingwa is found guilty of cheating
 - B. No, because her responsibilities do not apply
 - C. Yes

Answer = B

A supervisor's responsibilities relate to detecting and preventing violations by anyone subject to their supervision or authority regarding activities they supervise. Ndenda had no way of detecting and/or preventing Rutabingwa from cheating during the CFA exam, if in fact that is what she did, because it was an event she did not attend.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard IV(C)

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5. Ross Nelson, CFA, manages accounts for high-net-worth clients, including his own family's account. He has no beneficial ownership in his family's account. Because Nelson is concerned about the appearance of improper behavior in managing his family's account, when his firm purchases a block of securities, Nelson allocates to his family's account only those shares that remain after his other client accounts have their orders filled. The fee for managing his family's account is based on his firm's normal fee structure. According to the *Standards of Practice Handbook*, Nelson's best course of action with regard to management of his family's account would be to:
- A. remove himself from any direct involvement by transferring responsibility for this account to another investment professional in the firm.
 - B. treat the account like other employee accounts of the firm.
 - C. treat the account like other client accounts.

Answer = C

Nelson has breached his duty to his family by treating them differently from other clients. They are entitled to the same treatment as any other client of the firm. Nelson should treat his family's account like any other client account as stated in Standard III (B) related to Fair Dealing and Standard VI (B) related to Priority of Transactions.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard III(B), Standard VI(B)

6. Norman Bosno, CFA, acts as an outside portfolio manager to a sovereign wealth fund. Raphael Palmeti, a fund official, approaches Bosno to interest him in investing in Starlite Construction Company. He tells Bosno that if he approves a \$2 million investment in Starlite by the fund, Bosno will receive a "bonus" that will make him wealthy. Palmeti also adds that if Bosno decides not to invest, he will lose the fund account. After doing a quick and simple analysis, Bosno determines the investment is too risky for the fund. If Bosno agrees to make the investment, which of the Standards of Professional Conduct is *least likely* to be violated?
- A. Additional Compensation Arrangements
 - B. Diligence and Reasonable Basis
 - C. Loyalty, Prudence, and Care

Answer = B

Despite Bosno undertaking a quick and simple analysis to determine that the investment would be too risky for the sovereign wealth fund, that analysis does not necessarily mean he was not diligent and did not have a reasonable basis for making that determination.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard III(A), Standard IV(B), Standard V(A)

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7. What is the theory that *best* describes the process by which financial analysts combine material public information and nonmaterial nonpublic information as a basis for investment recommendations, even if those conclusions would have been material inside information had they been communicated directly to the analyst by the company?
- A. Mosaic theory
 - B. Economic theory
 - C. Probability theory

Answer = A

The process by which financial analysts combine material public information and nonmaterial nonpublic information as a basis for investment recommendations, even if those conclusions would have been material inside information had the company communicated them directly to the analyst, is known as mosaic theory.

2014 CFA Level I
"Guidance for Standards I-VII," CFA Institute
Standard II(A)

8. A central bank fines a commercial bank it supervises for not following statutory regulations regarding nonperforming loan provisions on three large loans as a result of the bank's loan provisioning policy. Louis Marie Buffet, CFA, sits on the board of directors of the commercial bank as a non-executive director, representing minority shareholders. He also chairs the bank's internal audit committee that determines the loan provisioning policy of the bank. Mercy Gatabaki, CFA, is the bank's external auditor and follows international auditing standards whereby she tests the loan portfolio by randomly selecting loans to check for compliance in all aspects of central bank regulations. Which charterholder is *most likely* in violation of the Code and Standards?
- A. Gatabaki
 - B. Buffet
 - C. Both

Answer = B

Buffet sat on the audit committee that determined the bank's provisioning policies that were contrary to the statutory regulations of the central bank. As a result, he most likely violated Standard I—Professionalism by not abiding by regulations of a regulatory body. Gatabaki did not violate Standard I - Professionalism because it is not apparent she knowingly facilitated the incorrect provisioning policy.

2014 CFA Level I
"Guidance for Standards I-VII," CFA Institute
Standard I(A)

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9. Atlantic Capital Management has access to a limited number of shares in a popular new issue expected to be oversubscribed. Atlantic's portfolio managers have determined the issue to be a prudent addition to Atlantic's developing growth equity strategy. A number of the firm's investment professionals have family-member accounts that are managed to the developing growth strategy. Which of the following allocation options *most likely* adheres to the Code and Standards? Atlantic should allocate the shares:
- A. on a prorated basis across all developing growth accounts, including the family-member accounts.
 - B. on a prorated basis across all developing growth accounts, excluding the family-member accounts.
 - C. to family-member accounts only after non-family accounts have been allocated their shares.

Answer = A

Under Standard III (B), if an investment professional's family- member accounts are being managed similarly to those of other clients of the firm, family members should not be excluded from buying such shares because they are considered clients despite their familial relationships.

2014 CFA Level I
"Guidance for Standards I-VII," CFA Institute
Standard III(B)

10. Jean-Luc Schlumberger, CFA, is an independent research analyst providing equity research on companies listed on exchanges in emerging markets. He often incorporates statistical data he obtains from the web sites of the World Bank and the central banks of various countries into the body of his research reports. Although not indicated within the reports, whenever his clients ask where he gets his information, he informs them that the information is in the public domain but he does not keep his own records. When the clients ask for the specific web site addresses, he provides the information. Which Standard has Schlumberger *least likely* violated?
- A. Performance Presentation
 - B. Record Retention
 - C. Misrepresentation

Answer = A

Standard III (D)-Performance Presentation pertains to investment performance information and there is no indication any violation has occurred.

2014 CFA Level I
"Guidance for Standards I-VII," CFA Institute
Standard I(C)

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- 11.** Madeline Smith, CFA, was recently promoted to senior portfolio manager. In her new position, Smith is required to supervise three portfolio managers. Smith asks for a copy of her firm's written supervisory policies and procedures but is advised that no such policies are required by regulatory standards in the country where Smith works. According to the *Standards of Practice Handbook*, Smith's *most* appropriate course of action would be to:
- A. decline to accept supervisory responsibility until her firm adopts procedures to allow her to adequately exercise such responsibility.
 - B. require her firm to adopt the CFA Institute Code of Ethics and Standards of Professional Conduct.
 - C. require the employees she supervises to adopt the CFA Institute Code of Ethics and Standards of Professional Conduct.

Answer = A

According to guidance for Standard (IV)(C), if a member cannot fulfill supervisory responsibilities because of the absence of a compliance system or because of an inadequate compliance system, the member should decline in writing to accept supervisory responsibility until the firm adopts reasonable procedures to allow the member to adequately exercise such responsibility.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard IV(C)

- 12.** Lee Chu, a CFA candidate, develops a new quantitative security selection model exclusively through back-testing on the Chinese equity market. Chu is asked to review marketing materials that include an overview of the conceptual framework for his model, provide back-tested performance results, and list the top holdings. Chu directs the marketing group to remove the description of his model because of concerns that competitors may attempt to replicate his investment philosophy. He also instructs the marketing group to remove the list of the top holdings because it shows that the top holding represents 30% of the back-tested model. Which of the following actions is *least likely* to result in a violation of the Code and Standards? Chu's:
- A. failure to disclose that the top holding represents such a large allocation in the model
 - B. failure to adequately describe the investment process to prospective clients
 - C. use of back-tested results in communication with prospective clients

Answer = C

The use of back-tested results is not prohibited, provided it is appropriately disclosed.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard V(B)

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- 13.** Amanda Covington, CFA, works for McJan Investment Management. McJan employees must receive prior clearance of their personal investments in accordance with McJan's compliance procedures. To obtain prior clearance, McJan employees must provide a written request identifying the security, the quantity of the security to be purchased, and the name of the broker through which the transaction will be made. Precleared transactions are approved only for that trading day. As indicated below, Covington received prior clearance.

Security	Quantity	Broker	Prior Clearance
A	100	Easy Trade	Yes
B	150	Easy Trade	Yes

Two days after she received prior clearance, the price of Stock B decreased, so Covington decided to purchase 250 shares of Stock B only. In her decision to purchase 250 shares of Stock B only, did Covington violate any CFA Institute Standards of Professional Conduct?

- A. No
- B. Yes, relating to diligence and reasonable basis
- C. Yes, relating to her employer's compliance procedures

Answer = C

Prior-clearance processes guard against potential and actual conflicts of interest; members are required to abide by their employer's compliance procedures (Standard VI (B)).

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard V(A), Standard VI(B)

- 14.** Heidi Katz is a CFA candidate and an analyst at a pension consulting firm. Her father is a major shareholder and managing director at Saturn Partners, a large hedge fund. When assisting in an alternative manager search for a pension client, Katz plans to recommend Saturn's market-neutral strategy because she believes it meets all of the pension plan's criteria. Given this situation, the best course of action for Katz is to:

- A. not present this strategy to the client and recommend another strategy.
- B. disclose the potential conflict to her employer and follow their guidance regarding disclosure of her relationship to the client.
- C. disclose the potential conflict to the pension client when discussing this recommendation.

Answer = C

Standard VI (A) requires disclosure of conflicts but does not prohibit members from making recommendations as long as the potential conflicts are appropriately disclosed.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard IV(A)

- 15.** While waiting in the business class lounge before boarding an airplane, Becca Msafari, CFA, an equity analyst, overhears a conversation by a group of senior managers, including members of the board, from a large publicly listed bank. The managers discuss staff changes necessary to accommodate their regional expansion plans. Msafari hears several staff names mentioned. Under what circumstances could Msafari *most likely* use this information when making an investment recommendation to her clients? She can use the information:
- A. if she does not breach the confidentiality of the names of the staff.
 - B. if the discussed changes are unlikely to affect investor perception of the bank.
 - C. under no circumstances.

Answer = B

To comply with the Code and Standards, a member or candidate cannot use material nonpublic information when making investment recommendations. The information overheard would not be considered material only if any public announcement of the staff removal would be unlikely to move the share price of the bank, nor would the regional expansion substantially impact the value of the bank.

2014 CFA Level I
"Guidance for Standards I-VII," CFA Institute
Standard II(A)

- 16.** Rebecca Wong is enrolled to take the Level I CFA exam. Her friend William Leung purchased Level I study materials from a well-known CFA review program the previous year. Leung made a photocopy of the previous year's copyrighted materials and sold it to Wong to help her study. Who *most likely* violated the CFA Institute Code of Ethics or any Standards of Professional Conduct?
- A. Neither violated.
 - B. Only Leung violated.
 - C. Both violated.

Answer = C

Photocopying copyrighted material, regardless of the year of publication, is a violation of Standard I(A) because copyrighted materials are protected by law. Candidates and members must comply with all applicable laws, rules, and regulations and must not knowingly participate or assist in a violation of laws.

2014 CFA Level I
"Guidance for Standards I-VII," CFA Institute
Standard I(A)

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- 17.** Claire Jones, CFA, is an analyst following natural gas companies in the United States. At an industry energy conference, the chief financial officer of Alpine Energy states that the company is interested in making strategic acquisitions. At a separate event, Alpine's head of exploration commented that he is bullish on natural gas production prospects within northeastern Pennsylvania. Jones is aware that Alpine currently has very little exposure to this region. She also knows another company in her universe, Pure Energy, Inc. is based in northeastern Pennsylvania and controls significant assets in the area. Pure Energy is highly leveraged, and Jones believes it will need to raise additional capital or partner with another firm to move to the production phase with their assets. Jones attempts to contact Alpine's chief executive officer with an unrelated question and is told he is unavailable because he is on a business trip to northeastern Pennsylvania. Jones updates her research on Pure Energy and then recommends the stock to Lisa Wong, CFA, a portfolio manager, who purchases significant positions in client accounts. The following week, Pure Energy announces it has entered into an agreement to be purchased by Alpine for a significant premium. Has either Jones or Wong *most likely* violated standards with regard to the integrity of capital markets?
- A. No
 - B. Yes, both Jones and Wong have acted on insider information
 - C. Yes, Jones' recommendation is based on insider information

Answer = A

Jones has used the mosaic theory to combine nonmaterial, nonpublic information with material public information.

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard II(A) Material Nonpublic Information

- 18.** According to the CFA Institute Code of Ethics and Standards of Professional Conduct, trading on material nonpublic information is *least likely* to be prevented by establishing:
- A. firewalls.
 - B. personal trading limitations.
 - C. selective disclosure.

Answer = C

Selective disclosure occurs when companies discriminate in making material nonpublic information public. Corporations that disclose information on a limited basis create the potential for insider-trading violations. See Standard II(A).

2014 CFA Level I

"Guidance for Standards I-VII," CFA Institute
Standard II(A)

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19. An analyst collects data relating to five commonly used measures of leverage and interest coverage for a randomly chosen sample of 300 firms. The data comes from those firms' fiscal year 2012 annual reports. This data are *best* characterized as:

- A. cross-sectional data.
- B. longitudinal data.
- C. time-series data.

Answer = A

Data on some characteristics of companies at a single point in time are cross-sectional data.

2014 CFA Level I

"Sampling and Estimation," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2.3

20. Common stock prices are approximately lognormally distributed. Therefore, it is *most likely* that conventional (discrete) common stock prices are:

- A. leptokurtic.
- B. skewed to the right.
- C. skewed to the left.

Answer = B

The lognormal distribution is truncated at zero and skewed to the right (positively skewed).

2014 CFA Level I

"Statistical Concepts and Market Returns," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 8–9

"Common Probability Distributions," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 3.4

21. Given a large random sample, which of the following types of data are *least* appropriately analyzed with nonparametric tests?

- A. Ranked data (e.g., 1st, 3rd)
- B. Signed data (e.g., number of +'s and -'s)
- C. Numerical values (e.g., 28.43, 79.11)

Answer = C

Nonparametric tests are primarily concerned with ranks, signs, or groups, and they are used when numerical parameters are not known or do not meet assumptions about distributions. Even if the underlying distribution is unknown, parametric tests can be used on numerical data if the sample is large.

2014 CFA Level I

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"Hypothesis Testing," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 5

- 22.** An analyst determines that 60% of all U.S. pension funds hold hedge funds. In evaluating this probability, a random sample of 10 U.S. pension funds is taken. Using the binomial probability function, the probability that exactly 6 of the 10 firms in the sample hold hedge funds is *closest* to:
- A. 11.2%.
 - B. 25.1%.
 - C. 60.0%.

Answer = B

The number of trials is 10 (n), the number of successes is 6 (x), and the probability of success is 0.60

$$P(X = x) = \frac{n!}{(n-x)!x!} p^x (1-p)^{n-x},$$

(p). Using the following formula:
and the values given,

$$P(X = 6) = \frac{10!}{(10-6)!6!} (0.6)^6 (0.4)^4 = 25.08\%.$$

2014 CFA Level I

"Common Probability Distributions," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2.2

- 23.** The *least* accurate statement about measures of dispersion for a distribution is that the:
- A. arithmetic average of the deviations around the mean will be equal to one.
 - B. mean absolute deviation will be either less than or equal to the standard deviation.
 - C. range provides no information about the shape of the data distribution.

Answer = A

The arithmetic sum of the deviations around the mean will always equal zero, not one.

2014 CFA Level I

"Statistical Concepts and Market Returns," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 7.1, 7.2, and 7.4.2

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- 24.** With Bayes' formula, it is possible to update the probability for an event given some new information. Which of the following *most* accurately represents Bayes' formula?

- A.
$$P(\text{Event} | \text{Information}) = \frac{P(\text{Information})}{P(\text{Information} | \text{Event})} P(\text{Event})$$
- B.
$$P(\text{Event} | \text{Information}) = \frac{P(\text{Information} | \text{Event})}{P(\text{Event})} P(\text{Information})$$
- C.
$$P(\text{Event} | \text{Information}) = \frac{P(\text{Information} | \text{Event})}{P(\text{Information})} P(\text{Event})$$

Answer = C

In probability notation, Bayes' formula can be written concisely as

$$P(\text{Event} | \text{Information}) = \frac{P(\text{Information} | \text{Event})}{P(\text{Information})} P(\text{Event})$$

2014 CFA Level I

"Probability Concepts," by Richard A. DeFusco, CFA, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 2, 4.1

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25. An analyst gathers the following information about the performance of a portfolio (\$ millions):

Quarter	Value at Beginning of Quarter (Prior to Inflow or Outflow)	Cash Inflow (Outflow) at Beginning of Quarter	Value at End of Quarter
1	2.0	0.2	2.4
2	2.4	0.4	2.6
3	2.6	(0.2)	3.2
4	3.2	1.0	4.1

The portfolio's annual time-weighted rate of return is *closest* to:

- A. 8%.
- B. 27%.
- C. 32%.

Answer = C

The time-weighted rate of return is calculated by computing the quarterly holding period returns and linking those returns into an annual return as follows:

Quarter	Value (\$ millions) at Beginning of Quarter (Considering Inflows and Outflows)	Value (\$ millions) at End of Quarter	Holding Period Return
1	$2.0 + 0.2 = 2.2$	2.4	$(2.4 - 2.2) / 2.2 = 9.09\%$
2	$2.4 + 0.4 = 2.8$	2.6	$(2.6 - 2.8) / 2.8 = -7.14\%$
3	$2.6 - 0.2 = 2.4$	3.2	$(3.2 - 2.4) / 2.4 = 33.33\%$
4	$3.2 + 1.0 = 4.2$	4.1	$(4.1 - 4.2) / 4.2 = -2.38\%$

The time-weighted return (TWR) is found as follows:

$$TWR = (1 + 9.09\%) \times (1 - 7.14\%) \times (1 + 33.33\%) \times (1 - 2.38\%) - 1 = 32\% \text{ (rounded)}$$

2014 CFA Level I

"Discounted Cash Flow Applications," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 3 and 3.2

26. When dealing with mutually exclusive projects, the *most* reliable decision rule is:

- A. IRR.
- B. time-weighted rate of return.
- C. NPV.

Answer = C

The NPV rule's assumption about reinvestment rates is more realistic and more economically relevant than the IRR rule because it incorporates the market-determined opportunity cost of capital

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as a discount rate. In contrast, the IRR calculation assumes reinvestment at the IRR, which sometimes cannot be achieved because it is too high. Time-weighted rate of return suffers similar shortcomings as IRR.

2014 CFA Level I

"Discounted Cash Flow Applications," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle

Section 2.1, 2.2, 2.3, 3.2

"Capital Budgeting," by John D. Stowe and Jacques R. Gagné
Section 4

- 27.** A group of fund analysts have to select the first, second, and third best fund manager of the year for 2012 based on their subjective judgment. If 10 fund managers are candidates for the three awards, the number of ways in which each analyst can make his ranking is *closest* to:

- A. 120.
- B. 30.
- C. 720.

Answer = C

This problem is a counting one in which order does matter.

$${}_nP_r = \frac{n!}{(n-r)!}$$

For this reason, use the permutation formula

where

n is the total number of fund managers; in the problem, $n = 10$.

r is the number of fund managers that will receive the awards (first, second, and third); in the problem, $r = 3$.

$${}_{10}P_3 = \frac{10!}{(10-3)!} = \frac{10!}{7!} = \frac{3,628,800}{5,040} = 720$$

There are 720 ways that each analyst can rank 3 fund managers out of 10, when order does matter.

2014 CFA Level I

"Probability Concepts," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle

Section 4.2

- 28.** A major investment data service provides information on analysts' performance using the following scale:

Outstanding	Strong	Average	Below Average	Poor
1	2	3	4	5

The *most* appropriate test to determine whether the analysts' average performance differed between two consecutive 10-year periods is a:

- A. sign test.
- B. Mann-Whitney U-test.

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C. Wilcoxon signed-rank test.

Answer = B

The Mann-Whitney U-test is most appropriate for tests of differences in means for nonparametric data such as analysts' rankings.

2014 CFA Level I

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

Section 5

- 29.** A consultant starts a project today that will last for three years. Her compensation package includes the following:

Year	End-of-Year Payment
1	\$100,000
2	\$150,000
3	\$200,000

If she expects to invest these amounts at an annual interest rate of 3%, compounded annually until her retirement 10 years from now, the value at the end of 10 years is *closest* to:

- A. \$566,466.
- B. \$618,994.
- C. \$460,590.

Answer = A

Calculate the future value (FV) of each of the cash flows to the end of 10 years:

$$\begin{aligned} FV_{10} &= \$100,000 \times (1.03)^9 + \$150,000 \times (1.03)^8 + \$200,000 \times (1.03)^7 \\ &= \$130,477 + \$190,016 + \$245,975 \\ &= \$566,468 \end{aligned}$$

2014 CFA Level I

"The Time Value of Money," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle

Section 4.2

- 30.** An increase in which of the following items will *most likely* result in a wider confidence interval for the population mean?

- A. Degrees of freedom
- B. Sample size
- C. Reliability factor

Answer = C

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An increase in the reliability factor (the degree of confidence) increases the width of the confidence interval. Increasing the sample size and increasing the degrees of freedom both shrink the confidence interval.

2014 CFA Level I

"Sampling and Estimation," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 4.2, 4.3

31. The bond-equivalent yield for a semi-annual pay bond is *most likely*:

- A. equal to the effective annual yield.
- B. more than the effective annual yield.
- C. equal to double the semi-annual yield to maturity.

Answer = C

The bond equivalent yield for a semi-annual pay bond is equal to double the semiannual yield to maturity and is lower than the effective annual yield.

2014 CFA Level I

"Discounted Cash Flow Applications," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 4

32. An analyst determines that approximately 99% of the observations of daily sales for a company are within the interval from \$230,000 to \$480,000 and that daily sales for the company are normally distributed. If approximately 99% of all the observations fall in the interval $\mu \pm 3\sigma$, then using the approximate z-value rather than the precise table, the standard deviation of daily sales for the company is *closest* to:

- A. \$62,500.
- B. \$41,667.
- C. \$83,333.

Answer = B

Given that sales are normally distributed, the mean is centered in the interval. Mean Under a normal distribution, 99% of the observations will be approximately plus or minus three standard deviations. Next, use the following formula:

$$Z = (X - \mu) / \sigma$$

or, by rearranging:

$$\sigma = (X - \mu) / Z,$$

where $Z = 3$,

$X = \$480,000$, and

$\mu = \$355,000$.

Thus, $(\$480,000 - \$355,000) / 3.0 = \$41,667$.

Alternatively, use $Z = -3$, $X = \$230,000$, and $\mu = \$355,000$: $(\$230,000 - \$355,000) / (-3.0) = \$41,667$.

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2014 CFA Level I

"Common Probability Distributions," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 3.2

- 33.** A risk manager would like to calculate the coefficient of variation of a portfolio. The following table reports the annual returns of the portfolio and of the risk-free rate over the most recent five years:

Year	Portfolio Return	Risk-Free Rate
1	4.0%	2.0%
2	-1.0%	1.5%
3	7.0%	1.0%
4	11.0%	1.0%
5	2.0%	0.5%

The coefficient of variation of the portfolio is *closest* to:

- A. 0.90.
- B. 0.74.
- C. 1.00.

Answer = C

First, calculate the sample mean return as follows:

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n},$$

where n is the number of observations in the sample,
 i is the index for the year, and
 X_i is the return in year i .

$$\bar{X} = \frac{(4.0\% - 1.0\% + 7.0\% + 11.0\% + 2.0\%)}{5} = \frac{23.0\%}{5} = 4.6\%$$

Then, calculate the sample standard deviation with the following formula from the reading:

$$s = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n - 1}}$$

Year	$(X_i - \bar{X})^2$
1	$(4.0\% - 4.6\%)^2 = 0.00004$
2	$(-1.0\% - 4.6\%)^2 = 0.00314$
3	$(7.0\% - 4.6\%)^2 = 0.00058$

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4	$(11.0\% - 4.6\%)^2 = 0.00410$
5	$(2.0\% - 4.6\%)^2 = 0.00068$

$$s = \sqrt{\frac{0.00004 + 0.00314 + 0.00058 + 0.00410 + 0.00068}{5 - 1}} = 4.62\%$$

The coefficient of variation (CV) is calculated with the following formula from the reading:

$$CV = \frac{s}{\bar{X}} = \frac{4.62\%}{4.6\%} = 1.00$$

2014 CFA Level I

"Statistical Concepts and Market Returns," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 5.1.2, 7.4.2, and 7.7

34. An analyst gathered the following information about a stock index:

Mean net income for all companies in the index	\$2.4 million
Standard deviation of net income for all companies in the index	\$3.2 million

If the analyst takes a sample of 36 companies from the index, the standard error of the sample mean is *closest to*:

- A. \$400,000.
- B. \$533,333.
- C. \$88,889.

Answer = B

The standard error of the sample mean is equal to the population standard deviation (**s**) divided by the square root of the number of observations in the sample (**n**):

$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}} (\text{Equation 1}) = \frac{\$3,200,000}{\sqrt{36}} = \$533,333$$

2014 CFA Level I

"Sampling and Estimation," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 3.1

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- 35.** An economist states that the probability of having the gross domestic product (GDP) of a country higher than 3% is 0.20. What are the odds against a GDP higher than 3%?
- A. 4 to 1
 - B. 5 to 1
 - C. 6 to 1

Answer = A

Given the probability of an event, $P(E)$, the odds against that event are $[1 - P(E)] / P(E)$, and using the input from the problem, $Odds\ against\ E = (1 - 0.2) / 0.2 = 4$. This result means that given the probability stated by the economist, the odds against a GDP higher than 3% are 4 to 1.

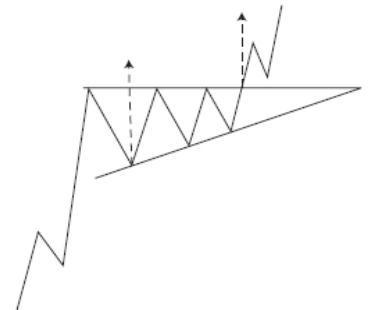
2014 CFA Level I

"Probability Concepts," by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2

- 36.** A trader determines that a stock price formed a pattern with a horizontal trendline that connects the high prices and a trendline with positive slope that connects the low prices. Given the pattern formed by the stock price, the trader will *most likely*:
- A. purchase the stock because the pattern indicates a bullish signal.
 - B. avoid trading the stock because the pattern indicates a sideways trend.
 - C. sell the stock because the pattern indicates a bearish signal.

Answer = A

The pattern described is an ascending triangle, as shown in the diagram to the right. In an ascending triangle, the trendline connecting the high prices is horizontal and the trendline connecting the low prices forms an uptrend (it has positive slope). The fact that the rally continues beyond the triangle may be a bullish signal; it means that another set of investors is presumably willing to buy at an even higher price because their analysis suggests the intrinsic value of the security is higher. Alternatively, the fundamental facts themselves may have changed; that is, the security's fundamental value may be increasing over time.



2014 CFA Level I

"Technical Analysis," by Barry M. Sine and Robert A. Strong
Section 3.3.2.1

399388

37. Relative to traditional investments, alternative investments are *most likely* to be characterized by higher:

- A. liquidity.
- B. fees.
- C. transparency.

Answer = B

Alternative investments are often characterized by high fees.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 2

38. The following information is available about a hedge fund:

Initial investment capital	\$100 million
Return at the end of one year	12%
Management fee based on assets under management	1%
Incentive fee based on the return net of the management fee	10%

Assume management fees are calculated using end-of-period valuation. The investor's net return given this fee structure is *closest* to:

- A. 9.68%.
- B. 10.88%.
- C. 9.79%.

Answer = C

Management fee: 1% of \$112 million = \$1.12 million.

Incentive fee: 10% of (\$12 million – \$ 1.12 million) = \$1.088 million.

Fund value after fees: \$112 million – \$1.12 million – \$1.088 million = \$109.792 million

Investor return: (\$109.792 million / \$100 million) – 1 = 9.79%.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 3.3

399388

39. The following information is available about a hedge fund:

Initial fund assets	\$100 million
Fund assets at the end of the period (before fees)	\$110 million
Management fee based on assets under management	2%
Incentive fee based on the return	20%
Soft hurdle rate	8%

No deposits to the fund or withdrawals from the fund occurred during the year. Management fees are calculated using end-of-period valuation. Management fees and incentive fees are calculated independently. The net-of-fees return of the investor is *closest* to:

- A. 7.8%.
- B. 7.4%.
- C. 5.8%.

Answer = C

The soft hurdle rate is surpassed, because the return of the fund is 10%. For that reason, the full fee, based on the full performance, is due.

Management fee: 2% of \$110 million = \$2.2 million.

Incentive fee: 20% of \$10 million = \$2 million.

Total fees: \$4.2 million.

Therefore, the fund assets at the end of the period after fees are \$105.8 million. The return for the investor is 5.8%.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 3.3

40. The real estate index *most likely* to suffer from sample selection bias is a(n):

- A. REIT index.
- B. appraisal index.
- C. repeat sales index.

Answer = C

Only properties that sell in each period and are included in the index and vary over time which may not be representative of the whole market.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 5.3

41. Which of the following hedge fund strategies is *most likely* categorized as an event-driven strategy?

- A. Quantitative Directional
- B. Fixed-Income Convertible Arbitrage
- C. Merger Arbitrage

Answer = C

Merger arbitrage is an event-driven strategy that involves buying the stock of the company being acquired and selling the stock of the acquiring company when the merger and acquisition (M&A) transaction is announced.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 3.1

42. Which of the following characteristics of a target company is *likely* the *least* attractive for a leveraged buyout?

- A. High leverage
- B. Substantial amount of physical assets
- C. Strong and sustainable cash flow

Answer = A

Low leverage is an attractive feature of a target company in a leveraged buyout. This characteristic makes it easier for an acquirer to use debt to finance a large portion of the purchase price.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 4.2.1.2

43. If the level of broad inflation indices is largely determined by commodity prices, the average real yield on direct commodity investments is *most likely*:

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

Answer = B

As the price increases of commodities are mirrored in higher price indices, the nominal return is equal to inflation and thus the real return is zero.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 6.3

- 44.** A hedge fund with an initial value of \$100 million has a management fee of 2% and an incentive fee of 20%. Management and incentive fees are calculated independently using end-of-period valuation. The value must reach the previous high water mark before incentive fees are paid. The table below provides end-of-period fund values over the next three years.

	Fund Value (\$ millions)	
Year	Before Fees	After Fees
1	120	113.6
2	110	107.8
3	125	?

The total amount of fees earned by the hedge fund in Year 3 is *closest* to:

- A. \$4.8 million.
- B. \$5.5 million.
- C. \$5.9 million.

Answer = A

The incentive fee is based on the performance relative to the previous high-water mark after fees.

Management fee: 2% of \$125 million = \$2.5 million. Incentive fee: 20% of (\$125 million – \$113.6 million) = \$2.28 million. In total: \$2.5 million + \$2.28 million = \$4.78 million.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 3.3

- 45.** The management fee of a private equity fund that has not yet invested all of its committed capital is *most likely* based on:

- A. remaining capital.
- B. committed capital.
- C. invested capital.

Answer = B

The management fee of private equity funds is based on committed capital until the committed capital is fully drawn down and invested. This approach is in contrast to hedge funds, for which the management fee is based on invested capital.

2014 CFA Level I

"Introduction to Alternative Investments," by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 4.1

46. Which of these is *best* classified as a forward commitment?

- A. A convertible bond
- B. A swap agreement
- C. A call option

Answer = B

A swap agreement is equivalent to a series of forward agreements, which can be described as forward commitments.

2014 CFA Level I

"Derivative Markets and Instruments," by Don M. Chance
Section 2

47. A European stock index call option has a strike price of \$1,160 and a time to expiration of 0.25 years. Given a risk-free rate of 4%, if the underlying index is trading at \$1,200 and has a multiplier of 1, then the lower bound for the option price is *closest* to:

- A. \$51.32.
- B. \$28.29.
- C. \$40.00.

Answer = A

The lower bound on a European call option is either zero or the underlying asset's price minus the present value of the exercise price, whichever is greater.

$$\$1,200 - (\$1,160/1.04^{0.25}) = \$51.32.$$

2014 CFA Level I

"Option Markets and Contracts," by Don M. Chance
Section 5.2

48. The following information relates to a futures contract (in U.S. dollars):

Initial futures price on Day 0	100
Initial margin requirement	6
Maintenance margin requirement	3
Settlement price on Day 1	104
Settlement price on Day 2	99
Settlement price on Day 3	98

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If no funds are withdrawn and margin calls are met at the beginning of the next day, the ending margin account balance on Day 3 for an investor with a short position of 10 contracts is *closest* to:

- A. \$120.
- B. \$80.
- C. \$90.

Answer = A

At the end of Day 1, the balance in the account would be \$20.

At the beginning of Day 2, the investor would deposit \$40.

At the end of Day 2, the balance in the account would be \$110.

At the end of Day 3, the balance in the account would be \$120.

2014 CFA Level I

"Futures Markets and Contracts," by Don M. Chance
Section 3

- 49.** In what way is the payoff of a forward rate agreement *most likely* different from the payoff of an interest rate option? It is:
- A. paid immediately when the contract expires.
 - B. based on a notional principal amount.
 - C. based on a fixed exercise rate.

Answer = A

The payoff of a FRA is paid immediately when the contract expires. If at expiration the option is in the money and exercised, the payoff of the option is not paid immediately at expiration; it is paid at the end of the term of the underlying interest rate.

2014 CFA Level I

"Option Markets and Contracts," by Don M. Chance
Section 4.1.4

- 50.** An investor purchases an equity call option priced at CHF3 with an exercise price of CHF41. If at expiration of the option, the underlying is priced at CHF38, the profit for the investor's position is *closest* to:
- A. -CHF6.
 - B. CHF0.
 - C. -CHF3.

Answer = C

The option expires worthless, and the loss is equal to the premium paid.

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2014 CFA Level I

"Option Markets and Contracts," by Don M. Chance
Section 2.1.2

- 51.** An investor purchases a three-month put option on a stock with an exercise price of \$35.00. The risk-free rate is 4.50%. At expiration, the stock price is \$33.50. The option's payoff is *closest* to:
- A. \$1.48.
 - B. \$0.
 - C. \$1.50.

Answer = C

The put option is worth the greater of \$0 or (Exercise price – Spot price at expiration). Because the exercise price is greater than the spot price at expiration, the put is worth $(\$35.00 - \$33.50) = \$1.50$.

2014 CFA Level I

"Option Markets and Contracts," by Don M. Chance
Section 5.1

- 52.** An investor who holds a long position in a futures contract will *most likely* receive a margin call if the ending balance in his margin account falls below the:
- A. variation margin.
 - B. initial margin requirement.
 - C. maintenance margin requirement.

Answer = C

A margin call is due whenever the ending balance in the margin account falls below the maintenance margin requirement.

2014 CFA Level I

"Futures Markets and Contracts," by Don M. Chance
Section 3

- 53.** An investor enters into a 1 x 3 forward rate agreement at a LIBOR rate of 1.5%. At expiration, the 60-day LIBOR rate is 1.7% and the 90-day LIBOR rate is 1.6%. Assuming the contract covers a \$1 million notional principal, what payment will the investor *most likely* receive?
- A. \$249.00
 - B. \$332.39
 - C. \$333.33

Answer = B

$\$1 \text{ million} \times \{(0.017 - 0.015)(60/360) / [1 + 0.017(60/360)]\} = \332.39 .

2014 CFA Level I

"Forward Markets and Contract," by Don M. Chance
Section 3.2.2

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54. Compared with a futures contract, a forward contract is *most likely* to be more:

- A. publicized.
- B. customized.
- C. liquid.

Answer = B

The terms of a forward contract are customized to meet the needs of both parties. A futures contract is not customized. Instead, the exchange establishes the terms.

2014 CFA Level I
"Futures Markets and Contracts," by Don M. Chance
Sections 1.2–1.3

55. Which of the following statements *best* describes a feature of an options contract? In an options contract:

- A. both the long and the short can default.
- B. only the long can default.
- C. only the short can default.

Answer = C

Only the short can default. This scenario occurs when the long exercises the option and the short fails to fulfill its obligation under the contract.

2014 CFA Level I
"Derivatives Markets and Instruments," by Don M. Chance
Section 4.2.1

56. At the initiation of a contract, the value of a swap is:

- A. the present value of the fixed payments.
- B. the notional value.
- C. zero.

Answer = C

When a swap is initiated, neither party pays any amount to the other. Therefore, a swap has zero value at the start of the contract.

2014 CFA Level I
"Swap Markets and Contracts," by Don M. Chance
Section 1.2

57. A 1 x 3 forward rate agreement on Eurodollar time deposits *most likely* expires in:

- A. three months and is based on 30-day LIBOR.
- B. one month and is based on 90-day LIBOR.
- C. one month and is based on 60-day LIBOR.

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Answer = C

The first number refers to the expiration date (in months), and the second number refers to the interest payment date (in months) on the underlying Eurodollar time deposit.

2014 CFA Level I

"Forward Markets and Contracts," by Don M. Chance
Section 3.2.2

58. Margin in the futures market is *most* accurately described as a:

- A. down payment from the futures trader.
- B. loan to the futures trader.
- C. requirement set by federal regulators.

Answer = A

It is the amount of money that must be deposited into an account by a trader when opening a futures position. The money helps ensure that the trader fulfills his obligations.

2014 CFA Level I

"Futures Markets and Contracts," by Don M. Chance
Section 3

59. When the underlying stock price is \$95, an investor pays \$2 for a call option with an exercise price of \$95. If the stock price moves to \$96, the intrinsic value of the call option would be *closest* to:

- A. \$1.
- B. \$0.
- C. -\$1.

Answer = A

The intrinsic value of a call option is the stock price minus the exercise price if that difference is positive and zero otherwise. The stock is trading at \$96 and can be purchased for \$95, so the intrinsic value is \$1.

2014 CFA Level I

"Option Markets and Contracts," by Don M. Chance
Section 5.1

60. A firm reports negative earnings for the year just ended. The price multiple of the firm's stock that is *least likely* to be meaningful is:

- A. leading price to earnings.
- B. price to cash flow.
- C. trailing price to earnings.

Answer = C

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Negative earnings in the last year result in a negative ratio of trailing price to earnings and are not meaningful. Practitioners may use the ratio of (1) current price to cash flow or (2) leading price to earnings by replacing last year's loss with forecasted earnings.

2014 CFA Level I

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 5

61. An analyst gathered the following information about a company:

Current earnings per share	\$6.00
Current dividend per share	\$2.40
Current market price per share	\$35
Required rate of return on the stock	15.0%
Expected growth rate of earnings and dividends	8.0%

Which of the following statements best describes the company's price-to-earnings ratio (P/E)? Compared with the company's trailing P/E, the P/E based on the Gordon growth dividend discount model is:

- A. the same.
- B. higher.
- C. lower.

Answer = C

The P/E based on the Gordon growth dividend discount model is lower:

$$\text{Trailing P/E} = \frac{\text{Current stock price}}{\text{Current earnings per share}} = \frac{35}{6} = 5.83$$

P/E based on the Gordon growth dividend discount model

$$= \frac{D_1 + E_1}{r - g} = \frac{(2.4 \times 1.08) + (6 \times 1.08)}{0.15 - 0.08} = 5.71$$

2014 CFA Level I

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 5

62. Which of the following is most likely a characteristic of real assets?

- A. High liquidity
- B. Homogeneity
- C. Substantial management costs

Answer = C

Real assets are characterized by illiquidity, not high liquidity. The heterogeneity of real assets, their illiquidity, and the substantial costs of managing them are all factors that complicate the valuation of real assets.

2014 CFA Level I

"Market Organization and Structure," by Larry Harris
Section 3.6

63. An equity index consists of three securities with market information as follows:

Security	Shares Outstanding	Price at Beginning of Period	Price at End of Period	Dividend per Share
A	5,000,000	\$10.00	\$9.50	\$1.00
B	2,000,000	\$20.00	\$21.50	\$0.80

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C	1,500,000	\$30.00	\$33.00	\$0.60
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The price-weighted total return index is *closest* to:

- A. 6.7%.
- B. 10.7%.
- C. 9.5%.

Answer = B

Calculation of Index and Return Based on Price-Weighted Method				
Security	Shares Outstanding	BOP Price	EOP Price	Dividends per Share
A	5,000,000	\$10.00	\$9.50	\$1.00
B	2,000,000	\$20.00	\$21.50	\$0.80
C	1,500,000	\$30.00	\$33.00	\$0.60
Total		\$60.00	\$64.00	\$2.40
Index value		20.00	21.33	0.80
Type of Index		BOP Value	EOP Value	Return
Price return		\$20.00	\$21.33	6.65%
Total return		\$20.00	\$22.13	10.65%

BOP = Beginning of period
EOP = Ending of period

2014 CFA Level I

"Security Market Indices," by Paul D. Kaplan and Dorothy C. Kelly
Section 3.2

64. An analyst gathers the following data about a company and the market:

Earnings per share in most recent year	\$2.00
Expected dividend growth rate	5.10%
Dividend payout ratio	60%
Stock's beta	1.50
Market risk premium	5.60%
Risk-free rate	4.20%

Company's weighted average cost of capital	12.00%
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Using the dividend discount model, the company's price per share is *closest* to:

- A. \$18.28.
- B. \$16.00.
- C. \$16.82.

Answer = C

$$V_0 = \frac{D_1}{r - g},$$

where

V_0 = Value of a share of stock today

D_1 = Expected dividend in Year 1 = Current dividend (D_0) \times (1 + g)

r = required rate of return on the stock

$$D_1 = D_0 \times (1 + g) = (2 \times 0.6) (1 + 0.051) = 1.2612$$

r = Risk-free rate + β_i (Market risk premium)

$$r = 4.2 + (1.5 \times 5.6) = 12.6\%$$

$$V_0 = \frac{1.2612}{0.126 - 0.051} = \$16.82$$

2014 CFA Level I

"Portfolio Risk and Return: Part II," by Vijay Singal
Section 3.3.1

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 4.2

- 65.** An investor opens a margin account with an initial deposit of \$5,000. He then purchases 300 shares of a stock at \$30 each on margin, and his account requires a maintenance margin of 30%. Ignoring commissions and interest, the price at which the investor will receive a margin call is closest to:

- A. \$19.05.
- B. \$23.08.

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C. \$23.81

Answer = A

$$\frac{\text{Equity}}{\text{Market Value}} = 30\%$$

$$\frac{5,000 + (P \times 300) - (30 \times 300)}{P \times 300} = 30\%$$

$$P = \$19.05$$

2014 CFA Level I
"Market Organization and Structure," by Larry Harris
Section 5.2

- 66.** A company's \$100 par value perpetual preferred stock has a dividend rate of 7% and a required rate of return of 11%. The company's earnings are expected to grow at a constant rate of 3% per year. If the market price per share for the preferred stock is \$75, the preferred stock is *most* appropriately described as being:
- A. overvalued by \$11.36.
 - B. undervalued by \$15.13.
 - C. undervalued by \$36.36.

Answer = A

$$\text{Value of perpetual preferred stock} = \frac{\text{Dividend}}{\text{Required rate of return}}$$

$$= \frac{7}{0.11} = \$63.64.$$

The stock is overvalued by $\$75.00 - 63.64 = \11.36 .

2014 CFA Level I
"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 4.1

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- 67.** When constructing a list of peer companies to be used in equity valuation, which of the following would *least likely* improve the group? Companies in the same peer group should ideally:
- A. have similar valuations.
 - B. have the effects of finance subsidiaries minimized.
 - C. be exposed to similar stages in the business cycle.

Answer = A

Companies in the same peer group can have different valuations depending on structure and competitiveness.

2014 CFA Level I

"Introduction to Industry and Company Analysis," by Patrick W. Dorsey, Anthony M. Fiore, and Ian Rossa O'Reilly
Section 4.4

- 68.** Which of the following is *most likely* associated with secondary capital markets?
- A. Lead underwriters
 - B. Book building
 - C. Continuous trading

Answer = C

A secondary market is where investors continue to trade the securities among themselves. Continuous trading is typically associated with secondary capital markets.

2014 CFA Level I

"Market Organization and Structure," by Larry Harris
Sections 7.1 and 8

- 69.** Participating preference shares are *least likely* to entitle the shareholders to participate in:
- A. additional distribution of the company's assets upon liquidation.
 - B. corporate decisions through voting rights.
 - C. additional dividends if the company's profits exceed a predetermined level.

Answer = B

Participating preference shares do not entitle the shareholders to participate in corporate decisions through voting rights. But they do entitle them to (1) an additional dividend if the company's profits exceed a prespecified level and (2) additional distribution of the company's assets upon liquidation, above the par.

2014 CFA Level I

"Overview of Equity Securities," by Ryan C. Fuhrmann and Asjeet S. Lamba
Section 3.2

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- 70.** An investor opens a margin account with an initial deposit of \$5,000. He then purchases 300 shares of a stock at \$30 each on margin, and his account requires a maintenance margin of 30%. Ignoring commissions and interest, the price at which the investor will receive a margin call is closest to:
- A. \$23.08.
 - B. \$19.05.
 - C. \$23.81.

Answer = B

$$\frac{\text{Equity}}{\text{Market Value}} = 30\%$$

$$\frac{5,000 + (P \times 300) - (30 \times 300)}{P \times 300} = 30\%$$

$$P = \$19.05$$

2014 CFA Level I

“Market Organization and Structure,” by Larry Harris
Section 5.2

- 71.** Which of the following *most* accurately describes the basis for construction of nearly all bond market indices?
- A. Dealer prices
 - B. Model prices
 - C. Market prices

Answer = A

Firms (dealers) are assigned to specific securities and are responsible for creating liquid markets for those securities by purchasing and selling them from their inventory. In addition, many securities do not trade frequently and, as a result, are relatively illiquid. As a result, index providers must contact dealers to obtain current prices on constituent securities to update the index, or they must estimate the prices of constituent securities using the prices of traded fixed-income securities with similar characteristics.

2014 CFA Level I

“Security-Market Indices,” by Paul D. Kaplan and Dorothy C. Kelly
Section 6.1

- 72.** Which of the following statements concerning the use of industry analysis is most accurate? Industry analysis is *most* useful for:
- A. portfolio performance attribution.
 - B. evaluating market efficiency.
 - C. sector allocations in passive equity portfolios.

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Answer = A

Portfolio performance attribution, which addresses the sources of a portfolio's returns, usually in relation to the portfolio's benchmark, includes industry or sector selection. Industry classification schemes play a role in such performance attribution.

2014 CFA Level I

"Introduction to Industry and Company Analysis," by Patrick W. Dorsey, Anthony M. Fiore, and Ian Rossa O'Reilly
Sections 1–2

73. An investor gathers the following information about a company:

Current dividend per share	\$3
Historical annual dividend growth rate	4%
Expected annual dividend growth rate for the next three years	8%
Expected stock value per share at the end of Year 3	\$33

If the investors' required rate of return is 15%, the current estimate of the intrinsic value per share is *closest to*:

- A. \$29.65.
- B. \$29.08.
- C. \$28.36.

Answer = A

$$V_0 = \sum_t^n = 1 \frac{Dt}{(1+r)^t} + \frac{F}{(1+r)^n}$$

$$V_0 = \frac{3 \times 1.08}{1 + 0.15} + \frac{3 \times (1.08)^2}{(1 + 0.15)^2} + \frac{((3 \times (1.08^3)) + 33)}{(1 + 0.15)^3}$$

$$= 2.82 + 2.65 + 2.48 + 21.70$$

$$= \$29.65$$

2014 CFA Level I

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 4.3

74. A company's market information and balance sheet data at the end of fiscal year 2012 are as follows:

Price per Share and Shares Outstanding			
Current market price per share	\$15.0		
Number of shares outstanding (millions)	1.0		
Balance Sheet Data As of 2012 (\$ millions)			
Cash and cash equivalents	0.4	Current liabilities	1.0
Accounts receivable	1.2	Long-term liabilities	61.0
Inventories	40.0		
Investment securities	6.0	Common shareholders' equity	15.6
Property, plant, and equipment	30.0		
Total assets	77.6	Total liabilities and equity	77.6

If an analyst estimates that the market value of the company's investment securities is 115% of their reported value, the company's ratio of price to adjusted book value is *closest* to:

- A. 1.10.
- B. 0.91.
- C. 0.96.

Answer = B

Adjusted book value per share = (Adjusted value of assets – Total liabilities)/Number of shares

Market value of assets = $0.4 + 1.2 + 40.0 + (6.0 \times 1.15) + 30 = \78.5 million

Market value of liabilities = $1.0 + 61.0 = \$62.0$ million

Adjusted book value per share = $(78.5 - 62.0)/1.0 = \$16.50$

Price-to-adjusted book value = $\$15.00/\$16.50 = 0.91$

2014 CFA Level I

"Overview of Equity Securities," by Ryan C. Fuhrmann and Asjeet S. Lamba
Section 7.1

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 6

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75. A company's selected data are as follows:

	Fiscal Year Ending		
	2010	2011	2012
Net income	\$1,230,000	\$1,414,500	\$1,980,300
Total shareholders' equity	11,000,000	11,550,000	15,015,000

Assuming that the company experiences volatile year-end book values of equity, its ROE for the year 2012 is *closest* to:

- A. 14.91%.
- B. 17.15%.
- C. 13.19%.

Answer = A

The company experiences volatile year-end book values of equity, the average book value is appropriate.

ROE = Net income/Average book value

Average book value = $(11,550,000 + 15,015,000)/2 = \$13,282,500$

ROE = $\$1,980,300/\$13,282,500 = 14.91\%$

2014 CFA Level I

"Financial Analysis Techniques," by Elaine Henry, Thomas R. Robinson, and Jan Hendrik van Greuning
Section 4.6.2

"Overview of Equity Securities," by Ryan C. Fuhrmann and Asjeet S. Lamba
Section 7.1

76. The weak-form market efficiency *most* accurately assumes that current security prices:

- A. adjust rapidly to the release of all public information.
- B. fully reflect all past market information, including transactions by exchange specialists.
- C. fully reflect all information from public and private sources.

Answer = B

In the weak-form efficient market hypothesis, security prices fully reflect all past market data including transactions by exchange specialists.

2014 CFA Level I

"Market Efficiency," W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 3

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77. An industry characterized by rapidly increasing demand, improving profitability, and falling prices is *most likely* in which of the following stages of life cycle?

- A. Growth
- B. Maturity
- C. Embryonic

Answer = A

A growth industry tends to be characterized by rapidly increasing demand, improving profitability, falling prices, and relatively low competition among companies in the industry.

2014 CFA Level I

"Introduction to Industry and Company Analysis," by Patrick W. Dorsey, Anthony M. Fiore, and Ian Rossa O'Reilly
Section 5.1.5.1

78. In the semi-strong form of market efficiency, fundamental analysis *most likely* requires the analyst to:

- A. extrapolate historical data to estimate future values and make investment decisions.
- B. do a superior job of estimating the relevant variables and predicting earnings surprises.
- C. use trading rules for detecting the price movements that lead to new equilibrium prices.

Answer = B

Fundamental analysis facilitates a semi-strong efficient market by disseminating value-relevant information. Fundamental analysis can be profitable in terms of generating abnormal returns if the analyst creates a comparative advantage with respect to this information. Such an advantage can be achieved by doing a superior job of estimating the relevant variables and predicting earnings surprises.

2014 CFA Level I

"Market Efficiency," by W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 3.4.1

79. An investor gathers the following information about a company:

Current earnings per share	\$5.00
Current dividend per share	\$3.00
Required rate of return	15.0%
Return on equity (ROE)	17.5%

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Using the dividend discount model, the value of the company's stock is *closest* to:

- A. \$73.67.
- B. \$40.13.
- C. \$37.50.

Answer = B

Correct.

$g = b \times \text{ROE}$,

where

g = Dividend growth rate

b = Earnings retention rate = $(1 - \text{Dividend payout ratio})$

$$V_0 = \frac{D_1}{r - g},$$

where

V_0 = Value of a share of stock today

D_1 = Expected dividend in Year 1 = Current dividend (D_0) \times $(1 + g)$

r = Required rate of return on the stock

$$g = \left(1 - \frac{3}{5}\right) \times 17.5 = 7\%$$

$$V_0 = \frac{3 \times 1.07}{(0.15 - 0.07)} = \$40.13$$

2014 CFA Level I

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 4.2

80. The following market information relates to a company:

Market price per share	\$37.80
Number of shares outstanding	1,000,000
Net income	\$5,250,000
Total common equity	\$35,000,000
Total annual dividend paid	\$1,512,000
Risk-free rate	2.60%
Market risk premium	8.00%
Beta	1.05

Using the capital asset pricing model (CAPM), the company's cost of equity is closest to:

- A. 12.4%.
- B. 11.0%.
- C. 15.0%.

Answer = B

Using the CAPM:

$$\begin{aligned}\text{Cost of equity} &= \text{Risk-free rate} + (\text{Beta} \times \text{Market risk premium}) \\ &= 2.6 + (1.05 \times 8) = 11\%.\end{aligned}$$

2014 CFA Level I

"Overview of Equity Securities," by Ryan C. Fuhrmann and Asjeet S. Lamba
Section 7.2

"Equity Valuation: Concepts and Basic Tools," by John J. Nagorniak and Stephen E. Wilcox
Section 4

81. A behavioral bias in which an investor assesses probabilities of outcomes depending on how similar they are to the current state is called:

- A. narrow framing.
- B. representativeness.
- C. conservatism.

Answer = B

An investor assessing probabilities of outcomes depending on how similar they are to the current state is called representativeness.

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2014 CFA Level I

"Market Efficiency," by W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 5.3

- 82.** The behavioral bias in which investors tend to avoid realizing losses but rather seek to realize gains is *best* described as:
- A. mental accounting.
 - B. the disposition effect.
 - C. the gambler's fallacy.

Answer = B

Behavioral biases in which investors tend to avoid realizing losses but, rather, seek to realize gains is the disposition effect.

2014 CFA Level I

"Market Efficiency," by W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 5.3

- 83.** An investor borrows the maximum amount allowed by the initial margin requirement of 40% to purchase 100 shares of a stock selling at \$60 per share. If the investor sells the stock when its price increases to \$70 per share, her return before commissions and interest will be *closest* to:
- A. 41.7%.
 - B. 27.8%.
 - C. 16.7%.

Answer = A

Investor's return (%)

$$\begin{aligned} &= \frac{\text{Market value of the stock} - \text{Loan}}{\text{Investor Equity}} - 1 \\ &= \frac{(70 \times 100) - (60 \times 100 \times 0.6)}{(60 \times 100 \times 0.4)} - 1 \\ &= 41.7\% \end{aligned}$$

2014 CFA Level I
"Market Organization and Structure," by Larry Harris
Section 5

84. A price-weighted index series is composed of the following three stocks:

Stock	Price before Split End of Day 1	Price after Split End of Day 2
X	\$10	\$12
Y	\$20	\$19
Z	\$60	\$22

If stock Z completes a three-for-one split at the end of Day 1, the value of the index after the split (at the end of Day 2) is *closest* to:

- A. 31.7.
- B. 29.9.
- C. 32.3.

Answer = A

The value of the price-weighted index is determined by dividing the sum of the security values by the divisor, which is typically set at inception to equal the initial number of securities in the index. In the case of a stock split, the index provider must adjust the value of divisor by dividing the sum of the constituent prices after the split by the value of the index before the split. This adjustment results in a new divisor that keeps the index value at the same level as before the split. The new divisor will then be used to calculate the index value after the split.

$$\text{Index before the split} = \frac{10 + 20 + 60}{3} = 30$$

$$\text{New divisor, X: } 30 = \frac{10 + 20 + 20}{x}$$

$$X = 1.67$$

$$\text{Index after the split} = \frac{12 + 19 + 22}{1.67} = 31.7$$

2014 CFA Level I
"Security Market Indices," by Paul D. Kaplan and Dorothy C. Kelly
Section 3.2.1

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85. The duration and convexity of an option-free bond priced at \$90.25 are 10.34 and 151.60, respectively. If yields increase by 200 bps, the percentage price change is *closest to*:

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

Answer = C

It is calculated as duration effect:

$$-10.34 * (+0.02) = -20.68 \%$$

and convexity effect:

$$\frac{1}{2} * 151.60 * (0.02)^2 = 3.03 \%$$

Total percentage change is the sum of duration effect and convexity effect:

$$-20.68 \% + 3.03 \% = -17.65 \%$$

2014 CFA Level I

“Understanding Fixed-Income Risk and Return,” by James F. Adams and Donald J. Smith
Sections 3.5–3.6

86. Which of the following factors will *most likely* drive the repo margin lower?

- A. Lower quality of the collateral
- B. Lower credit quality of the counterparty
- C. Shorter supply of the collateral

Answer = C

If the collateral is in short supply or if there is a high demand for it, repo margins are lower. Repo margin is the difference between the market value of the security used as collateral and the value of the loan.

2014 CFA Level I

"Fixed-Income Markets: Issuance, Trading, and Funding," by Moorad Choudhry, Steve V. Mann, and Lavone F. Whitmer
Section 7.3.2

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87. The Zera Company has borrowed capital by issuing a number of different securities. Which of the following *most likely* ranks the highest with respect to priority of payments?

- A. Third lien debt
- B. Subordinate loan
- C. Senior unsecured bond

Answer = A

Third lien debt is secured debt. It has a secured interest in the pledged assets and ranks higher than all other unsecured debts.

2014 CFA Level I

"Fundamentals of Credit Analysis," by Christopher L. Gootkind
Section 3.2

88. Which of the following statements is *least* accurate regarding the factors that affect the interest rate risk characteristics of an option-free bond?

- A. The higher the yield, the greater the bond's price sensitivity to changes in interest rates.
- B. The lower the coupon rate, the greater the bond's price sensitivity to changes in interest rates.
- C. The longer the bond's maturity, the greater the bond's price sensitivity to changes in interest rates.

Answer = A

Option-free bonds have positive convexity. The higher the yield to maturity, the lower the duration (and thus the lower the interest rate risk).

2014 CFA Level I

"Understanding Fixed-Income Risk and Return," by James F. Adams and Donald J. Smith
Section 3.3

89. The bonds of Whakatane and Co. are priced for settlement on 15 July 2014 and have the following features.

Par value	\$100.00
Annual coupon rate	8%
Coupon payment frequency	Semiannual
Coupon payment dates	15 May and 15 November
Maturity date	15 November 2017
Day count convention	Actual/Actual
Annual yield to maturity	5.5%

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On the basis of this information, the *difference* between the full and flat prices is *closest* to:

- A. 1.333.
- B. 2.667.
- C. 0.917.

Answer = A

The difference between the full and flat prices is the accrued interest, which is computed as follows. Based on the Actual/Actual day convention, the number of days between the coupon periods is 183 days. Also, using the Actual/Actual day count convention, the number of days between 15 May 2014 and 15 July 2014 is 16 days remaining in May + 30 days in June + 15 days in July = 61 days. Accrued interest (per \$100 par value) = $(61/183)(8.00/2) = 1.333$.

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 3.1

- 90.** The bonds of Apex Corporations have a par value of \$10,000 each and an annual required rate of return of 10%. The bonds make quarterly coupon payments at an annual rate of 6% and have two years remaining until maturity. The current market price of each bond is *closest* to:
- A. \$9,283.
 - B. \$10,749.
 - C. \$9,306.

Answer = A

Using the quarterly coupon payment of \$150 [= $(0.06 \times 10000)/4$] over eight quarters and a quarterly required rate of return of 2.5%, we calculate the bond's price as:

$$P_0 = 150/(1.025)^1 + 150/(1.025)^2 + \dots + 150/(1.025)^8 + 10,000/(1.025)^8 = \$9,282.99.$$

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 2.1

- 91.** Zet Bank has entered into a contract with Louly Corporation in which Zet agrees to buy a 2.5% U.S. Treasury bond maturing in 10 years and promises to sell it back next month at an agreed-on price. From Zet Bank's perspective, this contract is *best* described as a:
- A. collateralized loan.
 - B. repo.
 - C. reverse repo.

Answer = C

A reverse repo (repurchase agreement) is collateralized cash lending by purchasing an underlying security now and selling it back in the future.

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2014 CFA Level I

"Fixed-Income Markets: Issuance, Trading, and Funding," by Moorad Choudhry, Steve V. Mann, and Lavone F. Whitmer
Section 7.3

- 92.** Which of the following is *least likely* to be a form of internal credit enhancement associated with a corporate bond issue?
- A. Debt subordination
 - B. Letter of credit
 - C. Debt overcollateralization

Answer = B

A letter of credit is a form of external credit enhancement in which a financial institution provides the issuer with a credit line to be used for any cash flow shortfalls related to its debt issue.

2014 CFA Level I

"Fixed-Income Securities: Defining Elements," by Moorad Choudhry and Stephen E. Wilcox
Section 3.1

- 93.** The option-free bonds of Argus Corporation have a duration of eight years. When interest rates rise by 100 bps, the bond's price declines by 7.9%. When interest rates fall by 100 bps, however, the price rises by 8.2%. The asymmetrical price change is *most likely* caused by the:
- A. maturity effect.
 - B. coupon effect.
 - C. convexity effect.

Answer = C

It is bond convexity that explains the asymmetrical price change. A fall in interest rates will result in a higher percentage rise in the bond's price compared with the percentage fall in the bond's price when interest rates rise by the same amount.

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 2.3

- 94.** The current yield for a 4.5% coupon, 10-year bond, with a maturity par value of \$100 and currently priced at \$85.70 is *closest to*:
- A. 4.50%.
 - B. 5.93%.
 - C. 5.25%.

Answer = C

Current yield is calculated as: $\frac{\$4.5}{\$85.70} = 5.25\%$.

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2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 3.3

- 95.** DMT Corp. issued a five-year floating-rate note (FRN) that pays a quarterly coupon of three-month LIBOR plus 125 bps. The FRN is priced at 96 per 100 of par value. Assuming a 30/360 day-count convention, evenly spaced periods, and constant three-month LIBOR of 5%, the discount margin for the FRN is *closest to*:

- A. 221 bps.
- B. 180 bps.
- C. 400 bps.

Answer = A

The interest payment each period per 100 of par value is:

$$\frac{(\text{Index} + \text{QM}) \times \text{FV}}{m} = \frac{(0.05 + 0.0125) \times 100}{4} = 1.5625$$

The discount margin can be estimated by solving for DM in the equation:

$$96 = \frac{1.5625}{\left(1 + \frac{0.05 + \text{DM}}{4}\right)^1} + \frac{1.5625}{\left(1 + \frac{0.05 + \text{DM}}{4}\right)^2} + \dots + \frac{1.5625}{\left(1 + \frac{0.05 + \text{DM}}{4}\right)^{20}}$$

The solution for the discount rate, $r = (0.05 + \text{DM})/4$ is 1.8025%. Therefore DM = 2.21%, or 221 bps.

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 3.4

- 96.** Which one of the following is *least likely* to be an example of a Eurobond?

- A. A Japanese company issuing euro-denominated bonds to investors domiciled in the United Kingdom
- B. A U.K.-based company issuing Japanese yen-denominated bonds to investors domiciled in Japan
- C. An Australian company issuing U.S. dollar-denominated bonds to investors domiciled in Japan

Answer = B

It is an example of a foreign bond—that is, a bond issued by a foreign company in the domestic market of the country in whose currency the bond is denominated.

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2014 CFA Level I

"Fixed-Income Securities: Defining Elements," by Moorad Choudhry and Stephen E. Wilcox
Section 3.2

- 97.** Eldora Ltd. recently issued deferred-coupon bonds for which no coupon payments will be paid in the first two years of the bond's life. Regular annual coupon payments at a rate of 9% will then be made until the bonds mature at the end of six years. The spot rates for various maturities are given in the following table.

Time to Maturity	Spot Rate
1 year	8.0%
2 years	7.5%
3 years	7.0%
4 years	6.5%
5 years	6.0%
6 years	5.5%

On the basis of these spot rates, the price of the bond today is *closest* to:

- A. 100.12.
- B. 108.20.
- C. 116.24.

Answer = A

The bond price is computed as:

$$P_0 = 9/(1.070)^3 + 9/(1.065)^4 + 9/(1.060)^5 + (9 + 100)/(1.055)^6 = 100.12.$$

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 2.4

- 98.** The maturity effect is *least likely* to hold for a:

- A. low-coupon, long-term bond trading at a premium.
- B. low-coupon, long-term bond trading at a discount.
- C. zero-coupon bond.

Answer = B

In some situations, the maturity effect may not hold for a low-coupon bond that is trading below par.

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2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 2.3

- 99.** Which type of fixed-income security is *most likely* to have coupon payments that reset periodically?
- A. Floating-rate notes
 - B. Callable bonds
 - C. Convertible bonds

Answer = A

A floating-rate bond does not have a fixed coupon rate over its life. Instead, its coupon payments reset periodically according to some reference rate, such as the one-month London interbank offered rate (LIBOR).

2014 CFA Level I

"Fixed-Income Markets: Issuance, Trading, and Funding," by Moorad Choudhry, Steve V. Mann, and Lavone F. Whitmer
Sections 2.1 and 6.3

- 100.** ABL Ltd. is an Australian company that has financed a joint venture project in Singapore using a 15-year, fixed-rate bond paying semi-annual coupons that are denominated in Singapore dollars. The bond's par value, to be paid at maturity, is denominated in U.S. dollars. This bond is an example of a:
- A. currency option bond.
 - B. global bond.
 - C. dual-currency bond.

Answer = C

In a dual-currency bond, coupon payments are denominated in one currency and the par value is denominated in a different currency.

2014 CFA Level I

"Fixed-Income Securities: Defining Elements," by Moorad Choudhry and Stephen E. Wilcox
Section 2.1

- 101.** Which type of bond is *most likely* to be preferred by investors in a falling interest rate environment?
- A. A floating-rate note with no cap or floor
 - B. A capped floating-rate note
 - C. A floored floating-rate note

Answer = C

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A floored floating-rate note prevents the coupon rate from falling below the specified minimum rate. In a falling interest rate environment, this feature will benefit investors because it guarantees that the coupon rate will not fall below the specified minimum rate.

2014 CFA Level I

"Fixed-Income Securities: Defining Elements," by Moorad Choudhry and Stephen E. Wilcox
Section 4.2

102. In using matrix pricing to estimate the required yield spread on a new corporate bond issue, the benchmark rate used is *most likely* to be the:

- A. coupon rate on a government bond with a similar time to maturity.
- B. yield to maturity on a corporate bond with similar credit risk and time to maturity.
- C. yield to maturity on a government bond with a similar time to maturity.

Answer = C

The benchmark rate is the yield to maturity on a government bond with the same, or similar, time to maturity.

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 3.2

103. Which of the following 90-day money market instruments *most likely* offers the investor the highest rate of return?

Money Market Instrument	Quoted Rate	Quotation Basis	Day Convention
Instrument A	5.78%	360	Discount rate
Instrument B	5.80%	365	Discount rate
Instrument C	5.96%	365	Add-on rate

- A. Instrument C
- B. Instrument B
- C. Instrument A

Answer = A

Instrument C provides a bond equivalent yield of 5.96%, compared with 5.946% for Instrument A and 5.883% for Instrument B.

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 3.5

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104. A "junk" bond is *most likely* a:

- A. bond with credit rating above BBB–.
- B. high-yield bond.
- C. supranational bond.

Answer = B

High-yield bonds are bonds with credit ratings below investment-grade levels, also known as speculative or junk bonds.

2014 CFA Level I

"Fixed-Income Markets: Issuance, Trading, and Funding," by Moorad Choudhry, Steve V. Mann, and Lavone F. Whitmer
Section 2.1

105. When compared with an option-free bond, which type of bond *most likely* offers a higher yield to bondholders?

- A. Callable
- B. Convertible
- C. Puttable

Answer = A

A callable bond gives the issuer the right to buy back the bond prior to maturity. This feature increases the reinvestment risk faced by bondholders, causing them to require a higher yield than for a similar non-callable bond.

2014 CFA Level I

"Fixed-Income Securities: Defining Elements," by Moorad Choudhry and Stephen E. Wilcox
Sections 5.1 – 5.3

106. Which of the following embedded options *most likely* provides a right to the issuer?

- A. Call feature
- B. Conversion provision
- C. Put feature

Answer = A

The right to call the issue is beneficial to the issuer when interest rates fall.

2014 CFA Level I

"Fixed-Income Markets: Issuance, Trading, and Funding," by Moorad Choudhry, Steve V. Mann, and Lavone F. Whitmer
Section 6.3.5

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- 107.** Using the following information and assuming coupons are paid annually, the G-spread of the Steel Co. bond is *closest* to:

Bond	Maturity	Coupon	Price
Steel Co.	2 Years	5.00%	101.70
Treasury bond	2 Years	4.00%	100.50

- A. 100 bps.
- B. 36 bps.
- C. 94 bps.

Answer = B

The yield for Steel Co. bond is calculated as: $\frac{5}{(1+r)} + \frac{5+100}{(1+r)^2} = 101.70$,

$r=4.0974\%$.

The yield for the Treasury bond is calculated as $\frac{4}{(1+r)} + \frac{4+100}{(1+r)^2} = 100.50$,

$r=3.7359\%$.

G-spread is calculated as the yield difference between the Steel Co. Bond and the Treasury bond: 4.0974%–3.7359%3615%, or 36 bps.

2014 CFA Level I

"Introduction to Fixed-Income Valuation," by James F. Adams and Donald J. Smith
Section 5.1

- 108.** Which of the following is *least likely* to be a negative covenant associated with a coupon-paying corporate bond issue?

- A. A requirement to hedge at least 50% of the firm's revenues generated from foreign sales
- B. A prohibition from investing in long-term projects in emerging market countries
- C. A requirement to pay withholding taxes to foreign governments in a timely manner

Answer = C

Requiring compliance with the existing rules and regulations of foreign governments is administrative in nature and thus an affirmative covenant.

2014 CFA Level I

"Fixed-Income Securities: Defining Elements," by Moorad Choudhry and Stephen E. Wilcox
Section 3.1

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109. A security has a beta of 1.30. If the risk-free rate of interest is 3% and the expected return of the market is 8%, based on the capital asset pricing model (CAPM), the expected return of the security is *closest to*:

- A. 9.5%.
- B. 6.5%.
- C. 13.4%.

Answer = A

The formula for the CAPM is expressed as:

$$E(R_i) = R_f + \beta[E(R_m) - R_f]$$

or $3\% + [1.3 \times (8\% - 3\%)] = 9.5\%$.

2014 CFA Level I

"Portfolio Risk and Return: Part II," by Vijay Singal
Section 4.2

110. Which of the following is *most likely* a feature of a defined contribution pension plan? The

- A. employer accepts the investment risk.
- B. employer provides a specified retirement benefit.
- C. employee accepts the investment risk.

Answer = C

In a defined contribution pension plan, the employee accepts the investment risk and is responsible for ensuring that the plan contains enough funds to meet retirement needs.

2014 CFA Level I

"Portfolio Management: An Overview," by Robert M. Conroy and Alistair Byrne
Section 3

111. A factor that *most likely* measures a client's ability to bear risk is his or her:

- A. time horizon.
- B. inclination to independent thinking.
- C. personality type.

Answer = A

A longer time horizon tends to imply greater ability to take risk.

2014 CFA Level I

"Basics of Portfolio Planning and Construction," by Alistair Byrne and Frank E. Smudde
Section 2.2.1

112. Information about a portfolio that consists of two assets is provided below:

Asset	Portfolio Weight	Standard Deviation
-------	------------------	--------------------

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A	25%	12%
B	75%	16%

If the correlation coefficient between the two assets is 0.75, the standard deviation of the portfolio is *closest* to:

- A. 12.37%.
- B. 14.39%.
- C. 15.00%.

Answer = B

$$[(0.25^2 \times 0.12^2) + (0.75^2 \times 0.16^2) + (2 \times 0.25 \times 0.75 \times 0.12 \times 0.16 \times 0.75)]^{0.5} = 0.1493 = 14.39\%.$$

2014 CFA Level I
"Portfolio Risk and Return: Part I," by Vijay Singal
Sections 4.1.2, 4.1.3

113. The slope of the security market line is *best* derived from the:

- A. risk-free rate of return.
- B. market risk premium.
- C. beta of the security.

Answer = B

The security market line is a graphical representation of the CAPM with beta on the x-axis and expected return on the y-axis. The slope of the line is given by the market risk premium, the difference between the equity market return and the risk-free rate of interest.

2014 CFA Level I
"Portfolio Risk and Return: Part II," by Vijay Singal
Section 4.2

114. For a portfolio consisting of two assets and the correlation coefficient between these two assets is +1.0, it is *most likely* that portfolio risk is:

- A. greater than the weighted average of the risk of the two assets in the portfolio.
- B. equal to the weighted average of the risk of the two assets in the portfolio.
- C. less than the weighted average of the risk of the two assets in the portfolio.

Answer = B

With a correlation coefficient of +1.0, no diversification benefits are obtained and the portfolio risk is equal to the weighted average of the risk of the two assets in the portfolio.

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"Portfolio Risk and Return: Part I," by Vijay Singal
Section 4.1.3

- 115.** The following information is provided about a stock market index m and security i :

Statistic	Value
Covariance between market return and security return [$\text{Cov}(R_i, R_m)$]	0.01104
Correlation coefficient between market return and security return ($\rho_{i,m}$)	0.3
Standard deviation of market return (σ_m)	0.16

The beta of security i , β_i , is *closest* to:

- A. 1.88.
- B. 0.23.
- C. 0.43.

Answer = C

$$\beta_i = \text{Cov}(R_i, R_m) / \sigma_m^2 = 0.01104 / (0.16)^2 = 0.43.$$

2014 CFA Level I

"Portfolio Risk and Return: Part II," by Vijay Singal
Section 3.2.4

- 116.** A portfolio invested in two assets has an expected return of 11%. If expected returns for asset A and B, respectively, are 8% and 12%, then the portfolio weight of Asset B is *closest* to:

- A. 25%.
- B. 75%.
- C. 50%.

Answer = B

$$11\% = (w_A \times 8\%) + [(1 - w_A) \times 12\%]. \text{ Solving for } w_A = 0.25. \text{ Therefore } w_B = 0.75. \\ (0.25 \times 8\%) + (0.75 \times 12\%) = 11\%.$$

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"Portfolio Risk and Return: Part I," by Vijay Singal
Section 2.1.7

- 117.** An investment has a 50% probability of returning 12% and a 50% probability of returning 6%. An investor prefers this uncertain investment over a guaranteed return of 10%. This preference *most likely* indicates that the investor is risk:

- A. averse.
- B. seeking.
- C. neutral.

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Answer = B

The expected value of the uncertain investment is 9% which is less than the guaranteed return of 10%. Only a risk-seeking person would be willing to accept this investment.

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"Portfolio Risk and Return: Part I," by Vijay Singal
Section 3.1

118. An investor earns the following annual returns over a four- year period:

Year	Annual Return
1	12.2%
2	-8.5%
3	6.7%
4	-3.3%

The geometric mean annual return is *closest to*:

- A. 1.78%.
- B. 5.93%.
- C. 1.45%.

Answer = C

$$(1.122 \times 0.915 \times 1.067 \times 0.967)^{0.25} - 1 = 0.0145 = 1.45\%.$$

2014 CFA Level I
"Portfolio Risk and Return: Part I," by Vijay Singal
Section 2.1.3

119. Over a period of 16 months, an investor has earned a return of 12%. The investor's annualized return is *closest to*:

- A. 9.00%.
- B. 8.87%.
- C. 9.38%.

Answer = B

$$1.12^{(12/16)} - 1 = 0.0887, \text{ or } = 8.87\%.$$

2014 CFA Level I

"Portfolio Risk and Return: Part I," by Vijay Singal
Section 2.1.6

120. With respect to the portfolio management process, the execution step *most likely* includes:

- A. developing the investment policy statement.
- B. portfolio monitoring.
- C. asset allocation.

Answer = C

Asset allocation is part of the execution step of the portfolio management process. The execution step also includes security analysis and portfolio construction.

2014 CFA Level I

"Portfolio Management: An Overview," by Robert M. Conroy and Alistair Byrne
Section 4