2009 Level I Mock Exam: Morning Session
ANSWERS AND REFERENCES

Questions 1 through 18 relate to Ethical and Professional Standards.

1. Which of the following is a key characteristic of the Global Investment Performance Standards (GIPS)? The GIPS standards:

   A. rely on the integrity of input data.
   B. consist of required provisions for firms to follow to achieve best practice.
   C. must be applied with the goal of achieving excellence in performance presentation.

   Answer: A

   Global Investment Performance Standards (GIPS)
   2009 Modular Level I, Volume 1, pp. 129-130
   Study Session 1-4-a
   Describe the key characteristics of the GIPS standards and the fundamentals of compliance.

   A key characteristic of the Standards is that the Standards rely on the integrity of input data. The accuracy of input data is critical to the accuracy of the performance presentation.

2. According to the *Standards of Practice Handbook*, a member who is an investment manager is *least likely* to breach his duty to clients by:

   A. disclosing confidential client information to the CFA Institute Professional Conduct Program.
   B. using client brokerage to purchase goods or services that are used in the investment decision-making process.
   C. consistently supporting management's recommendations by voting with management on proxies related to non-routine governance issues.

   Answer: B

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Volume 1, pp. 48-51
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

According to Standard III(A), members are allowed to use client brokerage to purchase goods or services that are used in the investment decision-making process as the manager is not collecting undisclosed soft commissions and hence the purchase of goods or services used in the investment decision-making process does not present a potential conflict of interest.

3. Carla Scott, CFA, is a portfolio manager for a company that manages investment accounts for wealthy individuals. Scott has no beneficial interest in any of the fee-paying accounts she manages, including her uncle's account. When shares in initial public offerings (IPOs) become available, Scott first allocates shares to all her other clients for whom the investment is appropriate; only if shares are still available does she purchase shares in her uncle's account, if the issue is appropriate for him. Scott provides each of her clients with full disclosure of her allocation procedures and has received each client's verbal consent to her allocation procedures. According to the *Standards of Practice Handbook*, does Scott's method of allocating oversubscribed IPOs violate any CFA Institute Standards of Professional Conduct?

   A. No.
   B. Yes, because she has breached her duty to her uncle.
   C. Yes, because she has not precleared and reported her Uncle's transactions.

   Answer: B

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Volume 1, pp. 50-55, 94-95, 98 (Example 3)
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

   Scott's method of allocating oversubscribed IPOs discriminates against her uncle, who is a fee-paying client; she violates the Standard related to Fair Dealing. Family accounts that are fee-paying client accounts should be treated like any other firm account. They should neither receive special treatment nor be disadvantaged because of an existing family relationship.

4. Kim Li, CFA, is a portfolio manager for an investment advisory firm. Li delegates some of her supervisory duties to Janet Marshall, CFA, after educating Marshall on methods to prevent and detect violations of the firm's compliance procedures. Despite these efforts, Li discovers that an employee reporting to Marshall may have violated the procedures. According to the *Standards of Practice Handbook*, Li's *least likely* initial course of action must be to:

   A. suspend the employee.
   B. increase supervision of Marshall.
   C. initiate an investigation to determine the extent of the wrongdoing.

   Answer: A

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Volume 1, p. 78
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

   A supervisor may delegate supervisory responsibilities, but such delegation does not relieve them of their supervisory responsibility. Once a violation is discovered, a supervisor should: respond promptly; conduct a thorough investigation of the activities to determine the scope of the wrongdoing; and increase supervision or place appropriate limitations on the wrongdoer pending the outcome of the investigation.

5. The *Standards of Practice Handbook* is *least likely* to require a member to disclose which of the following to clients and prospective clients?

   A. Underwriting relationships.
   B. Service on a publicly-traded company's board of directors.
   C. Obligation to abide by CFA Institute Code of Ethics and Standards of Professional Conduct.

   Answer: C

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Vol. 1, pp. 89-92
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

The Standards do not require members to disclose to clients and prospective clients their obligation to abide by the Code and Standards.

6. A CFA charterholder is the Fund Manager for a non-profit organization. During a presentation regarding the restructuring of their investment portfolio's asset allocation, the Head of the Finance Committee questions the manager. As part of his response, the manager states, "I am a CFA charterholder, I know what I'm talking about, you should do what I say". According to the *Standards of Practice Handbook*, has the charterholder violated any of the CFA Institute Standards of Professional Conduct?

   A. No.
   B. Yes, Responsibilities as a CFA Institute Member.
   C. Yes, Communication with Clients and Prospective Clients.

   Answer: B

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Volume 1, pp. 103-105
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

   Standard VII-B Reference to CFA Institute, the CFA Designation, and the CFA Program under Responsibilities as a CFA Institute Member or CFA Candidate holds that individuals may reference their CFA designation, CFA Institute membership or candidacy in the CFA Program but must not exaggerate the meaning or implications of membership in the Institute, holding the CFA designation, or candidacy in the CFA Program. By inferring that since he is a CFA Charterholder his recommendations are correct exaggerates the implications of holding the CFA designation.

7. A CFA candidate was responsible for developing presentations regarding New Vision Asset Managers' investment process and historical investment performance. When the Candidate moved to another firm, he brought with him the presentation he developed for New Vision, changed the name of the company and presented it to a client of his new employer. The client asked the candidate if he had New Vision's permission to use their presentation. The candidate responded, "I created the presentation in my last month working there. It was, after my resignation, so it's mine to use. Besides the investment performance is what I achieved for my clients at New Vision." According to the *Standards of Practice Handbook*, the CFA Candidate is *least likely* to have violated the CFA Institute Standards of Professional Conduct that relate to:

   A. Loyalty.
   B. Misrepresentation.
   C. Communication with Clients and Prospective Clients.

   Answer: C

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Volume 1, pp. 29-30, 69-71, 84-85
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

   It is not evident that the candidate did not disclose the basic format and general principles of the investment processes, use reasonable judgment in identifying which factors are import to their investment recommendations or distinguish between fact and opinion. However, it is evident that the candidate did violate Standard IV(A)-Duties to Employers, Loyalty as the candidate did not act for the benefit of either his former or current employer since the candidate could perceivably have caused harm to both by removing an asset from his former employer and using it at his new employer, which reflects badly on the new employer. In addition, the candidate implied that the performance at New Vision was the performance of his new employer, which is a misrepresentation (Standard I(C)- Professionalism, Misrepresentation) of his new employer's historical investment performance.

8. As the Managing Director of a commercial bank, a CFA charterholder sat in on a board meeting of a publicly listed company that the bank had lent a large sum of money. The purpose of the board meeting was to renegotiate the terms of the commercial loan due to the pending restructuring of the company. The next day all of the Managing Director's shares of the publicly listed company are sold on the stock exchange, the sell order having been given two days prior to the meeting. According to the *Standards of Practice Handbook*, the CFA charterholder was *least likely* in violation of which CFA Institute Standards of Professional Conduct?

   A. Disclosure of Conflicts.
   B. Priority of Transactions.
   C. Material Nonpublic Information.

   Answer: B

   "Guidance for Standards I-VII," CFA Institute
   2009 Modular Level I, Volume 1, pp. 36-38, 89-91, 94-95
   Study Session 1-2-a
   Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

   The Candidate did not violate Standard VI(B)-Priority of Transactions as he was only trading on his own account, not those of his clients or employer.

9. In order to comply with the GIPS Standards, a firm must initially show GIPS-compliant history for a minimum of:

   A. five years, or since inception if the firm has been in existence for less than five years.
   B. two years, or since inception if the firm has been in existence for less than two years.
   C. three years, or since inception if the firm has been in existence for less than three years.

   Answer: A

   "Global Investment Performance Standards" (CFA Institute, 2005)
   2009 Modular Level I, Volume 1, p. 127
   Study Session 1–4–b
   Describe the scope of the GIPS standards with respect to an investment firm's definition and historical performance record.

A firm must initially show GIPS-compliant history for a minimum of five years, or since inception if the firm has been in existence for less than five years.

10. Buta Singh, CFA, has a large extended family and manages the portfolios of several family members. Singh does not charge the family members a management fee, but receives a small percentage of each portfolio's profits. Singh accepts a position as portfolio manager for Bhotmange Investments to manage high net worth accounts. Because the family portfolios are not customary or normal client relationships, Singh does not inform his new employer of his side activity. Singh is *least likely* to have violated which CFA Institute Standard of Professional Conduct?

    A. Loyalty.
    B. Preservation of Confidentiality.
    C. Additional Compensation Agreements.

    Answer: B

    "Guidance for Standards I-VII," CFA Institute
    2009 Modular Level I, Volume 1, pp. 69-71, 75
    Study Session 1–2–a
    Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

    There is no evidence Singh violated Standard III (E) – Preservation of Confidentiality. Members who plan to engage in independent practice for compensation should not render services until receiving written consent from their employer. To do so without prior consent from the employer violates Standard IV(A) – Loyalty and Standard IV (B) – Additional Compensation Agreements.

11. A CFA Candidate purchased copyrighted CFA exam preparatory study guide from a publisher. Two weeks prior to the exam, the Candidate lost the study guide so he photocopied a copy that his friend had purchased. According to the *Standards of Practice Handbook*, did the CFA Candidate *most likely* violate the CFA Institute Standards of Professional Conduct?

    A. Yes.
    B. No, because he had purchased his own copy.
    C. No, because both had purchased their own copies.

    Answer: A

"Guidance for Standards I-VII," CFA Institute
2009 Modular Level I, Volume 1, pp. 15-17, 35
Study Session 1-2-a
Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

The Candidate violated Standard I(A)-Knowledge of the Law and Standard I(B)-Misconduct. By photocopying copy write material without the permission of the author and publisher the Candidate violated copy write law and effectively stole the intellectual property of the author and publisher, hence acted in a dishonest way.

12. Crandall Temasek, CFA, filed for personal bankruptcy two years ago after incurring large medical expenses. He was hired recently as a portfolio manager. According to the CFA Institute Standards, must Temasek disclose his bankruptcy filing to his new employer?

    A. No.
    B. Yes, because he has a duty of loyalty to his employer.
    C. Yes, because bankruptcy represents a potential conflict of interest.

    Answer: A

    "Guidance for Standards I-VII," CFA Institute
    2009 Modular Level I, Volume 1, p. 35
    Study Session 1–2–a
    Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

    Members who are involved in a personal bankruptcy filing are not automatically assumed to be in violation of the Standards because bankruptcy may not reflect poorly on the integrity or trustworthiness of the person involved unless the bankruptcy involved fraudulent or deceitful business conduct.

13. Sallie Lewis, CFA, is a research analyst covering the mining industry. Along with other analysts, Lewis visits the primary mine of Gold Rush Mines (GR). During the visit, a major piece of equipment fails and Lewis overhears an unidentified employee state that production will be stalled for six months. Lewis immediately files a sell recommendation on GR without any additional research. Has Lewis violated any CFA Institute Standards?

    A. No.
    B. Yes, with respect to diligence and reasonable basis.
    C. Yes, with respect to material nonpublic information.

    Answer: B

    "Guidance for Standards I-VII," CFA Institute
    2009 Modular Level I, Volume 1, pp. 36-39
    Study Session 1–2–a
    Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

    Lewis must investigate the reliability of the information before making an investment recommendation based on the information.

14. Clive Bowers, CFA, is a portfolio manager at Burlington Advisors (BA). Bowers manages two mutual funds along with a number of individual accounts. All of the portfolios, including the mutual funds, have similar return objectives, risk tolerances, and tax constraints. When Bowers allocates shares from block trades he fills the mutual fund orders first and then allocates the remaining shares to the individual accounts based on their portfolio size. When allocating shares from block trades, does Bowers violate any CFA Institute Standards?

    A. No.
    B. Yes, with respect to fair dealing.
    C. Yes, with respect to priority of transaction.

    Answer: B

    Guidance for Standards I-VII, Standards of Practice Handbook,
    2009 Modular Level I, Volume 1, pp. 53-55
    Study Session 1–2–a
    Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

Members must deal fairly and objectively with clients when taking investment actions for them. By treating the mutual funds more favorably than the individual portfolios, Owens violates the standard relating to fair dealing.

15. Narupa Rhasta, CFA, is manager of the fast-growing individual account division of a bank and treats all clients equally. When the bank's research department issues a buy or sell recommendation on a security, she ensures that the recommended action is implemented in all accounts. Do Rhasta's investment actions violate any CFA Institute Standards?

    A. No.
    B. Yes, with respect to suitability.
    C. Yes, with respect to diligence and a reasonable basis.

    Answer: B

    "Guidance for Standards I-VII," CFA Institute
    2009 Modular Level I, Volume 1, pp. 60-62
    Study Session 1–2–a
    Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

    Members must consider the needs, circumstances and objectives of clients when taking investment action for their accounts. By treating all accounts as if they were the same, Rhasta failed to consider the uniqueness of each client's circumstances.

16. Jimmy Lee, CFA, is an investment banker in a country with strict confidentiality laws. He is working on an acquisition for Panda Mining Co. (PMC). While performing due diligence, Lee notices that PMC has a number of questionable offshore partnerships. He investigates the legality of the partnerships and finds evidence of illegal activity. According to the Standards of Professional Conduct, Lee's *best* course of action would be to:

    A. alert CFA Institute.
    B. consult outside counsel.
    C. notify regulatory authorities.

    Answer: B

    "Guidance for Standards I-VII," CFA Institute
    2009 Modular Level I, Volume 1, pp. 67-68

Study Session 1–2–a
Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

Members must keep client information confidential and must comply with applicable law. If applicable law requires disclosure of client information in certain circumstances, members and candidates must comply with the law. If applicable law requires members to maintain confidentiality, even if the information concerns illegal activities on the part of the client, members should not disclose such information. Lee's best course of action would be to consult with outside counsel to determine applicable law.

17. Rene Whatcom, CFA, is an independent contractor who writes research reports for several investment publications. Whatcom refuses to sign contracts with exclusivity clauses. Whatcom sometimes revises work he submits to one publication and sends slightly altered versions of the report to additional publications. Does Whatcom violate any CFA Institute Standards?

A. No.
B. Yes, with respect to loyalty.
C. Yes, with respect to disclosure of conflicts.

Answer: A

"Guidance for Standards I-VII," CFA Institute
2009 Modular Level I, Volume 1, pp. 69-71
Study Session 1–2–a
Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

A member's duties within an independent contractor relationship are governed by the oral or written agreement between the member and the client. Members should take care to define clearly the scope of the responsibilities and the expectations of each client within the context of each relationship. Members have a duty to abide by the terms of the agreement.

18. Angus Draper, CFA, is a senior portfolio manager and member of the investment committee at Tillahook Investments. Draper serves as a board member for several non-profit organizations. These commitments require eight workdays per month of Draper's time. Because he does not receive any form of compensation for these activities, Draper does not tell anyone at work about his board activities. Does Draper violate any CFA Institute Standards?

    A. No.
    B. Yes, with respect to conflict of interest.
    C. Yes, with respect to responsibilities of supervisors.

    Answer: B

    "Guidance for Standards I-VII," CFA Institute
    2009 Modular Level I, Volume 1, pp. 69-71, 89-91
    Study Session 1–2–a
    Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to situations involving issues of professional integrity.

    Members must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties. Draper should discuss outside his activities with his employer and come to mutual agreement regarding how to manage his personal commitments with his responsibilities to his employer.

Questions 19 through 32 relate to Quantitative Methods

19. The yield to maturity on otherwise identical option-free bonds issued by the U.S. Treasury and a large industrial corporation is 6 percent and 8 percent, respectively. If annual inflation is expected to remain steady at 2.5 percent over the life of the bonds, the *most likely* explanation for the difference in yields is a premium due to:

    A. maturity.
    B. inflation.
    C. default risk.

    Answer: C

    "The Time Value of Money," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
    2009 Modular Level I, Volume 1, pp. 172-174
    Study Session 2-5-b

Explain an interest rate as the sum of a real risk-free rate, expected inflation, and premiums that compensate investors for distinct types of risk.

The difference in yield on otherwise identical U.S Treasury and corporate bonds is attributed to default risk.

20. A 24 year old is using the following information to plan her retirement:

Current age	24
Expected retirement age	68
Life expectancy	93
Current annual expenditures	$30,000
Expected inflation rate of current expenditures until retirement	3%
Expected return on investment	8%

She assumes her consumption expenditures will increase with the rate of inflation, 3 percent, until she retires. Upon retiring she will have end-of-year expenditures equal to her consumption expenditure at age 68. The minimum amount that she must accumulate by age 68 in order to fund her retirement is *closest* to:

A. $928,000.
B. $1,176,000.
C. $1,552,000.

Answer: B

"The Time Value of Money," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 190-208
Study Session 2-5-d, e
Calculate and interpret the future value (FV) and present value (PV) of a single sum of money, an ordinary annuity, an annuity due, a perpetuity (PV only), and a series of unequal cash flows.
Draw a time line, and solve time value of money applications (for example, mortgages and savings for college tuition or retirement).

Her consumption spending (currently $30,000 annually) increases with the rate of inflation (3%) over the next 44 years until she retires. Her annual consumption spending at the time she retires will be $110,143.57 (PV = 30,000, %I = 3, N = 44, solve for FV). To support that level of spending for 25 years of retirement assuming an 8% return on her retirement account, she must accumulate $1,175,756 by her retirement date (PMT = 110,143.57, N = 25, %I = 8, solve for PV).

21. A project has the following expected cash flows:

Time	Cash Flow ($)
0	(125,000)
1	100,000
2	200,000

If the risk-free interest rate is 4 percent, expected inflation is 3 percent, the market risk premium is 8 percent and the Beta for the project is 1, the investment's net present value (NPV) is *closest* to:

A. $113,000.
B. $124,000.
C. $139,000.

Answer: B

"Discounted Cash Flow Applications," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 214-216
"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 54-61
Study Session 2-6-a, 11-45-i
Calculate and interpret the net present value (NPV) and the internal rate of return (IRR) of an investment, contrast the NPV rule to the IRR rule, and identify problems associated with the IRR rule.
Calculate and interpret the beta and cost of capital for a project.

The opportunity cost of capital for the investment would be the risk free rate + the market risk premium x Beta. 4% + (8% x 1) = 12%. The NPV equals the present value (at time = 0) of the future cash flows discounted at the opportunity cost of capital (12%) minus the initial investment, or $123,725 (= –125,000, = 100,000, = 200,000, I = 12, solve for NPV = 123,725 ≈ 124,000).

22. An analyst gathers the following information about a common stock investment:

	Date	Amount €
Stock purchase	15 January 2008	48.00
Cash dividend received	14 July 2008	4.00
Stock sale	15 July 2008	54.00

The holding period return on the common stock investment is *closest* to:

A. 12.5%.
B. 20.8%.
C. 41.7%.

Answer: B

"Discounted Cash Flow Applications," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 221-222
Study Session 2-6-b
Define, calculate, and interpret a holding period return (total return).

The holding period return (HPR) is calculated as follows:
HPR = (– +) / , where is the initial investment, is the price received at the end of the holding period, and is the cash paid by the investment at the end of the holding period. In this case: HPR = (54 –48 + 4) / 48 = 20.8%. The HPR is not annualized for holding periods shorter than a year.

23. A 270-day U.S. Treasury bill with a face value of $100,000 sells for $96,500 when issued. Assuming an investor holds the bill to maturity, the investor's money market yield is *closest* to:

A. 3.63%.
B. 4.84%.
C. 4.93%.

Answer: B

"Discounted Cash Flow Applications," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 229-233
Study Session 2-6-d
Calculate and interpret the bank discount yield, holding period yield, effective annual yield, and money market yield for a U.S. Treasury bill; and convert among

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

The money market yield is: 4.84% = [(100,000/96,500) – 1]*(360/270).

24. An analyst gathered the following annual return information about a portfolio since its inception on 1 January 2003:

Year	**Portfolio return**
2003	8.6%
2004	11.2%
2005	12.9%
2006	15.1%
2007	–9.4%

The portfolio's mean absolute deviation for the five-year period is *closest* to:

A. 3.76%.
B. 6.83%.
C. 7.68%.

Answer: B

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2008 Modular Level I, Volume 1, pp. 279-284
Study Session 2-7-f
Define, calculate, and interpret 1) a range and a mean absolute deviation, and 2) the variance and standard deviation of a population and of a sample.

Compute the mean: (8.6 + 11.2 + 12.9 + 15.1 – 9.4) / 5 = 7.68% and compute MAD, (|8.6 – 7.68| + |11.2 – 7.68| + |12.9 – 7.68| + |15.1 – 7.68| + |–9.4 – 7.68|) / 5 = 6.83%.

25. An analyst gathered the following information about a common stock portfolio:

Arithmetic mean return	14.3%
Geometric mean return	12.7%
Variance of returns	380
Portfolio beta	1.35

If the risk-free rate of return is 4.25 percent, then the coefficient of variation is *closest* to:

A. 0.52.
B. 1.36.
C. 1.53.

Answer: B

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2008 Modular Level I, Volume 1, pp. 291-297
Study Session 2-7-h
Define, calculate, and interpret the coefficient of variation and the Sharpe ratio.

The coefficient of variation is: $^{.5}$ / 14.3 = 19.49 / 14.3 = 1.36.

26. If an analyst estimates the probability of an event for which there is no historical record, this probability is *best* described as:

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

Answer: C

"Probability Concepts," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 321-322
Study Session 2-8-b
Explain the two defining properties of probability, and distinguish among empirical, subjective, and a priori probabilities.
An empirical probability cannot be calculated for an event not in the historical record. In this case, the analyst can make a personal assessment of the probability of the event without reference to any particular data. This is a subjective probability.

27. Which of the following statements *best* describes the relationship between correlation and covariance? The correlation between two random variables is their covariance standardized by the product of the variables':

A. variances.
B. standard deviations.
C. coefficients of variation.

Answer: B

"Probability Concepts," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 344-349
Study Session 2-8-j
Calculate and interpret covariance and correlation.

The correlation between two random variables is equal to the covariance between the variables divided by the product of the variables' standard deviations.

28. Which of the following *best* describes the discrete uniform distribution? The discrete uniform distribution:

A. has a finite number of specified outcomes.
B. is based on the Bernoulli random variable.
C. has an infinite number of unspecified outcomes.

Answer: A

"Common Probability Distributions," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 375-376
Study Session 3-9-d
Define a discrete uniform random variable and a binomial random variable, calculate and interpret probabilities given the discrete uniform and the binomial distribution functions, and construct a binomial tree to describe stock price movement.

The discrete uniform distribution is known as the simplest of all probability distributions. It is made up of a finite number of specified outcomes and each outcome is equally likely.

29. According to the central limit theorem, a sampling distribution of the sample mean will be approximately normal *only* if the:

    A. sample size is large.
    B. underlying distribution is normally distributed.
    C. variance of the underlying distribution is known.

    Answer: A

    "Sampling and Estimation," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
    2009 Modular Level I, Volume 1, pp. 428-429
    Study Session 3-10-d
    Interpret the central limit theorem and describe its importance.

    According to the central limit theorem, the sample mean of a population described by *any* probability distribution can be determined if the sample size is sufficiently large, e.g., equal to or greater than 30. This process is used to estimate the population mean and standard deviation which usually are unknown.

30. Which of the following is *least likely* to be a desirable property of an estimator?

    A. Efficiency
    B. Reliability
    C. Consistency

    Answer: B

    "Sampling and Estimation," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
    2009 Modular Level I, Volume 1, pp. 432-433
    Study Session 3-10-g
    Identify and describe the desirable properties of an estimator.

    The three desirable properties of an estimator are unbiasedness, efficiency, and consistency.

31. An analyst gathers the following information about the price-earnings (P/E) ratios for the common stocks held in a portfolio:

Interval	P/E range	Frequency
I	8.00 – 16.00	20
II	16.00 – 24.00	52
III	24.00 – 30.00	24
IV	30.00 – 38.00	14

The relative frequency for Interval II is *closest* to:

A. 47.27%.
B. 52.00%.
C. 65.45%.

Answer: A

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, pp. 243-250
Study Session 2-7-c
Calculate and interpret relative frequencies and cumulative relative frequencies, given a frequency distribution, and describe the properties of a dataset presented as a histogram or a frequency polygon.

The relative frequency is: 47.27% = 52 / (20 + 52 + 24 + 14)

A is correct, 47.27% = 52 / (20 + 52 + 24 + 14)
B is incorrect, it is miscalculated as 52.00% = 52 / 100
C is incorrect, it is the cumulative relative frequency 65.45% = (20 + 52) / (20 + 52 + 24 + 14)

32. Rent is $700.00 monthly and is due on the first day of every month. If the stated annual interest rate is 6 percent, the present value of a full year's rent payments is *closest* to:

A. $8,133.
B. $8,173.
C. $8,833.

Answer: B

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2009 Modular Level I, Volume 1, pp. 188-191
Study Session 2-5-c, d
Calculate and interpret the effective annual rate, given the stated annual interest rate and the frequency of compounding, and solve time value of money problems when compounding periods are other than annual.
Calculate and interpret the future value (FV) and present value (PV) of a single sum of money, an ordinary annuity, an annuity due, a perpetuity (PV only), and a series of unequal cash flows.

$8,173.92 = (1 + 0.5%)*($700.00 / 0.5%)*(1 – 1/(1 +0.5%)^{12}), the rent calculation is an annuity due. Using a financial calculator: PMT = 700, I=0.5, n=12 Compute annuity due PV, PV = 8,173.92.

Questions 33 through 44 relate to Economics

33. Demand for guest rooms in a resort hotel increases from 100 to 150 rooms per night when the nightly room rate increases from $150 to $200. The elasticity of supply of guest rooms in the resort hotel is *closest* to:

A. 0.72.
B. 1.40.
C. 1.50.

Answer: B

"Elasticity," Michael Parkin
2009 Modular Level I, Volume 2, pp. 22-25
Study Session 4-13-a
Calculate and interpret the elasticities of demand (price elasticity, cross elasticity, income elasticity) and the elasticity of supply, and discuss the factors that influence each measure.

The elasticity of supply equals the percent change in quantity relative to the average quantity divided by the percent change in demand relative to the average demand:
The average quantity = (100 + 150)/2 = 125, the % change in quantity = 50/125 = 40%;
The average price = (150 + 200)/2 = 175, the % change in price = 50/175 = 28.6%
Elasticity of supply = 40%/28.6% = 1.40

34. A recessionary gap is *more likely* to be observed when:

    A. real GDP is above potential GDP.
    B. real GDP is below potential GDP.
    C. employment is above full-employment equilibrium.

    Answer: B

    "Aggregate Supply and Aggregate Demand," Michael Parkin
    2009 Modular Level I, Volume 2, pp. 331-332
    Study Session 5-23-c
    Differentiate between short-run and long-run macroeconomic equilibrium, and explain how economic growth, inflation, and changes in aggregate demand and supply influence the macroeconomic equilibrium.

    A below full-employment equilibrium is a macro-economic equilibrium in which potential GDP exceeds real GDP. The amount by which potential GDP exceeds real GDP is called the recessionary gap.

35. Which of the following statements is *most* accurate in regard to the tax division between buyers and sellers of products with perfectly elastic demand?

    A. Sellers pay the entire tax.
    B. Buyers bear the entire tax burden.
    C. Buyers and sellers share the tax burden.

    Answer: A

    "Markets in Action," Michael Parkin
    2009 Modular Level I, Volume 2, pp. 76-78
    Study Session 4-15-c
    Explain the impact of taxes on supply, demand, and market equilibrium, and describe tax incidence and its relation to demand and supply elasticity.

    Under perfectly elastic demand sellers pay the entire tax.

36. A company compiles the following information:

Total revenue	$300,000
Value of buildings and machinery	
- At the beginning of the year	$300,000
- At the end of the year	$280,000
Cost of raw materials	$100,000
Wages paid during the year	$ 50,000
Normal profit for the year	$ 40,000

The company's economic profit is *closest* to:

A. $90,000.
B. $110,000.
C. $130,000.

Answer: A

"Organizing Production," Michael Parkin
2009 Modular Level I, Volume 2, pp. 98-99, Table 1
Study Session 4-16-a
Explain the types of opportunity cost and their relation to economic profit, and calculate economic profit.

Economic profit is equal to total revenue minus total costs, both explicit and implicit costs (including normal profit)
Total costs = 100,000 + 50,000 + 40,000 + (300,000 – 280,000) = 210,000
Economic profit = Total revenue – Total costs = 300,000 - 210,000 = 90,000

37. In the short run, an increase in output at low levels of production will *most likely* cause:

A. an increase in the marginal cost due to the rising total fixed cost.
B. an increase in the marginal cost due to the law of diminishing returns.
C. a decrease in the marginal cost due to economies from greater specialization.

Answer: C

"Output and Costs," Michael Parkin
2009 Modular Level I, Volume 2, p. 135
Study Session 4-17-d
Explain the firm's production function, its properties of diminishing returns and diminishing marginal product of capital, the relation between short-run and long-run costs, and how economies and diseconomies of scale affect long-run costs.

The marginal cost decreases at low levels of output due to economies from greater specialization. However, at higher levels of production, it eventually increases because of the law of diminishing returns.

38. In regulating a natural monopoly, the *most* commonly adopted compromise pricing rule by a regulator is the:

A. total cost pricing rule.
B. average cost pricing rule.
C. marginal cost pricing rule.

Answer: B

"Monopoly," Michael Parkin
2009 Modular Level I, Volume 2, pp. 200-202
Study Session 5-19-e
Explain the potential gains from monopoly and the regulation of a natural monopoly.

The average cost pricing rule allows the natural monopoly to cover its costs and to break even (make zero economic profit).

39. Which of the following statements provides the *best* description of Nash equilibrium of two firms in the game of prisoners' dilemma?

A. One firm complies and the other cheats.
B. Both firms cheat and each firm makes zero economic profit.
C. Both firms comply and each firm makes a positive economic profit.

Answer: B

"Monopolistic Competition and Oligopoly," Michael Parkin
2009 Modular Level I, Volume 2, pp. 229-237
Study Session 5-20-d
Explain the kinked demand curve model and the dominant firm model, and describe oligopoly games including the Prisoners' Dilemma.

Both firms realize that compliance results in an economic loss whereas cheating results in zero economic profit (p. 236). Since zero economic profit is better than an economic loss, both firms cheat.

40. The *best* characterization of the natural resources market is that:

A. supply of a nonrenewable natural resource is perfectly inelastic and firms are price takers.
B. price is determined by market demand in a renewable resources market and by supply in a nonrenewable resource market.
C. supply of a renewable natural resource is perfectly elastic and the price is equal to the present value of the next period's expected price.

Answer: B

"Markets for Factors of Production", Michael Parkin
2009 Modular Level I, Volume 2, pp. 276-279
Study Session 5-21-g
Differentiate between renewable and non-renewable natural resources and describe the supply curve for each.

With the supply of a renewable natural resource being fixed, the price is determined on the basis of market demand. In a nonrenewable natural resource market, the *flow* supply of a nonrenewable natural resource is perfectly elastic but the price is determined on the basis of supply.

41. Based on supply-side effects, an increase in income tax will *most likely*:

A. shift the demand curve for labor.
B. decrease the full-employment quantity of labor.
C. increase potential Gross Domestic Product (GDP).

Answer: B

"Fiscal Policy," Michael Parkin
2009 Modular Level I, Volume 2, pp, 418-420, Figure 6
Study Session 6-26-a
Explain the supply-side effects on employment, potential GDP, and aggregate supply, including the income tax and taxes on expenditure, and describe the Laffer curve and its relation to supply-side economics.

An income tax increase makes the difference between after-tax pay and before-tax pay larger. This situation weakens the incentive to work and lowers the full-employment quantity of labor (see page 419).

42. A change in the natural rate of unemployment will *most likely* shift:

   A. the short-run but not the long-run Phillips curves.
   B. both the short-run and the long-run Phillips curves.
   C. neither the short-run nor the long-run Phillips curves.

   Answer: B

   "U.S. Inflation, Unemployment, and Business Cycles" Michael Parkin
   2009 Modular Level I, Volume 2, pp. 392-395
   Study Session 6-25-d
   Explain the impact of inflation on unemployment, and describe the short-run and long-run Phillips curve, including the effect of changes in the natural rate of unemployment.

   A change in the natural rate of unemployment shifts both short-run and long-run Phillips curves. Suppose the natural rate of unemployment increases from 6 to 9 percent, but the inflation remains constant at 10 percent. As a result, both short-run and long-run Phillips curves move outward adjusting to the new, higher level of natural unemployment rate. The new point of intersection between the two lines would be at 9 percent unemployment rate and 10 percent inflation rate (Figure 9, p. 395)

43. Which of the following goals of monetary policy is *best* described to be the key goal?

   A. Price stability.
   B. Full employment.
   C. Moderating long-term interest rates.

   Answer: A

   "Monetary Policy," Michael Parkin
   2009 Modular Level I, Volume 2, pp. 446-448
   Study Session 6-27-a
   Discuss the goals of U.S. monetary policy and the Federal Reserve's (Fed's) means for achieving the goals, including how the Fed operationalizes those goals.

   Price stability is considered to be the key goal of monetary policy in that it is the source for the other two monetary policy goals.

44. The *least likely* reason why a firm in perfect competition is a price taker is because:

    A. buyers are well informed about prices of other firms.
    B. it can set its products' price at or above the market price.
    C. it produces a very small portion of the total output of a particular good.

    Answer: B

    "Perfect Competition," Michael Parkin
    2009 Modular Level I, Volume 2, p. 153
    Study Session 5-18-a
    Describe the characteristics of perfect competition, explain why firms in a perfectly competitive market are price takers, and differentiate between market and firm demand curves.

    A price taker is a firm that cannot influence the market price and consequently sets its own price at the market place price, not above it. The key reason why a firm in perfect competition is a price taker is because buyers are well informed about prices of other firms and it produces a tiny portion of the total market output.

Questions 45 through 68 relate to Financial Statement Analysis

45. An analyst finds information about significant uncertainties affecting a company's liquidity, capital resources and results of operations in the:

    A. notes to the financial statements.
    B. balance sheet and income statement.
    C. management discussion and analysis.

    Answer: C

    "Financial Statement Analysis: An Introduction," Thomas R. Robinson, CFA, Jan Hennie van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
    2009 Modular Level I, Volume 3, p.18
    Study Session 7-29-c
    Discuss the importance of financial statement notes and supplementary information, (including disclosures of accounting methods, estimates and assumptions) and management's discussion and analysis.

    Management must highlight any favorable and unfavorable trends and identify significant events and uncertainties that affect the company's liquidity, capital resources and results of operations in the management discussion and analysis (MD&A).

46. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

    Which of the following is *least likely* to be classified as a financial statement element?

    A. Asset.
    B. Revenue.
    C. Net income.

    Answer: C

    "Financial Reporting Mechanics," Thomas R. Robinson, CFA, Hennie van Greuning, CFA, Karen O'Connor Rubsam, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
    2009 Modular Level I, Volume 3, pp.35-38
    Study Session 7-30-b
    Explain the relationship of financial statement elements and accounts, and classify accounts into the financial statement elements.

    Net income is not an element of the financial statements, but the net result of revenues less expenses. The elements are: assets, liabilities, owners' equity, revenue and expenses.

47. An analyst prepares common-size balance sheets for two companies operating in the same industry. The analyst notes that both companies had the same proportion of current liabilities, long-term liabilities, and shareholders' equity and the following ratios:

	Company 1	Company 2
Current ratio	2.0	2.0
Cash ratio	0.3	0.3
Quick ratio	0.5	0.8

The *most* reasonable conclusion is that, compared with Company 2, Company 1 had a:

A. higher percentage of assets associated with inventory.
B. higher percentage of assets associated with accounts receivable.
C. lower percentage of assets associated with marketable securities.

Answer: A

"Financial Analysis Techniques," Thomas R. Robinson, CFA, Hennie van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn CFA
2009 Modular Level I, Volume 3, pp.490-491, 506-509
"Working Capital Management," Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 87-88
Study Session 10-39-a, c, 11-46-a
Evaluate and compare companies using ratio analysis, common-size financial statements, and charts in financial analysis.
Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.
Calculate and interpret liquidity measures using selected financial ratios for a company and compare it with peer companies.

The current ratio includes inventory but the quick ratio does not. (Current ratio is higher than quick ratio and quick ratio is higher than cash ratio.) The quick ratio includes accounts receivable but the cash ratio does not. The denominator for all three ratios is current liabilities, which are the same proportion for both companies. The difference in ratios is therefore created by inventory and accounts receivable. Company 1 has the higher percentage of inventory because the difference between the current ratio and quick ratio is greater for that company. Company 2 had the higher percentage of accounts receivable because the difference between the quick ratio and the cash ratio is greater for Company 2.

48. If a company has a current ratio of 2.0, the effect of repaying $150,000 in short-term borrowing will *most likely* decrease:

A. the current ratio, but not the cash flow from operations.
B. the cash flow from operations, but not the current ratio.
C. neither the current ratio nor the cash flow from operations.

Answer: C

"Understanding the Cash Flow Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp. 243-244
"Financial Analysis Techniques," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, p. 507
Study Session 8-34-a, 10-39-c
Compare and contrast cash flows from operating, investing, and financing activities, and classify cash flow items as relating to one of these three categories, given a description of the items.
Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.

The repayment of short-term debt would reduce cash flow from financing, not cash flow from operations.
Any time the current ratio is above 1, equal changes in a current asset and a current liability will result in an increase in the current ratio: if current assets = 550 and current liabilities are 275, current ratio = 550/275 = 2.0. After the bank borrowing has been paid, the ratio becomes (550-150)/(275-150) = 3.2. Had the ratio initially been below 1, current assets = 250 and current liabilities are 275, current ratio = 250/275 = 0.91, the equal change in current assets and liabilities would decrease the current ratio: 100/125=0.80.

49. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

    At the end of the year, a company sold equipment for $30,000 cash. The company paid $110,000 for the equipment several years ago and had recorded accumulated depreciation of $70,000 at the time of its sale. All else equal, the equipment sale will result in the company's cash flow from:

    A. investing activities increasing by $30,000.
    B. investing activities decreasing by $10,000.
    C. operating activities being $10,000 less than net income.

    Answer: A

    "Understanding The Cash Flow Statement," Thomas R. Robinson, CFA, Hennie van Greuning, CFA, Elaine Henry, CFA and Michael A. Broihahn, CFA
    2009 Modular Level I, Volume 3, pp.243-45, 263-265, 267-68
    Study Session 8-34-a, f
    Compare and contrast cash flows from operating, investing, and financing activities, and classify cash flow items as relating to one of these three categories, given a description of the items.
    Demonstrate the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using income statement and balance sheet data.

    The book value of the equipment at the time of sale is $110,000 - $70,000 = $40,000. The proceeds are $30,000; therefore a loss of $10,000 is reported on the income statement. The loss reduces net income, but it is a non-cash amount, so is added back to net income in the calculation of the cash from operations. Therefore, cash from operations is higher than net income, not lower. The total amount of the proceeds, $30,000, is the cash inflow from the transaction and is shown as a cash inflow from investing activities.

50. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

A company reports net income of $800,000 for the year. The table below indicates selected items which were included in net income and their associated tax status.

	Included in determining Net Income	**Tax Status**
Depreciation Expense	$70,000	$90,000 allowed for tax purposes
Dividend Income	$120,000	Dividends not taxable
Fine related to environmental damage	$100,000	Not deductible for tax purposes
R&D Expenditures	$50,000	$20,000 allowed for tax purposes

The company's tax rate is 35 percent. The company's current income taxes payable (in $) is *closest* to:

A. 206,500.
B. 276,500.
C. 360,500.

Answer: B

"Income Taxes," Elbie Antonites, CFA, and Michael Broihahn, CFA
2009 Modular Level I,Volume 3, pp. 393-395, 399
Study Session 9-37-d
Calculate income tax expense, income taxes payable, deferred tax assets and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate.

Net income	$800,000
Add back book depreciation	70,000
Deduct tax allowed depreciation	(90,000)
Deduct Dividend income	(120,000)
Add back Fine	100,000
Add back book R&D	50,000
Deduct tax allowed R&D	(20,000)
Taxable income	790,000
Current taxes payable	35% x $790,000=276,500

51. An analyst gathers the following annual information ($ millions) about a company that pays no dividends and has no debt:

Net income	45.8
Depreciation	18.2
Loss on sale of equipment	1.6
Decrease in accounts receivable	4.2
Increase in inventories	3.4
Increase in accounts payable	2.5
Capital expenditures	7.3
Proceeds from sale of stock	8.5

The company's annual free cash flow to equity ($ millions) is *closest* to:

A. 53.1.
B. 58.4.
C. 61.6.

Answer: C

"Understanding The Cash Flow Statement", Thomas R. Robinson, CFA, Hennie van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn CFA
2009 Modular Level I, Volume 3, pp.267 - 270, 279-280
Study Session 8-34-i
Explain and calculate free cash flow to the firm, free cash flow to equity, and other cash flow ratios.

Free cash flow to equity in a company without any debt is equal to cash flow from operations (CFO) less capital expenditures. CFO = net income + depreciation + loss on sale of equipment + decrease in accounts receivable – increase in inventories + increase in accounts payable. (The loss on sale of equipment is added back when calculating CFO. It would have been deducted in the calculation of net income but the loss is not the cash impact of the transaction (the proceeds received, if any, would be the cash effect) and cash flows related to equipment transactions are investing activities, not operating activities.
CFO = 45.8 + 18.2 +1.6 + 4.2 – 3.4 +2.5 = $68.9 million
$68.9 – $7.3 = $61.6 million free cash flow to equity.

52. Which of the following statements *best* describes the level of accuracy provided by a standard audit report with respect to errors? The audited financial statements are:

A. fully assured to be free of material errors.
B. reasonable assured to be free of all errors.
C. reasonable assured to be free of material errors.

Answer: C

"Financial Statement Analysis: An Introduction," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA, and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, p.19
Study Session 7-29-d
Discuss the objective of audits of financial statements, the types of audit reports, and the importance of effective internal controls.

Audits provide reasonable assurance that the financial statements are fairly presented, meaning that there is a high degree of probability that they are free of material error, fraud or illegal acts.

53. Making any necessary adjustments to the financial statements to facilitate comparison with respect to accounting choices is done in which step of the financial statement analysis framework?

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

Answer: B

"Financial Statement Analysis: An Introduction," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA, and Michael A. Broihahn., CFA
2009 Modular Level I, Volume 3, pp.24-27
Study Session 7-29-f
Describe the steps in the financial statement analysis framework.

Making any adjustments is part of the processing data step. Commonly used data bases (part of the collection phase) do not make adjustments for differences in accounting choices.

54. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

For the most recent year a manufacturing company reports the following items on their income statement:

Interest expense	$62,500
Loss on disposal of fixed assets	$50,000
Realized gain on sale of available-for-sale securities	$17,750

Which of the items is classified as an operating item in the company's income statement?

A. Interest expense.
B. Loss on disposal of fixed assets.
C. Realized gain on sale of available-for-sale securities.

Answer: B

"Understanding the Income Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA, and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp.163-165
Study Session 8-32-f
Distinguish between the operating and nonoperating components of the income statement.

The loss on the disposal of fixed assets is an unusual or infrequent item but it is still part of normal operating activities. The interest expense is the result of financing activities and would be classified as a nonoperating expense by nonfinancial service companies. The realized gain on sale of available for sale securities is an investing activity and would also be classified as a nonoperating gain by a manufacturing company.

55. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

The following information is available from the accounting records of a company as at 31 December 2008 (all figures in $ thousands):

Account:	**$**
Accounts payable	20
Accounts receivable	82
Bank loan, due on demand	44
Cash	12
Income taxes payable	5
Inventory	47
Investments accounted for by the equity method	112
Loan payable, due 30 June 30 2010	50
Deposits from customers for deliveries in 2009	8

The working capital for the company (in $ thousands) is *closest* to:

A. 64.
B. 72.
C. 176.

Answer: A

"Understanding the Balance Sheet," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA, and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp.195-201
Study Session 8-33-a, d
Illustrate and interpret the components of the assets, liabilities, and equity sections of the balance sheet, and discuss the uses of the balance sheet in financial analysis.
Compare and contrast current and noncurrent assets and liabilities.

Current Assets:	
Cash	12
Accounts receivable	82
Inventory	47
	141
Current Liabilities	
Bank loan, due on demand	44
Accounts payable	20
Income taxes payable	5
Deposits from customers for deliveries in 2009	8
	77
Working capital (CA – CL)	**64.0**
The Investments accounted for by the equity method and the	

Loan payable due June 2010 are non-current assets and liabilities respectively.

56. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

    During late December 2008 Company A acquires a small competitor, Company B. During the evaluation of the acquisition it is determined that the customer lists of Company B have a fair value of $50,000. Company A has spent $15,000 during the year updating and maintaining its own customer lists. What will be the value of the customer list intangible asset on Company A's 31 December 2008 consolidated financial statements?

    A. $15,000.
    B. $50,000.
    C. $65,000.

    Answer: B

    "Understanding the Balance Sheet," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA and Michael A. Broihahn, CFA
    2009 Modular Level 1, Vol.3, pp.212-214
    "Long-Lived Assets," R. Elaine Henry, CFA and Elizabeth Gordon
    2009 Modular Level I, Volume 3, pp.340-341
    Study Session 8-33-e, 9-36-a
    Explain the measurement bases (e.g., historical cost and fair value) of assets and liabilities, including current assets, current liabilities, tangible assets, and intangible assets.
    Explain the accounting standards related to the capitalization of expenditures as part of long-lived assets, including interest costs.

    The purchased customer list is an identifiable intangible because it can be sold separately from the company and it would be recorded at its fair market value, the amount paid for it in the acquisition, $50,000. The amount spent by Company A on its own lists, $15,000, would have to be expensed because internally generated intangibles are not capitalized.

57. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

    A company has equipment with an original cost of $850,000, accumulated amortization of $300,000 and 5 years of estimated remaining useful life. Due to a change in market conditions the company now estimates that the equipment will only generate cash flows of $80,000 per year over its remaining useful life. The company's incremental borrowing rate is 8 percent. Which of the following statements concerning impairment and future return on assets (ROA) is *most accurate*? The asset is:

    A. impaired and future ROA increases.
    B. impaired and future ROA decreases.
    C. not impaired and future ROA increases.

    Answer: A

    "Long-Lived Assets," R. Elaine Henry, CFA and Elizabeth Gordon
    2009 Modular Level I, Volume 3, pp.368-371
    Study Session 9-36-i
    Define impairment of long-lived tangible and intangible assets and explain what effect such impairment has on a company's financial statements and ratios.

    The equipment is impaired. NBV = $550,000 which is greater than the sum of the undiscounted cash flows 5 yrs x $80,000 = $400,000. The company's future ROA will increase. Once the asset is written down, there will be lower depreciation charges, which will increase net income, and a lower carrying value of assets, which decreases total assets. Both factors would increase any future ROA.

58. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

On 1 January 2008 a company enters into a lease agreement to lease a piece of machinery as the lessor with the following terms:

Annual lease payment due 31 December	$50,000
Lease term	5 years
Estimated useful life of the machine	6 years
Estimated salvage value of the machine	$0
Carrying value (cost) of leased asset	$160,000
Implied interest rate on lease	8%
The firm is reasonably assured of the collection of the lease payments.	

Which of the following *best* describes the classification of the lease on the company's financial statements for 2008?

A. Operating lease.
B. Sales type lease.
C. Direct financing lease.

Answer: B

"Long-term Liabilities and Leases," Elizabeth Gordon and R. Elaine Henry, CFA
2009 Modular Level I, Volume 3, pp. 458-464
Study Session 9-38-h
Distinguish between sales-type leases and a direct financing lease and determine the effects on the financial statements and ratios of the lessors.

It is a sales type lease: the lease period covers more than 75% of its useful life (5/6=83.3%) and the asset is on its books at less than the present value of the lease payments ($199,635) (PMT = $50,000, N=5, i=8%). The firm must have acquired or manufactured the asset if it is recorded at less than the present value of the lease payments.

59. Which of the following is the *most* useful to an analyst assessing the credit worthiness of a company? Information related to:

A. operating cash flow.
B. the scale and diversity of a company's operations.
C. operational efficiency of the company's operations.

Answer: A

"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp.591-593
Study Session 10-42-c
Describe the role of financial statement analysis in assessing the credit quality of a potential debt investment.

Credit analysis is concerned with a company's debt-paying ability. Returns to creditors are normally paid in cash, so the company's ability to generate cash internally is the most important factor in credit analysis.

60. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

A company acquires some new depreciable assets. Which of the following combinations of estimated salvage value and useful life will *most likely* produce the highest net profit margin?

A. low salvage value estimates and long average lives.
B. high salvage value estimates and long average lives.
C. high salvage value estimates and short average lives.

Answer: B

"Long-Lived Assets," R. Elaine Henry, CFA and Elizabeth Gordon
2009 Modular Level I,Volume 3, 348-352
Study Session 9-36-d
Identify the different depreciation methods for long-lived tangible assets and discuss how the choice of method, useful lives, and salvage values affect a company's financial statements, ratios, and taxes.

A high salvage value estimate reduces the depreciable base and thus depreciation expense; long average lives reduce the annual depreciation expense for any given depreciable base. The combination of the two would result in the lowest depreciation expense which leads to the highest net income and profit margins.

61. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

An analyst gathers the following information about a company ($ millions):

	2008	**2007**
Sales	283.5	234.9
Year-end inventory (LIFO inventory method)	81.4	53.7
LIFO reserve	36.4	21.8
Cost of goods sold (LIFO)	203.9	167.3

If the company uses the FIFO inventory method instead of LIFO, the company's 2008 gross profit margin is *closest* to:

A. 22.9%.
B. 29.8%.
C. 33.2%.

Answer: C

"Inventories," Elbie Antonites, CFA and Michael Broihahn, CFA
2009 Modular Level I, Volume 3, pp. 315-318
"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA, and Michael A. Broihahn CFA
2009 Modular Level I, Volume 3, pp. 599-601
Study Session 9-35-e, f, 10-42-e
Analyze the financial statements of companies using different inventory accounting methods to compare and describe the effect of the different methods on cost of goods sold, inventory balances, and other financial statement items; and compute and describe the effects of the choice of inventory method on profitability, liquidity, activity and solvency ratios.
Calculate adjustments to reported financial statements related to inventory assumptions in order to aid in comparing and evaluating companies.
Determine and justify appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.

Change in LIFO Reserve	36.4 - 21.8 = 14.6
COGS (FIFO) =	COGS (LIFO) – Change in LIFO Reserve
	203.9 – 14.6 = 189.3.

Gross profit (FIFO)	Sales – COGS (FIFO)
	283.5 – 189.3 = 94.2
Gross Profit Margin (FIFO)	Gross Profit / Sales
	94.2 / 283.5 = 33.23%.

62. Which of the following will *most likely* be an incentive for management to underreport earnings?

A. Meeting analysts' expectations.
B. Contract negotiations with unions.
C. Meeting restrictive debt covenants.

Answer: B

"Financial Reporting Quality: Red Flags and Accounting Warning Signs,"
Thomas R. Robinson, CFA and Paul Munter
2009 Modular Level I, Volume 3, pp.550-551
Study Session 10-40-a
Describe incentives that might induce a company management to overreport or underreport earnings.

Management is most likely to try and report lower earnings when negotiating concessions from a union.

63. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

A company uses the LIFO inventory method, but most of the other companies in the same industry use FIFO. Which of the following *best* describes one of the adjustments that would be made to the company's financial statements to compare it with other companies in the industry? The amount reported for the company's ending inventory should be:

A. increased by the ending balance in its LIFO reserve.
B. decreased by the ending balance in its LIFO reserve.
C. increased by the change in its LIFO reserve for that period.

Answer: A

"Inventories," Elbie Antonites, CFA, and Michael Broihahn, CFA
2009 Modular Level I, Volume 3, p. 312
"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA and Michael A. Broihahn CFA
2009 Modular Level I, Volume 3, p. 599
Study Session 9-35-e, f, 10-42-e
Analyze the financial statements of companies using different inventory accounting methods to compare and describe the effect of the different methods on cost of goods sold, inventory balances, and other financial statement items; and compute and describe the effects of the choice of inventory method on profitability, liquidity, activity and solvency ratios.
Calculate adjustments to reported financial statements related to inventory assumptions in order to aid in comparing and evaluating companies.
Determine and justify appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.

LIFO Reserve = FIFO Inventory – LIFO Inventory
Adding the ending balance in the LIFO reserve to the LIFO inventory would equal the ending balance for inventory on a FIFO basis.

64. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

An analyst gathers the following information about a company:

Average market price per share of common stock during the year	\$40
Exercise price per share for options on 50,000 common shares	\$50
Exercise price per share for warrants on 20,000 common shares	\$30

Using the treasury stock method, the number of incremental shares used to compute diluted earnings per share is *closest* to:

A. 5,000.
B. 15,000.
C. 20,000.

Answer: A

"Understanding The Income Statement," Thomas R. Robinson, CFA, Hennie van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp. 171-173
Study Session 8-32-h
Describe the components of earnings per share and calculate a company's earnings per share (both basic and diluted earnings per share) for both a simple and complex capital structure.

Diluted EPS is calculated using the treasury stock method that considers what would be the effect if the options or warrants had been exercised. Only options or warrants that are in-the-money are included, as out-of-the-money options would not be exercised. Therefore only the warrants are dilutive: their exercise price is below the average market price of the stock. Using the treasury stock method, the number of new shares issued on exercise is reduced by the number of shares that could be purchased with the cash received upon exercise of the warrants: 20,000(\$30) = \$600,000 in proceeds. \$600,000 / \$40 = 15,000 shares treasury stock. Incremental shares using the treasury stock method = 20,000 – 15,000 = 5,000.

65. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

At the beginning of the year, a lessee company enters into a new lease agreement that is correctly classified as a finance lease, with the following terms:

Annual lease payments due at the end of the year	$100,000
Lease term	5 years
Appropriate discount rate	12%
Depreciation method	straight-line basis
Estimated salvage value	$0

With respect to the effect of the lease on the company's financial statements in the first year of the lease, which of the following is *most* accurate? The reduction in the company's:

A. pretax income is $72,096.
B. cash flow from financing is $56,742.
C. cash flow from operations is $72,096.

Answer: B

"Long-term Liabilities and Leases," Elizabeth Gordon and R. Elaine Henry, CFA
2009 Modular Level I, Volume 3, pp. 447-453
Study Session 9-38-g
Determine the effects of finance and operating leases on the financial statements and ratios of the lessees and lessors.

The present value of the lease is $360,477.62. (n = 5, I = 12%, PMT = $100,000)
12% of the original PV is $43,257.31 and represents the interest component of the payment in the first year. The difference between the annual payment and the interest is the amortization of the lease obligation included in cash flow from financing. $100,000 – 43,257.31 = $56,742.69.
Depreciation is $360,477.62 / 5 or $72,095.52 so the total reduction in pretax income would be interest plus depreciation or $115,352.83. Cash flow from operations would be reduced by the amount of the interest only because the depreciation would be added back to determine cash flow from operations.

66. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

The following information relates to a profitable company that offers a warranty on a new product introduced in 2008:

Accrued warranty expenses for the warranty in 2008	$300,000
Actual expenditures for repairs under the warranty in 2008	$200,000

If the company's tax rate is 35 percent, which of the following *most* accurately describes the deferred tax recorded in 2008 with respect to the new product warranty?

A. Deferred tax asset of $35,000.
B. Deferred tax asset of $65,000.
C. Deferred tax liability of $35,000.

Answer: A

"Income Taxes," Elbie Antonites, CFA and Michael Broihahn, CFA
2009 Modular Level I, Volume 3, pp. 393-395, 399
Study Session 9-37-d
Calculate income tax expense, income taxes payable, deferred tax assets and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate

For financial statement purposes, the warranty expense recorded in 2008 is greater than the cash expense they incurred (and that is allowed as a deduction for income tax purposes), resulting in a warranty liability for financial statement purposes, but not for tax purposes. As the carrying amount of the liability is greater than the tax base, the $100,000 temporary difference will give rise to a $35,000 (100,000 x 0.35) deferred tax asset.

67. Assume U.S. GAAP (generally accepted accounting principles) applies unless otherwise noted.

At the beginning of the year, a company issues a $1,000 face value, semiannual coupon, bond with an 8 percent coupon rate maturing in 10 years. The annual market rate of interest at issuance was 12 percent. The initial liability recorded for this bond is *closest* to:

A. $771.
B. $774.
C. $1,000.

Answer: A

"Long-term Liabilities and Leases," Elizabeth Gordon and R. Elaine Henry, CFA
2009 Modular Level I, Volume 3, pp. 425-429
Study Session 9-38-a
Compute the effects of debt issuance and amortization of bond discounts and premiums on the financial statements and ratios.

The liability recorded is based on market rates of interest when the bond is issued and not the coupon rate on the bond. The market value of the bond at issuance was $770.60. (FV=1,000, PMT=40, N=20, I=6.0).

68. Financial reporting standards are *most likely* enforced by:

A. both standard-setting bodies and regulatory bodies.
B. regulatory authorities, such as the SEC and IOSC, only.
C. standard-setting bodies, such as the FASB and IASB, only.

Answer: B

"Financial Reporting Standards," Thomas R. Robinson, CFA, Hendrik van Greuning, CFA, Karen O'Connor Rubsam, CFA, R. Elaine Henry, CFA, and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp.96-97
Study Session 7-31 –b
Explain the role of standard-setting bodies, such as the International Accounting Standards Board and the U.S. Financial Accounting Standards Board, and regulatory authorities such as the International Organization of Securities Commissions, the U.K. Financial Services Authority, and the U. S. Securities and Exchange Commission in establishing and enforcing financial reporting standards.

Generally, standard setting bodies make the rules and regulatory authorities enforce the rules.

Questions 69 through 78 relate to Corporate Finance

69. A large corporation accepts a project which generates no revenue and has a negative net present value. The project *most likely* is classified in which of the following categories?

    A. Replacement project.
    B. New product or service.
    C. Regulatory or environmental project.

    Answer: C

    "Capital Budgeting," John D. Stowe, CFA, and Jacques R. Gagné, CFA
    2009 Modular Level I, Volume 4, pp. 6-8
    Study Session 11-44-a
    Explain the capital budgeting process, including the typical steps of the process, and distinguish among the various categories of capital projects.

    Regulatory, safety, and environmental projects are often mandated by governmental agencies. They may generate no revenue and might not be undertaken by a company maximizing its own private interests. For example, a corporation may be required to install equipment to meet a regulatory standard, and the cost of satisfying the standard is born by the corporation. In this case, the corporation selects the lowest cost alternative that meets the requirement, i.e., the alternative with the least negative net present value.

70. A company recently opened a limestone quarry at a location outside its traditional service area. Because limestone is a major ingredient in concrete, if the quarry is successful the company plans to build a ready-mix concrete plant at the same location. The investment in the concrete plant is *best* described as:

A. an externality.
B. project sequencing.
C. an example of investment synergy.

Answer: B

"Capital Budgeting," John D. Stowe, CFA, and Jacques R. Gagné, CFA
2009 Modular Level I, Volume 4, pp. 8-10
Study Session 11-44-c
Explain how the following project interactions affect the evaluation of a capital project: (1) independent versus mutually exclusive projects, (2) project sequencing, and (3) unlimited funds versus capital rationing.

Project sequencing occurs when the investment in one project creates the option to invest in future projects.

71. An analyst determines the following cash flows for a capital project:

Year	0	1	2	3	4	5
Cash flow (€)	-100	30	40	40	30	20

The required rate of return for the project is 13 percent. The net present value (NPV) of the project is *closest* to:

A. €14.85.
B. €60.00.
C. €214.85.

Answer: A

"Capital Budgeting," John D. Stowe, CFA, and Jacques R. Gagné, CFA
2008 Modular Level I, Volume 4, pp. 12-19
Study Session 11-44-d
Calculate and interpret the results using each of the following methods to evaluate a single capital project: net present value (NPV), internal rate of return (IRR), payback period, discounted payback period, average accounting rate of return (AAR), and profitability index (PI).

Using a calculator with a 13 percent discount rate, the NPV is €14.85 (= –100, =

30, = 40, = 40, = 30, = 20, I = 13, solve for NPV).

72. An analyst gathers the following information about the capital structure and before-tax component costs for a company. The company's marginal tax rate is 40 percent.

Capital component	Book Value (000)	Market Value (000)	Component cost
Debt	\$100	\$80	8%
Preferred stock	\$20	\$20	10%
Common stock	\$100	\$200	12%

The company's weighted average cost of capital (WACC) is *closest* to:

A. 8.55%.
B. 9.95%.
C. 10.80%.

Answer: B

"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 36-41
Study Session 11-45-a, c
Calculate and interpret the weighted average cost of capital (WACC) of a company.
Describe alternative methods of calculating the weights used in the weighted average cost of capital, including the use of the company's target capital structure.

Because the target capital weights are not given, market value weights are used to compute the WACC. The market value weights for debt, preferred stock and equity are 0.2667, 0.0667, and 0.6667 respectively.
WACC = $\times$ $\times (1 - t) +$ $\times$ $+$ $\times$
$= 0.2667 \times 8\% \times (1 - 0.4) + 0.0667 \times 10\% + 0.6667 \times 12\% = 9.95\%$

73. A company is considering issuing a 10-year, option-free, semiannual coupon bond with a 9 percent coupon rate. The bond is expected to sell at 95 percent of par value. If the company's marginal tax rate is 30 percent, then the after-tax cost of debt is *closest* to:

A. 6.30%.
B. 6.86%.
C. 9.80%.

Answer: B

"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 43-45
Study Session 11-45-f
Calculate and interpret the cost of fixed rate debt capital using the yield-to-maturity approach and the debt-rating approach.

Using a financial calculator: N = 20, PMT = 45, PV = –950, FV = 1000; solve for I/Y = 4.90%. The annual yield is twice the semiannual yield = 4.90% × 2 = 9.80%. The after-tax cost of debt = annual yield × (1 – *t*) = 9.80% × (1 – 0.30) = 6.86%

74. A company plans to issue nonconvertible, noncallable, fixed-rate perpetual preferred stock with a $6 annual dividend. The preferred stock is expected to sell for $40. If the company's marginal tax rate is 30 percent, then the cost of preferred stock is *closest* to:

A. 6.67%.
B. 10.5%.
C. 15.0%.

Answer: C

"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 46-47
Study Session 11-45-g
Calculate and interpret the cost of noncallable, nonconvertible preferred stock.

The cost of a perpetuity is the annual cash flow divided by the selling price. In this case, the cost of preferred ( ) = 6.00 / 40 = 15.0%. Because the preferred stock dividend is not tax deductible to the issuing company, there is no after-tax adjustment.

75. An analyst gathers the following information about a company and the market:

Current market price per share of common stock	€32.00
Most recent dividend per share paid on common stock	€2.40
Expected dividend payout rate	40%
Expected return on equity (ROE)	15%
Beta for the common stock	1.5
Expected return on the market portfolio	12%
Risk-free rate of return	4%

Using the dividend discount model approach, the cost of common equity for the company is *closest* to:

A. 16.0%.
B. 16.5%.
C. 17.2%.

Answer: C

"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 52-53
Study Session 11-45-h
Calculate and interpret the cost of equity capital using the capital asset pricing model approach, the dividend discount model approach, and the bond yield plus risk premium approach.

According to the dividend discount model approach, the cost of common equity is equal to the dividend yield plus the growth rate. In this case, the growth rate is the earnings retention rate times the expected ROE or (1 – dividend payout rate) × expected ROE = 1 – 0.4) × 15% = 9%. The expected dividend = 2.40 × (1 + 0.09) = 2.616. The expected dividend yield = 2.616 / 32 = 8.175%. The cost of common equity = 8.175% + 9.0% ≈ 17.2%.

76. A company is investigating the purchase of a banker's acceptance (BA). The $1,000,000 face value BA has 150 days to maturity and is quoted at 4.05 percent on a discount-basis yield. If the company's marginal tax rate is 25 percent, then the money market yield on the BA is *closest* to:

A. 3.13%.
B. 4.12%.
C. 4.18%.

Answer: B

“Working Capital Management,” Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela P. Peterson, CFA
2009 Modular Level I, Volume 4, pp. 99-100
Study Session 11-46-e
Compute and interpret comparable yields on various securities, compare portfolio returns against a standard benchmark, and evaluate a company’s short-term investment policy guidelines.

Money market yield = discount-basis yield × (face value / purchase price)
Purchase price = face value – [face value × discount-basis yield × (days to maturity / 360)]
= \$1,000,000 – [\$1,000,000 × 0.0405 × (150 / 360)] = \$983,125
Money market yield = 4.05% × (\$1,000,000 / \$983,125) = 4.12%

77. Regarding corporate governance, which of the following is *most likely* a reason for concern when evaluating the compensation committee? The compensation committee:

A. includes members of executive management.
B. purchases shares on the open market to fund stock option commitments.
C. discloses information about compensation paid to executives and board members.

Answer: A

“The Corporate Governance of Listed Companies: A Manual for Investors”
2009 Modular Level I, Volume 4, pp. 169-171
Study Session 11-48-f
State the key areas of responsibility for which board committees are typically created, and explain the criteria for assessing whether each committee is able to adequately represent shareowner interests.

The compensation committee should be independent from executive management.

78. Which of the following is *least likely* classified as a takeover defense?

A. Greenmail.
B. Cumulative voting.
C. Golden parachutes.

Answer: B

"The Corporate Governance of Listed Companies: A Manual for Investors"
2009 Modular Level I, Volume 4, pp. 186-187
Study Session 11-48-g
Evaluate, from a shareowner's perspective, company policies related to voting rules, shareowner sponsored proposals, common stock classes, and takeover defenses.

The ability to use cumulative voting enables shareowners to vote in a manner that enhances the likelihood that their interests are represented on the board. It is a valuable shareowner right.

Questions 79 through 90 relate to Equity Investments

79. In securities exchange markets, a member who executes stop loss or stop buy orders when the specified price occurs is *most likely* a:

    A. specialist.
    B. registered trader.
    C. commission broker.

    Answer: A

    "Organization and Functioning of Securities Markets," Frank K. Reilly CFA, and Keith C. Brown, CFA
    2009 Modular Level I, Volume 5, pp. 24-26, 29
    Study Session 13-52-e
    Compare and contrast major characteristics of exchange markets including exchange membership, types of orders, and market markers.

    The specialists (market makers) have two major functions. They act as brokers to match buy and sell orders, including special (stop loss or stop buy) orders.

80. An analyst gathers the following data for a company to estimate the expected growth rate of dividends and use it as an input for valuing the company's common stock.

Return on Assets	10%
Profit Margin	5 %
Financial Leverage	1.67
Payout Ratio	25%

The company's expected growth rate is *closest* to:

A. 4.2%.
B. 6.3%.
C. 12.5%.

Answer: C

"An Introduction to Security Valuation," Frank K. Reilly CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 146-147
Study Session 14-56-f, g
Estimate the dividend growth rate, given the components of the required return on equity and incorporating the earnings retention rate and current stock price.
Describe a process for developing estimated inputs to be used in the DDM, including the required rate of return and expected growth rate of dividends.

g = RR x ROE; RR = (1 – Payout Ratio) = 1 – 0.25 = 0.75
ROE = ROA x Financial Leverage; ROE = 10% x 1.67 = 16.67%; g = 0.75 x 16.67 = 12.5%

81. Which of the following statements about the short sale of a stock is *least* accurate?

A. The short seller must pay any dividends due to the lender of shares.
B. A stop buy order would enable a short seller to minimize potential losses.
C. Short sales involve time limits for returning the shares borrowed to the lender.

Answer: C

"Organization and Functioning of Securities Markets," Frank K. Reilly CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 25-26
Study Session13-52-f

Describe the process of selling a stock short and discuss an investor's likely motivation for selling short.

A short sale has no time limit, the other two statements are correct.

82. An analyst gathers the following data to determine the attractiveness of the company's common stock:

Dividends per share in 2002	$2
Dividends per share in 2008	$3
Expected return on the market	17%
Expected nominal risk-free return	9%
Stock's beta	1.8
Stock's market price as of 1 January 2009	$19

Using the constant growth dividend discount model, the stock's intrinsic value is *closest* to:

A. $12.82.
B. $18.29.
C. $19.57.

Answer: C

"The Time Value of Money" Richard A. DeFusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA
2009 Modular Level I, Volume 1, p. 199
"An Introduction to Asset Pricing Models," Frank K. Reilly, CFA and Keith C. Brown, CFA
2009 Modular Level I, Volume 4, pp. 260-261;
"An Introduction to Security Valuation," Frank K. Reilly CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 130-131
Study Session 1-5-e; 12-51-e; 14-56-c
Draw a time line, and solve time value of money applications (for example, mortgages and savings for college tuition or retirement).
Calculate, using the SML, the expected return on a security, and evaluate whether the security is overvalued, undervalued, or properly valued.
Calculate and interpret the value both of a preferred stock and a common stock using the dividend discount model (DDM).

g = growth rate of dividends: $[(3/2)^{1/6}] - 1 = 7\%$; Alternatively, PV = 2, FV = -3 n= 6, compute I/Y; k = 9 + 1.8 (17 – 9) = 23.4%
V = 3(1.07) / (0.234-0.07) = 19.57

83. Value Line Index, an unweighted index, uses which of the following methods in the computation of the holding period returns of underlying stocks?

A. Geometric mean.
B. Arithmetic mean.
C. Value-weighted mean.

Answer: A

"Security-Market Indexes," Frank K. Reilly CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 44-46
Study Session 13-53-a
Compare and contrast the characteristics of, and discuss the source and direction of bias exhibited by, each of the three predominant weighting schemes used in constructing stock market indexes, and compute a price-weighted, value-weighted, and un-weighted index series for three stocks.

The Value Line Index, an un-weighted index, uses the geometric mean return approach.

84. The behavior of investors who put more money into a failure that they feel responsible for, rather than into a success, is *most* accurately described as:

A. escalation bias.
B. confirmation bias.
C. overconfidence bias.

Answer: A

"Efficient Capital Markets," Frank K. Reilly, CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 83-84
Study Session 13-54-d
Define behavioral finance and describe overconfidence bias, confirmation bias, and escalation bias.

Escalation bias refers to the investor behavior of putting more money into a failure that they feel responsible for rather than into a success. This leads to the practice of "averaging down" by viewing the additional purchase as a "bargain" rather than considering the initial purchase as a mistake and selling the stock.

85. An analyst gathers the following data about a company:

Stock price	$40
Stock's required return	12%
Consensus estimate of next year's dividend	$2.00
Company's return on equity	10%

Using the dividend discount model, the company's dividend payout ratio is *closest* to:

A. 5%.
B. 30%.
C. 70%.

Answer: B

"An Introduction to Security Valuation: Part II," Frank K. Reilly, CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 130, 146
Study Session 14-56- c, g
Calculate and interpret the value both of a preferred stock and a common stock using the dividend discount model (DDM).
Describe a process for developing estimated inputs to be used in the DDM, including the required rate of return and expected growth rate of dividends.

= / (k – g); $40 = $2 / (0.12 - g); g = 7%; g = ROE x RR;
RR = 7 / 10 = 0.70; Payout Ratio = 1 – RR = 1 – 0.70 = 0.30 = 30%.

86. Which of the following attributes is *least likely* to be associated with the characteristics of a well functioning securities market?

A. Market depth.
B. Wide bid-ask spreads.
C. Rapid adjustment of prices to new information.

Answer: B

"Organization and Functioning of Securities Markets," Frank K. Reilly, CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 6-7
Study Session 13-52-a
Describe the characteristics of a well-functioning securities market.

Wide bid-ask spreads is not a characteristic of a well functioning market.

87. The *best* description of the measure of cash flow to use when estimating the total value of a firm is the operating free cash flow:

A. prior to interest payments on debt.
B. prior to interest payments on debt but after deducting funds needed for capital expenditures.
C. after adjustment for payments to debt holders, but before dividend payments to common stockholders.

Answer: B

"Understanding the Cash Flow Statement," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, R. Elaine Henry, CFA and Michael A. Broihahn, CFA
2009 Modular Level I, Volume 3, pp. 279-280
"An Introduction to Security Valuation," Frank K. Reilly, CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 134-135
Study Session 8-34-i, 14-56-g
Explain and calculate free cash flow to the firm, free cash flow to equity, and other cash flow ratios.
Describe a process for developing estimated inputs to be used in the DDM, including the required rate of return and expected growth rate of dividends.

The appropriate cash flow for estimating the total value of a firm is the operating free cash flow prior to interest payments on debt but after deducting funds needed for capital expenditures.

88. Which of the following is the *least likely* source of unreliability of a pricing anomaly?

A. Data mining.
B. Arbitrage activity.
C. Nonsynchronous trading.

Answer: B

"Market Efficiency and Anomalies," Vijay Singal, CFA
2009 Modular Level I, Volume 5, pp. 100-104
Study Session 13-55-c
Explain why an apparent anomaly may be justified and describe the common biases that distort testing for mispricings.

Arbitrage activity is not a source of unreliability of an anomaly. Arbitrageurs attempt to take advantage of an anomaly and are not a source of its unreliability.

89. The *best* characterization of the strong-form of efficient market hypothesis (EMH) with respect to the information set is that it encompasses:

A. both weak-form and semistrong-form hypotheses.
B. neither weak-form nor semistrong-form hypothesis.
C. the semistrong-form but not the weak-form hypothesis.

Answer: A

"Efficient Capital Markets," Frank K. Reilly CFA, and Keith C. Brown, CFA
2009 Modular Level I, Volume 5, pp. 63-6
Study Session 13-54-a
Define an efficient capital market and describe and contrast the three forms of the efficient market hypothesis (EMH).

The difference among the three forms of the EMH revolves around the information set included in each. The weak form includes public market information, the semistrong form includes all public information, and the strong form includes all public and private information. The strong form EMH encompasses both the weak-from and the semistrong form EMH.

90. Among a company's price to earnings (P/E), price to sales (P/S), and price to cash flow (P/CF) ratios, it is *most* accurate to state that P/E ratios are generally more stable from period to period than:

A. P/S ratios but not P/CF ratios.
B. P/CF ratios but not P/S ratios.
C. neither P/S ratios nor P/CF ratios.

Answer: C

"Introduction to Price Multiples," John D. Stowe, CFA, Thomas R. Robinson, CFA, Jerald E. Pinto, CFA, and Dennis W. McLeavey, CFA
2009 Modular Level I, Volume 5, pp. 182-188, 196-201
Study Session 14-59-a, b
Discuss the rationales for, and the possible drawbacks to, the use of price to earnings (P/E), price to book value (P/BV), price to sales (P/S), and price to cash flow (P/CF) in equity valuation.
Calculate and interpret P/E, P/BV, P/S, and P/CF.

Both sales and cash flow tend to be more stable than earnings, making the multiples based on sales and cash flow more stable than those based on EPS.

Questions 91 through 96 relate to Derivative Investments.

91. A series of interest rate put options that expire on different dates but have the same exercise rate is *best* defined as a (n):

A. interest rate cap.
B. interest rate floor.
C. interest rate collar.

Answer: B

"Option Markets and Contracts," Don M. Chance
2009 Modular Level I, Volume 6, pp. 90-93
Study Session 17-70-d
Define interest rate caps, and floors, and collars.

An interest rate floor is a series of put options on an interest rate, with each option expiring at the date on which the floating loan rate will be reset, and with each option having the same exercise rate.

92. The party making the fixed-rate payment under a swap contract could also have to make the variable payment on that contract if the payments are related to a (n):

A. equity swap.
B. currency swap.
C. interest rate swap.

Answer: A

"Swap Markets and Contracts," Don M. Chance
2009 Modular Level I, Volume 6, pp. 130-141
Study Session17-71-b
Define and give examples of currency swaps, plain vanilla interest rate swaps, and equity swaps and calculate and interpret the payments on each.

If the value of the index on which the swap is based declines, the resulting negative return would have to be paid by the party making the fixed-rate payment. This characteristic is one of the distinguishing features of equity swaps.

93. An investor establishes a short position in a futures contract on Day 0 when the price per contract is $100. The investor deposits $5 per contract to meet the initial margin requirement. The maintenance margin requirement per contract is $3. The Day 1 settlement price that would require the investor deposit additional funds on Day 2 equal to $4 per contract is *closest* to:

A. $96.
B. $103.
C. $104.

Answer: C

"Futures Markets and Contracts," Don M. Chance
2009 Modular Level I, Volume 6, pp. 55-60
Study Session 17-69-c
Describe price limits and the process of marking to market, and compute and interpret the margin balance, given the previous day's balance and the change in the futures price.

The investor has a short position and will experience a margin call only if the price increases. Additional margin must be deposited to bring the ending balance up to the initial margin requirement. The investor must deposit $4 therefore, the margin balance on Day 1 is -$4 which would result if the price of the contract was $104.

94. Two parties agree to a forward contract to deliver the S&P 500 Index at a price of $375,000 in 2 months time. When the forward contract expires, the price of the S&P 500 Index is $350,000 but the long party is unable to pay the cash settlement. The short party is *most likely* obligated to:

A. Default on the forward contract
B. Do nothing until the long makes payment
C. Accept delivery of S&P 500 stocks from the long

Answer: B

"Forward Markets and Contracts", Don M. Chance
2009 Modular Level I, Volume 6, pp. 32-33
Study Session 17-68-a
Differentiate between the positions held by the long and short parties to a forward contract in terms of delivery/settlement and default risk.

Given a forward contract cash settlement, only the net payment is required. The long owes the short $25,000.

95. A European bank wants to short a 1x3 forward rate agreement on Euribor. A dealer provides the bank with a quote of 1.75 percent. The bank agrees to enter the FRA with the dealer. At contract maturity, what Euribor rate would *most likely* result in the European bank receiving a payment from the dealer?

A. 60-day Euribor at 1.70%
B. 60-day Euribor at 1.80%
C. 90-day Euribor at 1.65%

Answer: A

"Forward Markets and Contracts," Don M. Chance
2009 Modular Level I, Volume 6, pp. 38-41
Study Session 17-68-g
Calculate and interpret the payoff of an FRA and explain each of the component terms.

The bank is short the FRA and would benefit from a decrease in the 60-day Euribor rate.

96. According to put-call parity, a synthetic put contains a:

A. long position in the call.
B. long position in the underlying.
C. short position in the risk-free bond.

Answer: A

"Option Markets and Contracts," Don M. Chance
2009 Modular Level I, Volume 6, pp. 108-110
Study Session 17-70-j
Explain put-call parity for European options, and relate put-call parity to arbitrage and the construction of synthetic options.

A synthetic put = long call + short underlying + long bond

Questions 97 through 108 relate to Fixed Income Investments.

97. The spread between the yields on a Ginnie Mae passthrough security and a comparable Treasury security is *best* explained by:

    A. credit risk.
    B. prepayment risk.
    C, reinvestment risk.

    Answer: B

    "Understanding Yield Spreads," Frank J. Fabozzi
    2009 Modular Level I, Volume 5, pp. 333-334
    Study Session 15-63-g
    Identify how embedded options affect yield spreads.

    Mortgage-backed securities expose an investor to prepayment risk.

98. Which of the following provides the *most* flexibility for the bond issuer?

    A. Put provision.
    B. Call provision.
    C. Sinking fund provision.

    Answer: B

    "Features of debt securities," Frank J. Fabozzi, CFA, 2009 Modular Level I, Volume 5, pp. 223-228
    Study Session 15-60-d,e
    Explain the provisions for redemption and retirement of bonds;
    Identify the common options embedded in a bond issue, explain the importance of embedded options, and state whether such options benefit the issuer or bondholder.

    A call provision allows the issuer to repurchase the bond for any reason, assuming the call deferral period has ended and upon payment of any call premium.

99. An annual-pay bond has a yield to maturity of 5.00 percent. The bond-equivalent yield of the annual-pay bond is *closest* to:

A. 4.94%.
B. 5.00%.
C. 5.06%.

Answer: A

"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi
2009 Modular Level I, Volume 5, p. 399
Study Session 16-65-d
Compute and interpret the bond equivalent yield of an annual-pay bond and the annual-pay yield of a semiannual-pay bond

The bond-equivalent yield of an annual-pay bond = $2 \times [(1 + \text{yield on annual-pay bond})^{0.5} - 1] = 2 \times [(1 + 0.05)^{0.5} - 1] = 0.0494 = 4.94\%$

100. An analyst gathered the following information:

Periods	Years	Annual Par Yield to Maturity BEY (%)	Theoretical Spot rate BEY (%)	Six-month Forward Rates BEY (%)
1	0.5	3.00	3.00	3.00
2	1.0	3.30	3.30	3.61
3	1.5	3.50	3.51	3.91
4	2.0	3.90	3.92	5.15

The value of a single, default-free cash flow of $50,000 at the end of Period 4 is *closest* to:

A. $46,265.
B. $46,299.
C. $46,316.

Answer: A

"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi
2009 Modular Level I, Volume 5, pp. 408
Study Session 16-65-e
Describe the methodology for computing the theoretical Treasury spot rate curve, and compute the value of a bond using spot rates

The theoretical spot rates for Treasury securities represent the appropriate set of interest rates that should be used to value default-free cash flows. Therefore: $50,000 / (1 + 0.0392/2)^4 = $46,264.80 ≈ $46,265.

101. The zero-volatility spread (Z-spread) is a measure of the spread off:

A. all points on the spot curve.
B. all points on the Treasury yield curve.
C. one point on the Treasury yield curve.

Answer: A

"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi
2009 Modular Level I, Volume 5, pp. 414
Study Session 16-65-f
Differentiate between the nominal spread, the zero-volatility spread, and the option-adjusted spread.

The zero-volatility spread is a measure of the spread that the investor would realize over the entire Treasury spot rate curve if the bond is held to maturity.

102. If an institutional investor wants to borrow money for 30 days to finance a bond purchase, which of these is *most likely* to be the lowest loan rate available?

A. Term repo rate
B. Call money rate
C. Broker loan rate

Answer: A

"Features of debt securities," Frank J. Fabozzi, CFA
2009 Modular Level I, Volume 5, pp. 230-231
Study Session 15-60-f
Describe methods used by institutional investors in the bond market to finance the purchase of a security (i.e., margin buying and repurchase agreements).

For institutional investors the term repo rate is less than the cost of bank financing (i.e., broker loan rate or call money rate.)

103. The option adjusted spread (OAS) is *best* described as the:

A. Z-spread minus the option cost.
B. Z-spread plus the cost of the option.
C. value of the security's embedded option.

Answer: A

"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi
2009 Modular Level I, Volume 5, p. 419
Study Session 16-65-g
Describe how the option-adjusted spread accounts for the option cost in a bond with an embedded option

The Z-spread is the sum of the OAS and the option cost.

104. If interest rates are expected to decline, an investor can earn a higher coupon interest rate by purchasing a(n):

A. callable bond.
B. inverse floater.
C. floater with a floor.

Answer: B

"Features of Debt Securities," Frank J. Fabozzi
2009 Modular Level I, Volume 5, p. 220
Study Session 15-60-b, e
Describe the basic features of a bond, the various coupon rate structures, and the structure of floating-rate securities.
Identify the common options embedded in a bond issue, explain the importance of embedded options, and state whether such options benefit the issuer or the bondholder.

Inverse floaters have a coupon formula such that the coupon rate increases when the reference rate decreases and decreases when reference rate increases. The coupon rate moves in the opposite direction from the change in the reference rate.

105. The duration of a fixed-income portfolio is *best* interpreted as the:

A. first derivative of the price function for the bonds in the portfolio.
B. percentage change in the portfolio's value if interest rates change by 100 basis points.
C. weighted average number of years to receive the present value of the portfolio's cash flows.

Answer: B

"Introduction to the Measurement of the Interest Rate Risk," Frank J. Fabozzi
2009 Modular Level I, Volume 5, pp. 466-467
Study Session 16-66-e
Distinguish among the alternative definitions of duration, and explain why effective duration is the most appropriate measure of interest rate risk for bonds with embedded options.

Users of this interest rate risk measure are interested in what it tells them about the price sensitivity of a bond or a portfolio to change in interest rates, therefore B is correct.

106. Relative to the duration/convexity approach, a shortcoming of the full value approach to measuring the interest rate risk of a bond portfolio is that it:

A. is relatively time consuming.
B. cannot be used for stress testing.
C. ignores the impact of embedded options.

Answer: A

"Introduction to the measurement of interest rate risk," Frank J. Fabozzi, CFA,
2009 Modular Level I, Volume 5, pp. 444-448
Study Session 16-66-a
Distinguish between the full valuation approach (the scenario analysis approach) and the duration/convexity approach for measuring interest rate risk, and explain the advantage of using the full valuation approach.

Each bond must be valued separately, taking into account its individual complexity such as embedded options.

107. A portfolio manager uses her valuation model to estimate the value of a bond as 125.482. Using the same model, she estimates that the value would increase to 127.723 if interest rates fell 30 bps and would decrease to 122.164 if interest rates rose 30 bps. Using these estimates, the effective duration of the bond is *closest to*:

A. 2.22.
B. 7.38.
C. 14.77.

Answer: B

"Introduction to the measurement of interest rate risk," Frank J. Fabozzi, CFA, 2009 Modular Level I, Volume 5, pp. 456-457
Study Session 16-66-d
Compute and interpret the effective duration of a bond, given information about how the bond's price will increase and decrease for given changes in interest rates, and compute the approximate percentage price change for a bond, given the bond's effective duration and a specified change in yield.

The duration of a bond is $D = \frac{V_- - V_+}{2(V_0)(\Delta y)}$, where is the current value, V_+ is the value given an increase in interest rates, V_- is the value given a decrease in interest rates, and Δy is the change in interest rates used to compute the changes in value. Therefore, the duration is $D = \frac{127.723 - 122.164}{2 \times 125.482 \times 0.003} = 7.38$.

108. If a bond is trading at 96.829 with a yield to maturity of 4.53 percent and duration equal to 5.38, its price value of a basis point (PVBP) is *closest to*:

A. 0.0439.
B. 0.0521.
C. 0.0538.

Answer: B

"Introduction to the measurement of interest rate risk," Frank J. Fabozzi, CFA, 2009 Modular Level I, Volume 5, pp. 472-73
Study Session 16-66-i
Compute the price value of a basis point (PVBP), and explain its relationship to duration.

The duration multiplied by one basis point (0.0001) multiplied by 100% is the percentage change in value of the bond for a one basis point change in interest rates. PVBP is the price multiplied by the percentage change in value for a one basis point change in interest rates, or $5.38 \times 0.0001 \times 100\% = 0.0538\%$ multiplied by $96.829 = 0.0521$.

Questions 109 through 114 relate to Alternative Investments.

109. Exchange Traded Funds (ETFs) are affected by trading risk, which is most likely to:

A. expose investors to counterparty credit risk.
B. result in prices that differ from Net Asset Value (NAV).
C. provide investment results that do not correspond to the price and yield performance of their respective indexes.

Answer: B

"Alternative Investments," Bruno Solnik, and Denis McLeavy
2009 Modular Level I, Volume 6, pp 184-185
Study Session 18-73-c
Explain the advantages and risks of ETFs.

An ETF is designed to make it likely that it will trade close to its NAV. Impediments to the securities markets may result in trading prices that differ, sometimes significantly, from NAV. There is no assurance that an active trading market will always exist for the ETF on the exchange, so the bid-ask spread can be large for some ETFs.

110. When using the net income approach (NOI) in real estate valuation, if inflation is passed through, then the appraisal price will *most likely*:

A. increase.
B. decrease.
C. remain unchanged.

Answer: C

"Alternative Investments", Bruno Solnik, and Denis McLeavy
2009 Modular Level I, Volume 6, p 191
Study Session 18-73-f

Calculate the net operating income (NOI) from a real estate investment, the value of the property using the sales comparison and income approaches, and the after-tax cash flows, net present value, and yield of real estate investment.

Inflation could make NOI grow at the inflation rate over time. As long as inflation is passed through, it will not affect valuation because the market cap rate also incorporates the inflation rate.

111. An investor evaluates an apartment complex using the income approach. Recent sales in the area consist of an apartment complex and an office building. The data on the apartment complex and the recently sold properties are provided below. All income and expenses are annual.

Gross potential rental income	$288,000
Estimated vacancy and collection losses	5%
Insurances and taxes	$25,000
Utilities	$16,000
Repairs and maintenance	$26,000
Depreciation	$32,000
Interest on proposed financing	$27,000

The NOI of the apartment complex under consideration is *closest* to:

A. $147,600.
B. $174,600.
C. $206,600.

Answer: C

“Alternative Investments”, Bruno Solnik, and Denis McLeavy
2009 Modular Level I, Volume 6, pp 191-192
Study Session 18-73-f
Calculate the net operating income (NOI) from a real estate investment, the value of the property using the sales comparison and income approaches, and the after-tax cash flows, net present value, and yield of real estate investment.

The NOI for the apartment complex is gross potential rental income minus estimates vacancy and collection costs minus insurance and taxes minus utilities minus repairs and maintenance

NOI=$288,000 – (0.05 × 288,000) – 25,000 – 16,000 - 26,000 = $206,600

112. An analyst collects the following data:

	Apartment Complex Under Consideration	**Apartment Complex Recently Sold**	**Office Building Recently Sold**
Net Operating Income (NOI)	$250,000	$91,000	$480,000
Sales price		$700,000	$3,000,000

Based on the data provided, the appraisal price of the apartment complex under consideration is *closest* to:

A. $1,562,500.
B. $1,724,138.
C. $1,923,077.

Answer: C

"Alternative Investments," Bruno Solnik, and Dennis McLeavy
2009 Modular Level I, Volume 6, pp 191-192
Study Session 18-73-f
Calculate the net operating income (NOI) from a real estate investment, the value of the property using the sales comparison and income approaches, and the after-tax cash flows, net present value, and yield of real estate investment

The correct market capitalization rate is based on the recently sold office complex.
Capitalization rate = $91,000/$700,000 = 0.13
Appraisal value = $250,000/0.13 = $1,923,077

113. When a commodity market is in contango, the roll yield is *most likely* :

A. zero.
B. positive.
C. negative.

Answer: C

"Investing in Commodities," Ronald G. Layard-Liesching
2009 Modular Level I, Volume 6, pp 244-245
Study Session 18-74-b

Describe the sources of return and risk for a commodity investment and the effect on a portfolio of adding a long term commodity class.

The roll yield when the market is in contango is negative.

114. For a commodity if futures prices prices are above the spot price then the market, then the market is *most likely* to be:

A. in contango.
B. in backwardation.
C. trading at a premium.

Answer: A

"Investing in Commodities," Ronald G. Layard-Liesching
2009 Modular Level I, Volume 6, pp 242-243
Study Session 18-74-a
Explain the relationship between spot prices and expected futures prices in terms of contango and backwardation.

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

Questions 115 through 120 relate to Portfolio Management.

115. An analyst collected the following data for an asset:

Possible Rate of Return (Percent)	Probability
-10%	0.20
-5	0.30
10	0.40
25	0.10

The variance of returns for the asset are *closest* to:

A. 121.
B. 188.
C. 213.

Answer: A

"Managing Investment Portfolio: A Dynamic Process" John Maginn, Donald Tuttle, Denis McLeavy, Jerald Pinto
2009 Modular Level I, Volume 4, pp. 226-227
Study Session 12-50-c
Compute and interpret the expected return, variance, and standard deviation for individual investment and expected return and standard deviation for a portfolio.

The variance of returns is =
[(-10-3).2+(-5-3).3+(10-3).4+(25-3).1]=121

116. An analyst gathered the following information about a portfolio comprised of two assets:

Asset	Weight (%)	Expected Return	Expected Standard Deviation
X	75	11%	5%
Y	25	7%	4%

If the correlation of returns for the two assets equals 0.75, and the risk-free interest rate 1 percent, then the expected standard deviation of the portfolio is closest to:

A. 3.07%.
B. 4.23%.
C. 4.55%.

Answer: C

"An Introduction to Portfolio Management," Frank K. Reilly and Keith C. Brown
2009 Modular Level I, Volume 4, pp. 226-241
Study Session 12-50-c
Compute and interpret the expected return, variance, and standard deviation for an individual investment and the expected return and standard deviation for a portfolio.

Portfolio expected standard deviation =
$[(0. \times 0.) + (0. \times 0.) + (2 \times 0.75 \times 0.25 \times 0.75 \times 0.05 \times 0.04)]^{0.5} = 4.55\%$

117. An analyst has gathered monthly returns for two stock indexes A and B:

Month	Returns for Index A	Returns for Index B
1	-6.4%	-6.2%
2	6.6%	19.0%
3	12.9%	-7.7%
4	3.2%	4.0%

The covariance between Index A and Index B is *closest* to:

A. 10.37.
B. 13.82.
C. 19.64.

Answer: B

"Managing Investment Portfolio: A Dynamic Process," John Maginn, Donald Tuttle, Denis McLeavy, Jerald Pinto
2009 Modular Level I, Volume 4, pp. 229-231
Study Session 12-50-d
Compute and interpret the covariance of rates of return, and show how it is related to correlation coefficient.

Calculation of the covariance proceeds as follows:
1) Compute the average for each index:
Index A = (-6.4 + 6.6 + 12.9+3.2)/4 = 4.08
Index B = (-6.2 + 19.0 - 7.7 + 4)/4 = 2.28
2) Compute the following sum:
(-6.4-4.08) × (-6.2-2.28) + (6.6-4.08) × (19.0-2.28) + (12.9-4.08) × (-7.7-2.28) + (3.2-4.08) × (4.0-2.28) = 41.47
3) Divide the sum found in 2) by number of observation minus one = 41.47/(4-1) =13.82

118. A completely diversified portfolio will *most likely* result in the elimination of:

A. systematic variance.
B. unsystematic variance.
C. both systematic and unsystematic variance.

Answer: B

"Managing Investment Portfolio: A Dynamic Process," John Maginn, Donald Tuttle, Denis McLeavy, Jerald Pinto
2009 Modular Level I, Volume 4, pp. 256-258

Study Session 12-51-c
The candidate should be able to define systematic and unsystematic risk, and explain why an investor should not expect to receive additional return for assuming unsystematic risk;

A completely diversified portfolio, such as the market portfolio, will eliminate all unsystematic risk. Systematic risk cannot be diversified away.

119. Beta can be viewed as:

A. a measure of unsystematic risk.
B. covariance of an asset with the market portfolio.
C. correlation coefficient with the market portfolio.

Answer: B

"Managing Investment Portfolio: A Dynamic Process," John Maginn, Donald Tuttle, Denis McLeavy, Jerald Pinto
2009 Modular Level I, Volume 4, pp. 259-260
Study Session 12-51-d;
Explain the capital asset pricing model, including the security market line (SML) and beta, and describe the effect of relaxing its underlying assumptions;

Beta is a standardized measure of risk because it relates this covariance to the variance of the market portfolio.

120. For an investor borrowing money at the risk-free interest rate to invest in the market portfolio, the estimated rate of return of his portfolio is *most likely* to:

A. increase.
B. decrease.
C. remain unchanged.

Answer: A

"Managing Investment Portfolio: A Dynamic Process," John Maginn, Donald Tuttle, Denis McLeavy, Jerald Pinto
2009 Modular Level I, Volume 4, p 254
Study Session 12-51 a;
The candidate should be able to explain the capital market theory, including the underlying assumptions, and explain the effect on expected returns, the standard deviation of returns, and possible risk/return combinations when risk-free asset is combined with a portfolio of risky assets;

An investor who wants to attain a higher estimated rate of return than the market portfolio may want to use leverage by borrowing money at the risk-free of interest.