2017 Level I Mock Exam: Morning Session

The morning session of the 2017 Level I Chartered Financial Analyst (CFA®) Mock Examination has 120 questions. To best simulate the exam day experience, candidates are advised to allocate an average of 1.5 minutes per question for a total of 180 minutes (3 hours) for this session of the exam.

	Topic	**Minutes**
1-18	Ethical and Professional Standards	27
19-32	Quantitative Methods	21
33-44	Economics	18
45-68	Financial Statement Analysis	36
69-76	Corporate Finance	12
77-88	Equity Investments	18
89-94	Derivative Investments	9
95-106	Fixed Income Investments	18
107-110	Alternative Investments	6
111-120	Portfolio Management	15
	Total:	**180**

1. In cases where applicable local laws governing calculation and presentation of investment performance conflict with the GIPS standards, firms are:

   A. required to comply with local regulations and make full disclosure of the conflict to claim GIPS compliance.
   B. unable to claim GIPS compliance in cases where local regulations prohibit accurate calculation.
   C. required to calculate and maintain two sets of performance data in order to claim GIPS compliance.

   Answer = A

   In cases where applicable local laws governing calculation and presentation of investment performance conflict with the GIPS standards, firms must comply with local regulations and fully disclose the conflict in the compliant presentation.

   CFA Level I
   "Global Investment Performance Standards (GIPS)," CFA Institute
   Section 4.A.22

2. Ross Nelson, CFA, manages accounts for high-net-worth clients, including his own family's account. He has no beneficial ownership in his family's account. Because Nelson is concerned about the appearance of improper behavior in managing his family's account, when his firm purchases a block of securities, Nelson allocates to his family's account only those shares that remain after his other client accounts have their orders filled. The fee for managing his family's account is based on his firm's normal fee structure. According to the *Standards of Practice Handbook*, Nelson's best course of action with regard to management of his family's account would be to:

   A. treat the account like other employee accounts of the firm.
   B. treat the account like other client accounts.
   C. remove himself from any direct involvement by transferring responsibility for this account to another investment professional in the firm.

   Answer = B

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

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

3. Alexander Newton, CFA, is the chief compliance officer for Mills Investment Limited. Newton institutes a new policy requiring the pro rata distribution of new security issues to all established discretionary accounts for which the new issues are appropriate. The policy also provides for the exclusion of newly established discretionary accounts from the distribution until they have reached their one-month anniversary date. This policy is disclosed to all existing and potential clients. Did Newton *most likely* violate any CFA Institute Standards of Professional Conduct?

A. No, because the policy has been adequately disclosed to all existing and potential clients
B. Yes
C. No, because the allocation policy is not inequitable under the standards

Answer = B

Under Standard III(B)-Fair Dealing, members and candidates should disclose to clients and prospective clients how they select accounts to participate in and how they determine the amount of securities each account will buy or sell. Trade allocation procedures must be fair and equitable, and disclosure of inequitable allocation methods does not relieve the member or candidate of this obligation. All discretionary accounts should be treated in the same manner. Treating newer accounts differently would be considered inequitable regardless of whether this policy is disclosed.

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

4. According to the GIPS standards a verification report confirms all of the following *except* whether:

A. specific composite presentations are accurate.
B. processes and procedures are designed to calculate and present compliant performance results.
C. a firm has complied with all firm-wide composite construction requirements.

Answer = A

GIPS verification does not ensure the accuracy of any specific composite presentations.

CFA Level I
“Introduction to the Global Investment Performance Standards (GIPS),” CFA Institute
Section V–Verification

5. Justin Blake, CFA, a retired portfolio manager, owns 20,000 shares of a small public company that he would like to sell because he is worried about the company's prospects. He posts messages on several internet bulletin boards. The messages read, "This stock is going up once the pending patents are released, so now is the time to buy. The stock is a buy at anything below $3. I have done some close research on these guys." According to the *Standards of Practice Handbook*, Blake *most likely* violated the Code and Standards associated with:

A. Integrity of Capital Markets, but not Conflicts of Interest.
B. neither Integrity of Capital Markets nor Conflicts of Interest.
C. Integrity of Capital Markets, and Conflicts of Interest.

Answer = A

Blake violated Standard II(B) regarding the Integrity of Capital Markets by engaging in a practice that is likely to artificially inflate trading volume.

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

6. Miranda Grafton, CFA, purchased a large block of stock at varying prices during the trading session. The stock realized a significant gain in value before the close of the trading day, so Grafton reviewed her purchase prices to determine what prices should be assigned to each specific account. According to the *Standards of Practice Handbook*, Grafton's *least* appropriate action is to allocate the execution prices:

A. across the participating client accounts at the same execution price.
B. across the participating client accounts pro rata on the basis of account size.
C. on a first-in, first-out basis with consideration of bundling orders for efficiency.

Answer = B

According to Standard III (B) best practices include allocating pro rata on the basis of order size, not account size. All clients participating in the block trade should receive the same execution price and be charged the same commission.

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

7. Which of the following *least likely* reflects the two primary principles of the CFA Institute Rules of Procedure for Professional Conduct?

A. Fair process to the member and candidate
B. Public disclosure of disciplinary sanctions
C. Confidentiality of proceedings

Answer = B

The two principles of the Rules of Procedure for Professional Conduct are confidentiality of proceedings and fair process to the member or candidate.

CFA Level I
"Rules of Procedure for Professional Conduct"

8. Several years ago, Leo Peek, CFA, co-founded an investment club. The club is fully invested but has not actively traded its account for at least a year and does not plan to resume active trading of the account. Peek's employer requires an annual disclosure of employee stock ownership. Peek discloses all of his personal trading accounts but does not disclose his holdings in the investment club. Peek's actions are *least likely* to be a violation of which of the CFA Institute Standards of Professional Conduct?

A. Misrepresentation
B. Transaction priority
C. Conflicts of interest

Answer = B

There is no indication that the investment club is trading ahead of clients. See Standard VI(B).

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

9. Madeline Smith, CFA, was recently promoted to senior portfolio manager. In her new position, Smith is required to supervise three portfolio managers. Smith asks for a copy of her firm's written supervisory policies and procedures but is advised that no such policies are required by regulatory standards in the country where Smith works. According to the *Standards of Practice Handbook*, Smith's *most* appropriate course of action would be to:

   A. require her firm to adopt the CFA Institute Code of Ethics and Standards of Professional Conduct.
   B. decline to accept supervisory responsibility until her firm adopts procedures to allow her to adequately exercise such responsibility.
   C. require the employees she supervises to adopt the CFA Institute Code of Ethics and Standards of Professional Conduct.

   Answer = B

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

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

10. When Jefferson Piedmont, CFA, joined Branch Investing, Branch began using a quantitative stock selection model Piedmont had developed on his own personal time prior to his employment with Branch. One year later when Piedmont left Branch Investing, he found the original copy of the model he had developed in a file at his home and presented it to his new employer, which immediately began using the model. According to the *Standards of Practice Handbook*, did Piedmont *most likely* violate any CFA Institute Standards of Professional Conduct?

   A. No
   B. Yes, because he misappropriated property now belonging to Branch
   C. Yes, because he failed to inform his new employer the model was the same one used by his previous employer

   Answer = A

   Although departing employees may not take employer property when departing, as the guidance for Standard IV(A) – Loyalty outlines, the model Piedmont presented to his new employer was not Branch's property. It was created by Piedmont prior to his employment with Branch. The model was not created for Branch in the course of his employment, even though it was adopted by Branch.

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

11. Reiko Kimisaki, CFA, is an investment adviser for a national social security fund in a frontier market with a very limited and illiquid capital market. The labor force is young and has an investment time horizon of 25 to 30 years. Kimisaki has been asked to suggest ways to increase the investment return of the overall portfolio. After careful assessment of the fund's previous investment history, and available asset classes, she considers investment in private equity. What is Kimisaki's lowest priority to avoid any Code and Standards violations prior to making this investment recommendation?

A. Assess the risk tolerance of the fund.
B. Analyze the expected returns of private equity in the market.
C. Determine whether the investment policy statement allows for alternative investments.

Answer = B

Prior to undertaking analysis with regard to expected returns, an adviser must determine the suitability of an investment class, including whether it fits within the client's risk tolerance and whether it is an allowable asset class as per the client's investment policy statement. Only after these factors have been determined should she proceed, if appropriate, to analyze expected returns to determine a particular investment recommendation.

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

12. Rebecca Wong is enrolled to take the Level I CFA exam. Her friend William Leung purchased Level I study materials from a well-known CFA review program the previous year. Leung made a photocopy of the previous year's copyrighted materials and sold it to Wong to help her study. Who *most likely* violated the CFA Institute Code of Ethics or any Standards of Professional Conduct?

A. Neither violated.
B. Both violated.
C. Only Leung violated.

Answer = B

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

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

13. According to the Global Investment Performance Standards (GIPS), firms must do all of the following *except*:

    A. provide investors with a comprehensive view of their performance only in terms of returns.
    B. adhere to certain calculation methodologies and make specific disclosures along with their performance.
    C. comply with all requirements of the GIPS standards, such as updates, guidance statements, and clarifications.

Answer = A

Firms must provide investors with a comprehensive view of their performance in terms of risk and returns, not just returns.

CFA Level I
“The GIPS Standards,” CFA Institute
Section: Overview

14. For firms to claim compliance with the GIPS standards they *most likely* must:

    A. increase the consistency and quality of the firm's compliant presentations.
    B. take responsibility for their claim of compliance and maintaining that compliance.
    C. hire an independent third party to test a sample of their composites.

Answer = B

Firms claiming compliance with the GIPS standards are responsible for their claim of compliance and for maintaining that compliance. That is, firms self-regulate their claim of compliance.

CFA Level I
"Introduction to the Global Investment Performance Standards (GIPS)," CFA Institute
Section: V. Verification

15. While waiting in the business class lounge before boarding an airplane, Becca Msafari, CFA, an equity analyst, overhears a conversation by a group of senior managers, including members of the board, from a large publicly listed bank. The managers discuss staff changes necessary to accommodate their regional expansion plans. Msafari hears several staff names mentioned. Under what circumstances could Msafari *most likely* use this information when making an investment recommendation to her clients? She can use the information:

A. under no circumstances.
B. if she does not breach the confidentiality of the names of the staff.
C. if the discussed changes are unlikely to affect investor perception of the bank.

Answer = C

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

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

16. Fundamental Asset Managers claims compliance with the CFA Institute Global Investment Performance Standards (GIPS) and manages both discretionary and non-discretionary accounts. When constructing a single composite for Fundamental, Juma Dzuya includes all discretionary, fee-paying accounts with both value and growth strategies. Does the composite constructed by Dzuya *most likely* meet the criteria of the GIPS standards?

A. No, because of non-similar investment strategies
B. No, because non-discretionary accounts are not included
C. Yes

Answer = A

A composite must include all actual fee-paying, discretionary portfolios managed in accordance with the same investment mandate, objective, or strategy (Standard IV–Composites). By including both the value and growth portfolios, the composite is made up of portfolios with different investment mandates or strategies.

CFA Level I
"Introduction to the Global Investment Performance Standards (GIPS)"
Composites

17. Charlie Mancini, CFA, is the Managing Director for Business Development at SV Financial, (SVF), a large U.S.-based mutual fund organization. Mancini has been under pressure recently to increase revenues. In order to secure business from a large hedge fund manager based in Asia, Mancini recently approved flexible terms for the fund's client agreement. To allow for time zone differences, the agreement permits the hedge fund to trade in all of SVF's mutual funds six hours after the close of U.S. markets, which is prohibited by U.S. regulators. Did Mancini violate any CFA Institute Standards of Professional Conduct?

    A. No
    B. Yes, with regard to Fair Dealing and Material Nonpublic Information
    C. Yes, with regard to Fair Dealing

    Answer = B

    Clients should be treated fairly and impartially according to Standard III(B). In addition, the flexible trading terms allow the hedge fund manager to enrich itself and are a violation of Standard II(A), which concerns trading on material nonpublic information. This situation is also a conflict of interest, and thus a violation of Standard VI(A)-Disclosure of Conflicts.

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

18. In order to achieve compliance with GIPS Standards, it is recommended that firms:

    A. define the firm by including all geographical offices operating under the same firm name.
    B. provide existing clients a compliant presentation applicable to their portfolio, at a minimum of a bi-annual basis.
    C. adopt the broadest, most meaningful definition of the firm.

    Answer = C

    The Fundamentals of Compliance recommend firms should adopt the broadest, most meaningful definition of the firm.

CFA Level I
"The GIPS Standards," CFA Institute
Section: Fundamentals of Compliance – Requirements & Recommendations

19. The discrepancy between a statistically significant result and an economically meaningful result is *least likely* the result of:

A. transaction costs.
B. sampling errors.
C. risk tolerance.

Answer = B

Sampling errors will result in statistical error. A statistically significant result might not be economically meaningful after an analyst accounts for the risk, transaction costs, and applicable taxes.

CFA Level I
"Hypothesis Testing," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2

20. A small-cap growth fund's monthly returns for the past 36 months have been consistently outperforming its benchmark. An analyst is determining whether the standard deviation of monthly returns is greater than 6%. Which of the following *best* describes the hypothesis to be tested?

A.
B.
C.

Answer = C

This is a one-tailed hypothesis testing with a "greater than" alternative hypothesis. A squared standard deviation is being used to obtain a test of variance. The hypotheses are $H_o: \sigma^2 \leq 0.36\%$ versus $H_a: \sigma^2 > 0.36\%$.

CFA Level I
"Hypothesis Testing," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2

21. When testing a hypothesis, the power of a test is *best* described as the:

A. probability of rejecting a true null hypothesis.
B. probability of correctly rejecting the null hypothesis.
C. same as the level of significance of the test.

Answer = B

The power of a test is the probability of correctly rejecting the null hypothesis—that is, the probability of rejecting the null when it is false.

CFA Level I
"Hypothesis Testing," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2

22. A company has an unsecured line of credit and needs to maintain its EBIT-to-interest coverage ratio greater than 2.0. Its EBIT is estimated to be between $36 million and $48 million, with all values equally likely. If the forecasted interest charge for the year is $20 million, the probability that EBIT/interest will be more than 2.0 is *closest* to:

A. 33.3%.
B. 66.7%.
C. 61.5%.

Answer = B

The EBIT-to-interest ratio is equal to 2.0 when the EBIT is $40 million. Given that the values between $36 million and $48 million are equally likely, the probability of the ratio being equal to or less than 2.0 is 33.3% (= [$40 million – $36 million]/[$48 million – $36 million]). Consequently, the probability of the ratio being greater than 2.0 is 66.7% (i.e., 1 – Probability of the ratio being equal to or less than 2.0).

CFA Level I
"Common Probability Distributions," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 3.1

23. If the stated annual interest rate is 9% and the frequency of compounding is daily, the effective annual rate (EAR) is *closest* to:

A. 9.00%.
B. 9.86%.
C. 9.42%.

Answer = C

EAR = (1 + periodic interest rate)^m – 1 = [1 + (0.09 / 365)]^{365} – 1 = 0.094162, rounded to 9.42%.

CFA Level I
"The Time Value of Money," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 3.2, 3.3

24. A financial contract offers to pay €1,200 per month for five years with the first payment made immediately. Assuming an annual discount rate of 6.5%, compounded monthly the present value of the contract is *closest* to:

A. €61,663.
B. €61,330.
C. €63,731.

Answer = A

Using a financial calculator: N = 60; the discount rate, I/Y = (6.5%/12) = 0.54166667; PMT = €1,200; Future value = €0; Mode = Begin; Calculate present value (PV): PV = €61,662.62.

Alternatively: Treat the stream as an ordinary annuity of 59 periods and add the current value of €1,200 to the derived answer. Using a financial calculator: N = 59; the discount rate, I/Y = (6.5%/12) = 0.54166667; PMT = €1,200; Future value = €0; Mode = End; Calculate PV: PV = €60,462.62; Total PV = €1,200 + €60,462.62 = €61,662.62.

CFA Level I
"The Time Value of Money," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 6.1

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

Degrees of Freedom	*p* = 0.10	*p* = 0.05	*p* = 0.025	*p* = 0.01
9	1.383	1.833	2.262	2.821
10	1.372	1.812	2.228	2.764
11	1.363	1.796	2.201	2.718

The 95% confidence interval is *closest* to a:

A. lower bound of –2.20 and an upper bound of 14.70.
B. lower bound of –2.33 and an upper bound of 14.83.
C. lower bound of –0.71 and an upper bound of 13.21.

Answer = B

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

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

where $\bar{X}$ is the sample mean, *s* is the sample standard deviation, and *n* is the sample size. In this case: 6.25 ± 2.262 × 12/√10 = 6.25± 8.58369 or **–2.33 to 14.83**.

CFA Level I
"Sampling and Estimation," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 4.2

26. Investors should be *most* attracted to return distributions that are:

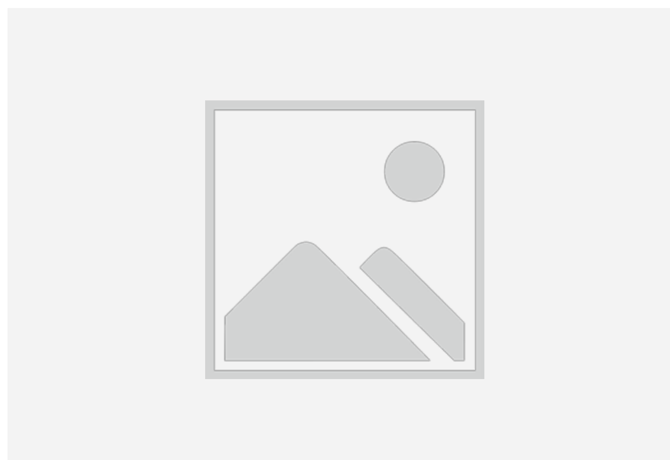
A. normal.
B. negatively skewed.
C. positively skewed.

Answer = C

Investors should be attracted by a positive skew (distribution skewed to the right) because the mean return falls above the median. Relative to the mean return, positive skew amounts to a limited, though frequent, downside compared with a somewhat unlimited, but less frequent, upside.

CFA Level I
"Statistical Concepts and Market Returns," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 8

27.

The figure to the right shows the histogram for the distribution of weekly returns on an index. The median of the returns on the index, if compared to the mean, will *most likely* be:	

A. smaller.
B. greater.
C. equal.

Answer = A

The histogram clearly shows that the return distribution of the index is positively skewed (skewed to the right) and is unimodal (it has one most frequently occurring value). For a positively skewed unimodal distribution, the median is always less than the mean.

CFA Level I
"Statistical Concepts and Market Returns," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Sections 4.1, 5.3, 8

28. A discrete uniform distribution consists of the following 12 values:

–2.5	5.3	6.7	8.8	–4.6	9.2
3.3	8.2	1.4	0.8	–5.3	6.9

On a single draw from the distribution, the probability of drawing a value between –2.0 and 2.0 from the distribution is *closest* to:

A. 16.67%.
B. 27.59%.
C. 33.33%.

Answer = A

First order the values from smallest to largest.

–5.3	–4.6	–2.5	0.8	1.4	3.3
5.3	6.7	6.9	8.2	8.8	9.2

Then note that 2 of the 12 values (i.e., 0.8 and 1.4) are between –2.0 and 2.0. Thus, the probability of a draw from the distribution being between –2.0 and 2.0 is 2/12 = 0.16667.

CFA Level I
"Common Probability Distributions," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2.1

29. A descriptive measure of a population characteristic is *best* described as a:

A. parameter.
B. frequency distribution.
C. sample statistic.

Answer = A

Any descriptive measure of a population characteristic is called a parameter.

CFA Level I
"Statistical Concepts and Market Returns," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2.2

30. The arithmetic and geometric mean are calculated for the same data. If there is variability in the data, compared with the arithmetic mean, the geometric mean will *most likely* be:

A. smaller.
B. greater.
C. equal.

Answer = A

The geometric mean is always less than or equal to the arithmetic mean. The only time the two means will be equal is when there is no variability in the observations.

CFA Level I
"Statistical Concepts and Market Returns," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 5.4.2

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

A. Mesokurtotic
B. Platykurtotic
C. Leptokurtotic

Answer = C

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

CFA Level I
"Statistical Concepts and Market Returns," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 9

32. The null hypothesis is *most likely* to be rejected when the *p*-value of the test statistic:

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

Answer = A

If the *p*-value is less than the specified level of significance, the null hypothesis is rejected.

CFA Level I
"Hypothesis Testing," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2

33. The following information applies to a start-up company solely owned by an entrepreneur.

	Value
Total units produced	3,550
Average revenue	$1,110
Average variable cost	$750
Total fixed cost	$300,000
Total investment	$1,550,000
Required rate of return	12.5%
Opportunity cost of owner's labor	$125,000

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

A. $659,250.
B. $784,250.
C. $318,750.

Answer = A

Economic profit = Accounting profit - Total implicit opportunity costs

where Accounting profit = Total revenue – Total variable costs – Total fixed costs

and Total opportunity costs = opportunity cost of capital + opportunity cost of labor

Total revenue	3,550 × $1,110	$3,940,500	# units × average revenue
Less Total variable costs	3,550 × $750	$2,662,500	# units × average var cost
Less Total fixed costs		$300,000	given
Accounting profit		$978,000	
Opportunity cost of capital	$1,550,000 × 0.125	$193,750	Investment x Required return
Opportunity cost of owner's labor		$125,000	Given
Total opportunity costs		$318,750	
Economic profit		**$659,250**	

CFA Level I
"The Firm and Market Structures," Richard G. Fritz, Michele Gambera
Section 3.2

"Topics in Demand and Supply Analysis," Richard V. Eastin and Gary L. Arbogast
Section 3.2

34. Which of the following statements concerning the Herfindahl–Hirschman Index (HHI) is *most* accurate?

A. The HHI is a useful measure of potential barriers to entry.
B. The HHI is usually unaffected by mergers among the top market incumbents.
C. An HHI of 0.05 would be analogous to having the market shared equally by 20 firms.

Answer = C

If there are M firms in the industry with equal market shares, the HHI equals $1/M$. With 20 firms having equal shares, the HHI = 1/20 = 0.05.

CFA Level I
"The Firm and Market Structures," Richard G. Fritz and Michele Gambera
Section 7.2

35. If the quantity demanded of pears falls by 4% when the price of apples decreases by 3%, then apples and pears are *best* described as:

A. substitutes.
B. inferior goods.
C. complements.

Answer = A

The cross elasticity of demand is defined as the percentage change in quantity demanded divided by the percentage change in the price of a substitute or complement. If the cross elasticity of demand is positive, the goods are substitutes. In this case, the 4% decline in quantity of pears is divided by the 3% decline in the price of apples, which is a positive number: –4/–3 = +1.33.

CFA Level I
"Topics in Demand and Supply Analysis," Richard V. Eastin and Gary L. Arbogast
Section 2.4

36. In a country with a high level of income, as domestic income rises, it is *most likely* that an increase will occur in:

A. private saving and investment.
B. the fiscal balance.
C. the trade balance.

Answer = A

In a country with a high level of income, as domestic income rises, private saving and investment will increase.

CFA Level I
"Aggregate Output, Prices, and Economic Growth," Paul R. Kutasovic and Richard G. Fritz
Section 3.1.1

37. Assuming all other factors remain unchanged, which of the following changes would *most likely* cause a simultaneous increase in the participation ratio and a decrease in the unemployment rate?

A. An increase in the number of people included in the labor force.
B. A decrease in the total population of working age people.
C. A decrease in the number of unemployed people.

Key = A

The participation ratio (or activity ratio) is the ratio of the labor force to total population of working age and the unemployment rate is the ratio of the number of unemployed to the labor force. Labor force is the numerator in the participation ratio and denominator in the unemployment rate. Therefore, assuming all else remains unchanged, an increase in the number of people included in the labor force would cause the participation ratio to increase and unemployment rate to decrease.

CFA Level I
"Understanding Business Cycles," Michele Gambera, Milton Ezrati, and Bolong Cao
Section 4.1

38. Three firms operate under perfect competition, producing 900 units of the same product but using different production technologies. Each company's cost structure is indicated in the table:

Company	**X**	**Y**	**Z**
Total Variable Costs	$2,700	$3,600	$4,500

Total Fixed Costs	2,700	1,800	900
Total Costs	$5,400	$5,400	$5,400

Which of the following statements is *most* accurate? If the unit selling price is:

A. $4.50, all firms should continue to operate in the short run, but exit the market in the long run if these conditions are expected to persist.
B. $3.00, Firm X should continue to operate in the short run, but Firms Y and Z should shut down production.
C. $6.00, all firms should exit the market in the long run.

Answer = B

Revenue-Cost Relationship	**Short-Run Decision**	**Long-Term Decision**
TR ≥ TC	Stay in market	Stay in market
TR > TVC but TR<TFC+TVC	Stay in market	Exit market
TR < TVC	Shut down production to zero	Exit market
where TR = Total Revenue;		
and TC = Total Costs; TVC = Total Variable Costs; TFC = Total Fixed Costs		
Hence, if the selling price is $3.00, total revenue for all firms will be $3.00/unit × 900 units = $2,700. Only firm X's variable costs are covered and it should continue operating, while firms Y and Z should immediately shutdown production.		

CFA Level I
"Topics in Demand and Supply Analysis," Richard V. Eastin and Gary L. Arbogast
Section 3.2.7

39. Which of the following statements is *most* accurate concerning the sum-of-value-added method used to determine GDP based on expenditures?

A. The method shows a larger GDP value compared with the value-of-final-output method.
B. The method is based on the prices consumers pay for the products and services.
C. The method involves summing the income created at each stage of the production and distribution process.

Answer = C

The sum-of-value-added method involves summing the value added (or income created) at each step in the production and distribution process.

CFA Level I
"Aggregate Output, Prices, and Economic Growth," Paul R. Kutasovic and Richard G. Fritz

Section 2.1

40. A New Zealand traveler returned from Singapore with SGD7,500 (Singapore dollars). A foreign exchange dealer provided the traveler with the following quotes:

Ratio	Spot Rates
USD/SGD	1.2600
NZD/USD	0.7670
USD: US dollar NZD: New Zealand dollar	

The amount of New Zealand dollars (NZD) that the traveler would receive for his Singapore dollars is *closest* to:

A. NZD7,248.
B. NZD7,761.
C. NZD4,565.

Answer = A

The NZD/SGD cross-rate is NZD/USD × USD/SGD = 0.7670 × 1.2600 = 0.9664.

The traveler will receive: NZD0.9664 per SGD; NZD0.9664 × SGD7,500 = **NZD7,248**.

CFA Level I
"Currency Exchange Rates," William A. Barker, Paul D. McNelis, and Jerry Nickelsburg
Section 3.2

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

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

Answer = C

Veblen goods violate the fundamental axioms of demand theory, whereas Giffen goods do not.

CFA Level I
"Topics in Demand and Supply Analysis," Richard V. Eastin and Gary L. Arbogast
Section 2.6

42. If a strengthening economy leads discouraged workers to return to an active employment search, at least initially, the number of unemployed people would *most likely*:

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

Answer = A

The unemployed are defined as those who are actively seeking employment but are currently without a job. Discouraged workers are without a job but have given up searching for work, so are not classified as being unemployed. A strengthening economy will lead discouraged workers to once again actively search for work; they will be reclassified as unemployed, and at least initially, the number of unemployed people will increase and the unemployment rate will rise.

CFA Level I
"Understanding Business Cycles," Michele Gambera, Milton Ezrati, and Bolong Cao
Section 4.1

43. A member of the labor force quit her job last week and will begin a new job next week. During this interim period, for the purposes of calculating unemployment statistics, this person is *most likely* classified as:

A. frictionally unemployed.
B. hidden unemployed.
C. voluntarily unemployed.

Answer = A

Frictional unemployment is short-term and transitory in nature: it includes persons who are "between jobs" as in this case and those who are not working because they are taking time to search for a job that better matches their skills, interests, and other preferences.

CFA Level I
"Understanding Business Cycles," Michele Gambera, Milton Ezrati, and Bolong Cao
Section 4.1

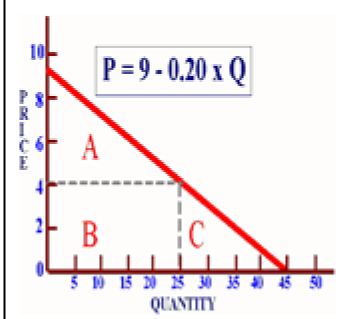
44. The monthly demand curve for playing tennis at a particular club is given by the following equation: $P_{Tennis\ Match} = 9 - 0.20 \times Q_{Tennis\ Match}$. The club currently charges members \$4.00 to play a match but is considering adding a membership fee. If the club continues to charge the same per play charge, the most that it will be able to charge as a membership fee is *closest* to:

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

Answer = C

On rearrangement, the demand function is
$Q_{Tennis\ Match} = 45 - 5.0 \times P_{Tennis\ Match}$
The number of matches played per month at \$4.00/match =
$45 - 5.0 \times 4.00 = 25$
The Y-intercept of the demand curve occurs when Q = 0: P= 9
The X-intercept of the demand curve occurs when P=0: Q = 45

In addition to the per play charge, the club will be able to charge the consumer surplus: the area under the demand curve above the current price per match to a total of 25 matches: ½ × (\$9.00-\$4.00) × 25 = **\$62.50.**
This is illustrated in the diagram as **triangle A**.



CFA Level I
"Topics in Demand and Supply Analysis," Richard V. Eastin, and Gary L. Arbogast
Section 2.1

45. According to the International Financial Reporting Standards (IFRS), which of the following conditions *should* be satisfied to report revenue from the sale of goods on the income statement?

A. Goods have been delivered to the customer.
B. Payment has been received.
C. Costs can be reliably measured.

Answer = C

The IFRS conditions that should be met to recognize revenue from the sale of goods include that the costs incurred can be reliably measured, that the economic benefits will flow to the entity, and that the significant risks and rewards of ownership have been transferred, which is normally when the goods have been delivered but not always. The actual receipt of any payment is not a condition.

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Section 3.1

46. At the start of the year a company that uses U.S. GAAP entered a contract to design and build a bridge with the following terms:

Contract length	3 years
Fixed contract price	$40 million
Estimated contract cost	$32 million
Costs incurred in first year	$12 million

The company was initially quite certain about its cost estimates and intended to recognize revenue based on them. However, unexpected problems during the first year have caused engineers to suggest that a more expensive design may be required, costing up to $8 million more. If the appropriate design cannot be determined before the company's financial statements are issued, the difference in the amount of revenue the company would recognize is *closest* to:

A. $15 million.
B. $ 0.
C. $ 3 million.

Answer = A

U.S. GAAP requires that long term contracts whose outcomes can be reliably measured should be accounted for using the percentage-of-completion method, based on the stage of completion. Under the original assumptions, the company would have recognized $15 million of revenue.

Calculations Under the Percentage-of-Completion Method	
Costs incurred to date	$12 million
Estimated total costs	$32 million
% total costs incurred to date	37.5%
Total contract revenue	$40 million
% revenue to be recognized	37.5%
Current year revenue	$15 million

Now that the company is unclear on the appropriate design and thus the cost, the outcome cannot be reliably measured. The completed contract method is used. Under this approach, no revenue ($ 0) is recognized until the contract is substantially complete. The difference in reported revenue under the two methods is: $15 million - $0 = $15 million.

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Section 3.2.1

47. Previously, a manufacturer of high-quality industrial electrical generators only sold its units to customers, but it has just introduced a leasing program. The generators have expected useful lives of about 25 years, and the company anticipates that the leases will have a term of 20 years or more. The company reports under International Financial Reporting Standards. Which of the following statements about the first year of the new leasing program is *most* accurate?

A. If the lease is classified as an operating lease, the company's profits should be higher for a given leased asset than they would be under a finance lease.
B. Regardless of how the company classifies the lease, its total cash flow
C. If the lease is classified as a finance lease, it will decrease the company's liquidity position compared with when the company was only selling its generators.

Answer = C

Whether the company sells or leases the asset, inventory will be reduced. For sales, the company would report an accounts receivable classified as a current asset (assuming sales terms are not in question). If the leases qualify as finance leases, then the company will report a lease receivable, which is primarily long term. Therefore, compared with selling units outright, the company's current assets are lower under leasing and its liquidity position will decrease.

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 9.2.2

"Non-Current (Long-Term) Liabilities," Elizabeth A. Gordon and Elaine Henry
Section 3.2.2

48. In early January 2015, an analyst sees a news release that a company he follows (which reports under US GAAP) will be forced to reduce output from one of its major product lines at its highly specialized ceramics plant in response to a new technology introduced by its major competitor. The table summarizes information and estimates that the analyst has gathered from various sources about the plant and its future prospects.

Selected Information Related to the Ceramics Production Plant End of 2014 ($ thousands)	
Carrying amount of plant	1,604
Undiscounted expected future net cash flows	1,350
Present value of expected future net cash flows	1,050
Fair value of plant	1,225
Revised estimate of useful life	4 years
Depreciation method	Straight line
Revised estimate of residual value	$200

If the above information and estimates prove accurate, the depreciation expense that should be reported for 2015 related to the plant will be *closest* to:

A. $213 thousand.
B. $306 thousand.
C. $256 thousand.

Answer = C

At the end of 2014, a test of impairment is required because “events or changes in circumstances indicate that its carrying amount may not be recoverable.” (All amounts $ thousands)	
US GAAP Impairment Test:	
Step 1: Assess recoverability: Compare carrying amount with undiscounted future net cash flows.	
Carrying amount = 1,604 > 1,350 (expected future net cash flows):	The recoverability test is not satisfied, so an impairment loss is required.
Step 2: Determine impairment loss:	Carrying amount - Fair value = 1,604 - 1,225 = 379 New carrying value: 1,225
Estimated depreciation in 2015	$\frac{\textit{New carrying value} - \textit{revised residual value}}{\textit{revised useful life}}$ $= \frac{\$1{,}225 - \$200}{4\ years} = \mathbf{\$256}$

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Sections 3.1 and 5.1

49. A company incurs the following costs related to its inventory during the year:

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

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

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

Answer = C

The costs to include in inventories are all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition. It does not include abnormal waste costs or storage of finished product.

Cost	**¥ Millions**
Purchase price	100,000
Minus trade discounts	–5,000
Import duties	20,000
Shipping of raw materials to manufacturing facility	10,000
Manufacturing conversion costs	50,000
Total inventory costs	175,000

CFA Level I
"Inventories," Michael A. Broihahn
Section 2

50. The following is selected balance sheet data for a company along with information about its financial and operating lease obligations.

	As of 31 December 2014 (€ millions)
Long-term debt	1,347
Total shareholder's equity	11,268
Total assets	20,097

Note 18. Financial and Operating Leases
A. Financial Leases
The implicit interest rate on finance leases for 2014 was 6.0%.

B. Operating Lease Commitments as of 31 December 2014 (€ Millions)

Due 1 January 2015	130
Due 1 January 2016	130
Due 1 January 2017	130
Due 1 January 2018	130
Due 1 January 2019	80
Total of future lease payments thereafter*	240
Total commitments	840

*After 2019, all lease payments are assumed to be the same as in 2019.

If the company were to capitalize its long-term leases, its adjusted long-term debt-to-assets ratio as of the end of December 2014 would be *closest* to:

A. 9.9%.
B. 10.2%.
C. 10.4%.

Answer = A

If the leases were capitalized, both total assets and liabilities would increase by the present value of the lease payments, as shown in the following table.

Present Value of Operating Lease Payments (€ Millions)
The lease commitments after 2019 are assumed to be the same as in 2019, so there are estimated to be 240/80 = 3 additional payments.
The present value of the operating lease payments can be calculated as the sum of the present values of two annuities-in-advance (PVA^{ADV}): a four-year annuity starting immediately (beginning of 2015) and another four-year annuity starting in four years (2019)

Years	Cash Flow × Annuity-in-Advance Factor	Discount by	Present Value at Start of 2015
2015 to 2018	130 × PVA^{ADV} (4 years, 6%) = 477.5	Not required	477.5
2019 and beyond	80 × PVA^{ADV} (4 years, 6%) = 293.8 at 2019	$\frac{1}{(1.06)^4}$	<u>232.7</u>
		Total	710.2
PVA^{ADV} (4 years, 6%) by financial calculator: N = 4; I = 6; PMT = 1; Mode = BGN; Compute PV			

Adjusted Long-Term Debt/Asset Ratio Calculation		
Adjusted long-term debt	1,347 + 710 =	2,057
Adjusted total assets	20,097 + 710 =	20,807
Adjusted long-term debt/asset ratio	2,057/20,807 =	9.9%

Alternatively, the individual cash flows can be separately discounted.

Present Value of Operating Lease Payments (€ millions)			
Year	Cash Flow	Cash Flow x PV Factor	PV
0	130	130 × PV(0y, 6.0%)	130.0
1	130	130 × PV(1y, 6.0%)	122.6
2	130	130 × PV(2y, 6.0%)	115.7
3	130	130 × PV(3y, 6.0%)	109.1
4	80	80 × PV(4y, 6.0%)	63.3
Beyond 4	240/80 per year = 3 years	80 × PVA(3y, 6.0%) × PV(4y, 6.0%)	<u>169.4</u>
		Total	710.1
PVA (3 years, 6%) by financial calculator: N = 3; I = 6; PMT = 1; Mode = END; Compute PV			

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 9.2.1

"Non-Current (Long-Term) Liabilities," Elizabeth A. Gordon and Elaine Henry
Section 3.2.1

51. Which of the following is *least likely* to be a general feature underlying the preparation of financial statements within the International Financial Reporting Standards (IFRS) Conceptual Framework?

A. Matching
B. Materiality
C. Accrual basis

Answer = A

The IFRS Conceptual Framework specifies a number of general features underlying the preparation of financial statements, including materiality and accrual basis. Matching is not one of those general features; it is a general principle of expense recognition.

CFA Level I
"Financial Reporting Standards," Elaine Henry, Jan Hendrik van Greuning, and Thomas R. Robinson
Sections 5.5, 5.5.2

"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Section 4.1

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

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

Answer = B

The temporary difference is the difference between the net book value (NBV) of the asset for accounting purposes and the NBV for taxes

NBV accounting	[500,000 – (500,000/10)]	$450,000
NBV taxes	[500,000 – 0.15 × (500,000)]	$425,000
Temporary difference		$25,000

"Income Taxes," Elbie Louw and Michael A. Broihahn
Sections 2.2, 4.1, 4.3

"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 3.1

53. The *least likely* reason that a security analyst needs to understand the accounting process is to:

A. aid in the assessment of management's judgment in accruals and valuations.
B. prevent earnings manipulation by management.
C. make adjustments to reflect items not reported in the financial statements.

Answer = B

Understanding the accounting process may assist an analyst in identifying earnings manipulation, but it will not prevent the manipulation of earnings by management. It is important for an analyst to understand the accounting process so that they can make adjustments for items not reported and aid in the assessment of management's judgment of accruals and valuations.

CFA Level I
"Financial Reporting Mechanics," Thomas R. Robinson, Jan Hendrik van Greuning, Karen O'Connor Rubsam, Elaine Henry, and Michael A. Broihahn
Section 7

54. Under International Financial Reporting Standards (IFRS), which of the following is *most likely* one of the general features underlying the preparation of financial statements?

A. Timeliness
B. Consistency
C. Understandability

Answer = B

Consistency is one of the general features underlying the preparation of financial statements based on IFRS.

CFA Level I
"Financial Reporting Standards," Elaine Henry, Jan Hendrik van Greuning, and Thomas R. Robinson
Section 5.5.2

55. A firm that prepares its financial statements according to US GAAP and uses a periodic inventory system had the following transactions during the year:

Date	**Activity**	**Tons (thousands)**	**$ per Ton**
	Beginning inventory	1	600
February	Purchase	5	650
May	Sale	2	700
August	Purchase	3	680
November	Sale	4	750

The cost of sales (in thousands) is *closest* to:

A. $5,890 using weighted average.
B. $4,080 using LIFO.
C. $3,850 using FIFO.

Answer = C

Under FIFO, the oldest units are sold first, thus for the six units sold FIFO, cost of sales is $3,850, as follows: 1 unit at $600 + 5 units at 650 = $3,850.

CFA Level I
“Inventories,” Michael A. Broihahn
Sections 3.2, 3.5, 3.6

56. The International Financial Reporting Standards (IFRS) Conceptual Framework identifies fundamental qualitative characteristics that make financial information useful. Which of the following is *least likely* to be one of these characteristics?

A. Relevance
B. Materiality
C. Faithful representation

Answer = B

The two fundamental qualitative characteristics that make financial information useful are relevance and faithful representation. Materiality relates to the level of detail of the information needed to achieve relevance.

CFA Level I
"Financial Reporting Standards," Elaine Henry, Jan Hendrik van Greuning, and Thomas R. Robinson
Section 5.2

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

A. €3,328.
B. €3,705.
C. €555.

Answer = C

Under the double declining balance method, the depreciation rate is 2 × Straight line rate. The straight line rate is 33.3% (i.e., 1/3 years), so the double declining rate is 66.6%, or two-thirds depreciation rate per year. But the asset should not be depreciated below its assumed residual value in any year.

	Double Declining Balance Method of Depreciation		
Year	**Net Book Value at Start of Year**	**Depreciation**	**Net Book Value at End of Year**
1	€50,000	€33,333	€16,667
2	16,667	11,111	5,555
3	5,555*	555**	5,000
*	Alternative calculation for start of Year 3 net book value: €50,000 × (1 – 0.667) × (1 – 0.667) = €5,555.		
**	Depreciation cannot be 2/3 × €5,555 = €3,705 because that would reduce book value to less than the estimated €5,000.		

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Section 4.2.3

"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 3.1

58. During the year, a retailer purchases 1,000 units of inventory at £20.20 per unit. In addition, the following items relate to inventory acquisition and handling during the year.

Item description	**£ '000s**
Volume rebate received	404
Import and sales taxes	2,970
Transport and transport insurance costs	325
Storage costs of finished goods	1,250
Warehouse administrative costs	3,300

The total costs (in thousands) that will be included in inventory are *closest* to:

A. £23,091.
B. £22,766.
C. £24,341.

Answer = A

Inventory costs include all direct costs of acquisition including import taxes, transportation costs and transportation insurance costs, but not storage costs of finished goods or warehouse administrative costs. Volume rebates, and similar items reduce the price paid and the costs of purchase.

Cost determination	**£ '000s**
Purchase price (1,000 x £20.20)	20,200
Volume rebate	(404)
Import and sales taxes	2,970
Transport and transport insurance	<u>325</u>
Total costs to be inventoried	**£23,091**

CFA Level I
“Inventories,” Michael A. Broihahn
Section 2

59. The convergence of global accounting standards has advanced to a degree that the Securities & Exchange Commission in the United States now mandates that foreign private issuers who use IFRS may report under:

A. U.S. GAAP or under IFRS.
B. U.S. GAAP with voluntary supplemental reporting under IFRS.
C. U.S. GAAP or under IFRS with a reconciliation to U.S. GAAP.

Answer = A

Historically, the Securities & Exchange Commission required reconciliation for foreign private issuers that did not prepare financial statements in accordance with U.S. GAAP. However the reconciliation requirement was eliminated as of 2008 for companies that prepared their financial statements under IFRS.

CFA Level I
"Financial Reporting Standards," Elaine Henry, Jan Hendrik van Greuning and Thomas R. Robinson
Sections 4, 7

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

		£ thousands
Beginning of the year values		
	Share capital	2,000
	Retained earnings	8,850
During the year		
	Revenues	12,000
	Total expenses	10,150
	Proceeds from shares issued	500
End of year values		
	Total current assets	9,200
	Total non-current assets	12,750
	Investments	350
	Total liabilities	9,400

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

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

Answer = C

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

CFA Level I
“Financial Reporting Mechanics,” Thomas R. Robinson, Jan Hendrik van Greuning, Karen O’Connor Rubsam, Elaine Henry, and Michael A. Broihahn
Sections 3.2, 4.2

61. The following information is available on a company for the current year.

Net income	$1,000,000
Average number of common shares outstanding	100,000
Details of convertible securities outstanding:	
Convertible preferred shares outstanding	2,000
o Dividend/share	$10
o Each preferred share is convertible into five shares of common stock	
Convertible bonds, $100 face value per bond	$80,000
o 8% coupon	
o Each bond is convertible into 25 shares of common stock	
Corporate tax rate	40%

The company's diluted EPS is *closest* to:

A. $7.72.
B. $7.57.
C. $7.69.

Answer = A

Because both the preferred shares and the bonds are dilutive, they should both be converted to calculate the diluted EPS. Diluted EPS is the lowest possible value.

	Basic EPS	**Diluted EPS: Bond Converted**	**Diluted EPS: Preferred Converted**	**Diluted EPS: Both Converted**
Net income	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Preferred dividends	–$20,000	–$20,000	0	0
After-tax cost of interest 8% × $80,000 × (1 – 0.40)		$3,840		$3,840
Numerator	$980,000	$983,840	$1,000,000	$1,003,840
Average common shares outstanding	100,000	100,000	100,000	100,000

Preferred converted			10,000	10,000
Bond converted		20,000		20,000
Denominator	100,000	120,000	110,000	130,000
EPS	$9.80	$8.20	$9.09	$7.72

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Sections 6.2, 6.3

62. Which of the following is *best* described as a necessary characteristic for an effective financial reporting framework?

A. Consistency in the measurement basis used across the balance sheet
B. Transparency to the underlying economics
C. Uniform treatment of transactions by different entities

Answer = B

An effective framework should enhance the transparency of the underlying economics through the financial statements; transparency arises through full disclosure and fair presentation.

CFA Level I
"Financial Reporting Standards," Elaine Henry, Jan Hendrik van Greuning and Thomas R. Robinson
Section 6.1

63. For which of the following inventory valuation methods is the gross profit margin *least likely* to be the same under both a perpetual inventory system and a periodic inventory system?

A. Specific identification
B. FIFO
C. LIFO

Answer = C

The periodic and perpetual systems result in the same inventory and cost of goods sold values (and thus gross profit margin) using both FIFO and specific identification valuation methods but not always under LIFO.

CFA Level I
"Inventories," Michael A. Broihahn
Section 3.6

64. According to the International Accounting Standards Board's (IASB) Conceptual Framework for Financial Reporting, the two fundamental qualitative characteristics that make financial information useful are *best* described as:

A. relevance and faithful representation.
B. understandability and verifiability.
C. timeliness and accrual accounting.

Answer = A

Relevance and faithful representation are the two fundamental qualitative characteristics that make financial information useful, according to the IASB Conceptual Framework.

CFA Level I
"Financial Reporting Standards," Elaine Henry, Jan Hendrik van Greuning, and Thomas R. Robinson
Section 5.2

65. In 2015, a company undertook the following two transactions:

1.	Borrowed money from an insurance company and pledged some of its production facilities as collateral for the loan.
2.	Entered into an agreement with a local construction company to build a new research facility at a fixed price. Construction is to begin by 1 January 2016 and be completed by 31 December 2018.

With respect to required disclosures in the company's financial statements, which of the following is *most* accurate? If the company reports under:

A. International Financial Reporting Standards (IFRS), neither transaction must be disclosed.
B. US GAAP, only the pledged borrowing must be disclosed.
C. US GAAP, neither transaction must be disclosed.

Answer = C

Under US GAAP, neither transaction must be disclosed, but disclosure of both transactions is required under IFRS.

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 7

66. For which of the following assets is it *most* appropriate to test for impairment at least annually?

A. A trademark with an indefinite expected life
B. A patent with a legal life of 20 years
C. Land

Answer = A

Intangible assets with indefinite lives need to be tested for impairment at least annually. Property, plant, and equipment (including land) and intangibles with finite lives are only tested if there has been a significant change or other indication of impairment.

CFA Level I
"Understanding Balance Sheets," Elaine Henry and Thomas R. Robinson
Sections 4.1, 4.3

"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Sections 5.1, 5.2, 5.3

67. In a period of rising prices, when compared with a company that uses weighted average cost for inventory, a company using FIFO will *most likely* report higher values for its:

A. debt-to-equity ratio.
B. return on sales.
C. inventory turnover.

Answer = B

In periods of rising prices, FIFO results in a higher inventory value and a lower cost of goods sold and thus a higher net income. The higher net income increases return on sales. The higher reported net income also increases retained earnings and thus results in a lower debt-to-equity ratio, not a higher one. The combination of higher inventory and lower cost of goods sold (CGS) decreases inventory turnover (CGS/Inventory).

CFA Level I
"Inventories," Michael A. Broihahn
Sections 3.2, 3.3, 3.5, 3.7

68. The following excerpt was taken from the notes of a company's financial statements that were prepared in accordance with International Financial Reporting Standards. All figures are in thousands of Australian dollars.

> Note 12: Broadcast Licenses
> During 2014, the company successfully disposed of broadcast licenses that were held for sale for A$37,900 (net book value of A$23,500). Based on the successful completion of that sale, the impairment losses taken in 2012 on other licenses have been reversed, restoring those intangible assets to their amortized historical cost. Broadcast licenses are amortized over a period of 15–25 years.

The note leads an analyst to believe that the rapid reversal of the impairment loss related to the broadcast licenses arose as an attempt by management to manage earnings.

If the analyst's belief is correct, her analysis of the original 2013 financial statements would *most likely* have shown that, compared with the economic reality in 2013, the company had:

A. understated ROA.
B. understated fixed asset turnover.
C. overstated net profit margin.

Answer = C

The broadcast licenses were written down in 2012, but the write-down was reversed in 2014. Therefore, during 2013 the intangible assets were understated, which would have understated amortization expense for the year and increased profit. Thus, in 2013 net profit margin was overstated.

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Sections 5.2 and 5.5

"Financial Reporting Quality," Jack Ciesielski, Elaine Henry, and Thomas I. Selling
Sections 4.2.1 and 4.2.3

69. A company's asset beta is 1.2 based on a debt-to-equity ratio (D/E) of 50%. If the company's tax rate increases, the associated equity beta will *most likely*:

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

Answer = B

$$\beta_{equity} = \beta_{asset} \times \left[1 + \left((1 - \text{Tax rate}) \times \frac{D}{E}\right)\right]$$

If the tax rate increases, then the bracketed term (1 – Tax rate) decreases, thus making the equity beta decrease because the asset beta is unchanged.

CFA Level I
"Cost of Capital," Yves Courtois, Gene C. Lai, and Pamela Peterson Drake
Section 4.1

70. The following information is available for a company:

- Bonds are priced at par and have an annual coupon rate of 9.2%.
- Preferred stock is priced at $8.18 and pays an annual dividend of $1.35.
- Common equity has a beta of 1.3.
- The risk-free rate is 4% and the market premium is 11%.
- Capital structure: Debt = 30%; Preferred stock = 15%; Common equity = 55%.
- The tax rate is 35%.

The weighted average cost of capital (WACC) for the company is *closest* to:

A. 13.4%.
B. 14.3%.
C. 11.5%.

Answer = B

The yield to maturity on a par value bond is the coupon rate of the bond

$$r_d = 9.2\%.$$
$$r_p = \frac{D_p}{P_p} = \frac{\$1.35}{\$8.18} = 16.5\%.$$
$$r_e = R_F + \beta[E(R_M) - R_F] = 4\% + 1.3[11\%] = 18.3\%.$$

$$\text{WACC} = w_d r_d (1 - t) + w_p r_p + w_e r_e.$$
$$\text{WACC} = 30\% \times 9.2\% \times (1 - 35\%) + 15\% \times 16.5\% + 55\% \times 18.3\% = 14.33\%.$$

CFA Level I
"Cost of Capital," Yves Courtois, Gene C. Lai, and Pamela Peterson Drake
Section 2, 2.1, 3.2, 3.3

"Portfolio Risk and Return: Part II," Vijay Singal
Section 3.2.6

71. Using the debt-rating approach to find the cost of debt is *most* appropriate when market prices for a company's debt are:

A. stable.
B. unreliable.
C. below par value.

Answer = B

The debt-rating approach is used when the market prices for debt are unreliable or nonexistent.

CFA Level I
"Cost of Capital," Yves Courtois, Gene C. Lai, and Pamela Peterson Drake
Section 3.1.2

72. Given the following information about a firm:

- debt-to-equity ratio (D/E) of 50%,
- tax rate of 40%,
- cost of debt of 8%, and
- cost of equity of 13%,

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

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

Answer = C

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

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

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

CFA Level I
"Cost of Capital," Yves Courtois, Gene C. Lai, and Pamela Peterson Drake
Sections 2, 2.1, 2.2

73. A 20-year $1,000 fixed-rate non-callable bond with 8% annual coupons currently sells for $1,105.94. Assuming a 30% marginal tax rate and an additional risk premium for equity relative to debt of 5%, the cost of equity using the bond-yield-plus-risk-premium approach is *closest* to:

A. 9.9%
B. 12.0%
C. 13.0%

Answer = B

First, determine the yield to maturity, which is the discount rate that sets the bond price to $1,105.94 and is equal to 7%. This calculation can be done with a financial calculator:

FV = –$1,000, PV = $1,105.94, N = 20, PMT = –$80, solve for i, which will equal 7%.

The bond-yield-plus-risk-premium approach is calculated by adding a risk premium to the cost of debt (i.e., the yield to maturity for the debt), making the cost of equity 12.00% (= 7% +5%).

CFA Level I
"Cost of Capital," Yves Courtois, Gene C. Lai, and Pamela Peterson Drake
Sections 3.1.1, 3.3.3

74. The following data apply to two comparable companies that are in direct competition.

	Company A	**Company B**
Times interest earned ratio	2.50	2.50
Return on equity (ROE)	10.13%	16.88%
Return on assets (ROA)	6.75%	11.25%
Asset turnover	1.50	2.50

Which of the following statements is *most* accurate?

A. Company A has a higher degree of financial leverage than Company B.
B. Company A has a lower net profit margin.
C. Both companies have the same amount of interest expense.

Answer = C

		Company A	Company B	Comparison
Net profit margin	$\frac{\text{ROA}}{\text{Asset turnover}}$	6.75 ÷ 1.50= 4.50%	11.25 ÷ 2.50= 4.50%	Same
Financial leverage	$\frac{\text{ROE}}{\text{ROA}}$	10.13 ÷ 6.75= 1.50	16.88 ÷ 11.25= 1.50	Same

In this instance, times interest earned can be found as the correct answer by process of eliminating the other choices as potential correct answers. Keep in mind, however, that even when companies have equal times interest earned ratios, it does not mean that the amount of interest expense is the same for both because the companies may not be of equal size.

CFA Level I
"Financial Analysis Techniques," by Elaine Henry, Thomas R. Robinson, and Jan Hendrik van Greuning
Sections 4.2–4.3

"Measures of Leverage," by Pamela Peterson Drake, Raj Aggarwal, Cynthia Harrington, and Adam Kobor Section 3.4

75. When computing the cash flows for a capital project, which of the following is *least likely* to be included?

A. Financing costs
B. Opportunity costs
C. Tax effects

Answer = A

Financing costs are not included in a cash flow calculation but are considered in the calculation of the discount rate.

CFA Level I
"Capital Budgeting," John D. Stowe and Jacques R. Gagné
Section 3

76. The acceptance of which of the following capital budgeting projects is *most likely* to expose a company to the highest level of uncertainty?

A. Replacement of worn out equipment
B. Newly launched product or services
C. Expansion projects

Answer = B

Investments related to new products or services expose the company to even more uncertainties than expansion projects. These decisions are more complex and will involve more people in the decision- making process.

CFA Level I
"Capital Budgeting," John D. Stowe, and Jacques R. Gagne
Section 2

77. Information-motivated traders are *most likely* to differ from pure investors in that they:

A. pay lower transaction fees.
B. hold well-diversified portfolios.
C. expect to earn excess returns.

Answer = C

Information-motivated traders expect to earn returns in excess of market returns because they trade on securities they believe the market has over- or undervalued. Unlike pure investors, they expect to earn a return on their information in addition to the normal return expected for bearing risk. Excess returns are generated when the market recognizes and corrects the valuation error on such a security.

CFA Level I
"Market Organization and Structure," Larry Harris
Section 2.1.6

78. The index weighting that results in portfolio weights shifting away from securities that have increased in relative value toward securities that have fallen in relative value whenever the portfolio is rebalanced is *most* accurately described as:

A. equal weighting.
B. fundamental weighting.
C. float-adjusted market-capitalization weighting.

Answer = B

Fundamentally weighted indices generally will have a contrarian "effect" in that the portfolio weights will shift away from securities that have increased in relative value and toward securities that have fallen in relative value whenever the portfolio is rebalanced.

CFA Level I

"Security Market Indices," Paul D. Kaplan and Dorothy C. Kelly
Section 3.2.4

79. The behavioral bias in which investors tend to avoid realizing losses but rather seek to realize gains is *best* described as:

A. the gambler's fallacy.
B. the disposition effect.
C. mental accounting.

Answer = B

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

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

80. A fund manager compiles the following data on two companies:

	Company A	**Company B**
Return on assets (ROA)	10.9%	9.0%
Return on equity (ROE)	15.4%	14.3%
Dividend payout ratio	0.35	0.30
Required rate of return	13.0%	12.4%
Weighted average cost of capital	11.8%	11.7%

The *best* conclusion the fund manager can make is that Company A's stock is more attractive than Company B's stock because of its:

A. smaller price-to-earnings ratio (P/E).
B. higher dividend growth rate.
C. greater financial leverage.

Answer = A

From the following computations, Company A's stock is more attractive than Company B's stock because of its smaller P/E.

	Company A	**Company B**
Dividend growth rate (g) g = ROE × (1 – Dividend payout ratio)	15.4 × (1 – 0.35) = 10.0%	14.3 × (1 – 0.30) = 10.0%
P/E = $\frac{\text{Dividend payout ratio}}{r - g}$	0.35/(0.13 – 0.10) = **11.7x**	0.30/(0.124 – 0.10) = **12.5x**
Financial leverage (ROE/ROA)	15.4/10.9 = 1.4x	14.3/9.0 = 1.6x

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

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak and Stephen E. Wilcox
Section 5.1

81. A portfolio manager analyzes a market and discovers that it is not possible to achieve consistent and superior risk-adjusted returns, net of all expenses. This market is *most likely* characterized by:

A. restrictions on short selling.
B. persistent anomalies.
C. informational efficiency.

Answer = C

In an informationally efficient market, consistent and superior risk-adjusted returns (net of all expenses) are not achievable.

CFA Level I
"Market Efficiency," W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 2.1

82. An investor writes a put option on FTSE 100 Index futures. Which of the following *best* describes the investor's position with respect to the put contract and her exposure to the underlying index future, respectively?

A. Short, long
B. Long, short
C. Short, short

Answer = A

The investor has written a put contract, which means she is short the option. She, therefore, must satisfy the obligation to purchase the asset if requested to do so by the put owner. The investor has a long exposure to the risk of the underlying index future because she benefits when its quoted price increases—that is, when the put declines in value (or suffers a loss when its quoted price decreases as the put increases in value).

CFA Level I
"Market Organization and Structure," Larry Harris
Section 5, Exhibit 1

83. If the number of financial analysts who follow or analyze a company increases substantially, then the market for this company's shares will *most likely* become:

A. overvalued.
B. more efficient.
C. more attractive for active investors.

Answer = B

The number of financial analysts who follow or analyze a security or asset should be positively related to market efficiency. Therefore, if more analysts cover a company, the market for this company's shares will most likely become more efficient.

CFA Level I
"Market Efficiency," W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 2.3

84. Which of the following financial intermediaries is *most likely* to provide liquidity service to its clients?

A. Exchanges
B. Brokers
C. Dealers

Answer = C

The service that dealers provide is liquidity. Liquidity is the ability to buy or sell with low transaction costs when investors want to trade. By allowing their clients to trade when they want to trade, dealers provide liquidity to them.

CFA Level I
“Market Organization and Structure,” Larry Harris
Sections 4.1, 4.2

85. Which of the following statements is *least* accurate with respect to fixed-income indices?

A. The indices are susceptible to turnover of the underlying securities.
B. Compared with equity indices, it is easier and less expensive to replicate fixed-income indices.
C. Many of the underlying securities in the index tend to be illiquid.

Answer = B

Compared with equity indices, the large number of fixed-income securities—combined with the lack of liquidity of some securities—has made it more costly and difficult for investors to replicate fixed-income indices and duplicate their performance.

CFA Level I
"Security Market Indices," Paul D. Kaplan and Dorothy C. Kelly
Section 6.1

86. Which of the following statements concerning a security market index is *most* accurate?

A. The divisor will be adjusted to prevent changes not related to prices of constituent securities.
B. At inception, the total return version of an index will be greater than the price version of an index.
C. Estimated market prices of constituent securities are not used to calculate the index value.

Answer = A

An index provider will adjust the value of the divisor as necessary to avoid changes in the index value that are unrelated to changes in the prices of constituent securities.

CFA Level I
"Security Market Indices," Paul D. Kaplan and Dorothy C. Kelly
Section 2

87. If the following three stocks are held in a portfolio, the portfolio's total return on an equal-weighted basis is *closest* to:

Stock	Number of Shares Owned	Beginning of Period Price per Share ($)	End of Period Price per Share ($)	Dividend per Share during the Period ($)
A	500	40	37	2.00
B	320	50	52	1.50
C	800	30	34	0.00

A. 6.37%.
B. 5.94%.
C. 3.28%.

Answer = B

Equal weighting assigns an equal weight to each constituent security at inception. Therefore, it is the sum of the total return from each security divided by the number of securities in the portfolios.

Stock	$(P_1 – P_0 + D)/P_0$	Total Return (%)
A	(37 – 40 + 2.00)/40 =	–2.5
B	(52 – 50 + 1.50)/50 =	7.00
C	(34 – 30 + 0)/30 =	13.33
Portfolio return with equal weighting: (–2.50 + 7.00 + 13.33)/3 =		**5.94**

CFA Level I
"Security Market Indices," Paul D. Kaplan and Dorothy C. Kelly
Section 3.2.2

88. An analyst gathers the following information about a company's equity security:

- Trailing price-to-earnings multiple: 10x
- Last year's EPS: $5.00
- Forecasted EPS growth rate: 10%

If the analyst estimates that the security is undervalued by $4, the estimated intrinsic value is *closest* to:

A. $54.
B. $59.
C. $46.

Answer = A

The current market value, or price, of a security is calculated as follows:

$P = \frac{P}{E} \times E,$
Where

P Is the current market value, or price, of the security
$\frac{P}{E}$ Is the trailing price-to-earnings multiple (10x)
E Is last year's EPS ($5)
The current market value of the security is $P = \frac{P}{E} \times E = 10 \times \$5 = \$50$.

The security is undervalued by $4. Therefore, the estimated intrinsic value is $50 + $4 = **$54.**

CFA Level I
"Market Efficiency," W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 2.2

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak and Stephen E. Wilcox
Sections 3 and 5

89. Using put-call parity, a long call can *best* be replicated by going:

A. long the put, short the asset and long the bond.
B. long the put, long the asset and short the bond.
C. short the put, long the asset and short the bond.

Answer = B

According to put-call parity, a long call is equal to long put, long asset, short bond.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.1.9

90. According to put-call-forward parity, if the put in a protective put with forward contract expires out of the money, the payoff is *most likely* equal to:

A. zero.
B. the face value of a risk-free bond.
C. the market value of the underlying asset.

Answer = C

A protective put with forward contract is defined as a long position in (1) a bond which has the face value equal to the forward contract, (2) a forward contract and (3) a long position in a put. If the put expires out of the money, the value of the overall position is equal to the market value of the asset.

+ $F_0(t)$ (payoff of bond)

+ S_T - $F_0(t)$ (payoff of forward)

+ 0 (payoff of option)

= S_T (payoff of strategy)

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.1.10

91. According to put-call parity, if a fiduciary call expires in the money, the payoff is *most likely* equal to the:

A. market value of the asset.
B. difference between the market value of the asset and the face value of the risk-free bond.
C. face value of the risk-free bond.

Answer = A

A fiduciary call, defined as a long position in a call and in a risk-free bond, generates a payoff that is equal to the market value of the asset if it expires in the money.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.1.9

92. A high convenience yield is *most likely* associated with holding:

A. commodities.
B. equities.
C. bonds.

Answer = A

Convenience yield is primarily associated with commodities and generally exists as a result of difficulty in shorting the commodity or unusually tight supplies.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 2.2.5

93. According to put-call-forward parity, the difference between the price of a put and the price of a call is *most likely* equal to the difference between:

A. forward price and spot price discounted at the risk-free rate.
B. exercise price and forward price discounted at the risk-free rate.
C. spot price and exercise price discounted at the risk-free rate.

Answer = B

Put-call-forward parity can be written as:

$$p_0 - c_0 = [X - F_0(T)]/(1+r)^T$$

This means that the difference between the price of a put and the price of a call is equal to the difference between exercise price and forward price discounted at the risk-free rate. .

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.1.9

94. In the binomial model, the difference between the up and down factors *best* represents the:

A. moneyness of an option.
B. pseudo probability.

C. volatility of the underlying.

Answer = C

The volatility of the underlying is captured in the binomial model by the difference between the up and down factors.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.2

95. To obtain the spot yield curve, a bond analyst would *most likely* use the most:

A. recently issued and actively traded government bonds.
B. seasoned and actively traded government bonds.
C. recently issued and actively traded corporate bonds.

Answer = A

To obtain the spot yield curve a bond analyst would prefer to use the most recently issued and actively traded government bonds. Such bonds will have similar liquidity as well as fewer tax effects because they will be priced closer to par value.

CFA Level I
"Introduction to Fixed-Income Valuation", James F. Adams and Donald J. Smith
Section 4

96. What type of risk *most likely* affects an investor's ability to buy and sell bonds in the desired amounts and at the desired time?

A. Default
B. Market liquidity
C. Spread

Answer = B

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

CFA Level I
"Fundamentals of Credit Analysis," Christopher L. Gootkind
Section 2

97. The option-free bonds issued by ALS Corp. are currently priced at 108.50. Based on a portfolio manager's valuation model, a 1bp increase in interest rates will result in the bond price falling to 108.40, whereas a 1bp decrease in interest rates will result in the bond price rising to 108.59. The price value of a basis point (PVBP) for the bonds is *closest* to:

A. 0.095.
B. 0.088.
C. 0.190.

Answer = A

The bond's PVBP is computed using $\text{PVBP} = \frac{(PV_{-}) - (PV_{+})}{2}$.

so, $\frac{108.59 - 108.40}{2} = 0.095$.

CFA Level 1
"Understanding Fixed-Income Risk and Return," James F. Adams and Donald J. Smith
Section 3.5

98. The value of a 10-year, 6% coupon, $100 par value bond with semiannual payments, assuming an annual discount rate of 7%, is *closest* to:

A. $99.07.
B. $92.89.
C. $107.44.

Answer = B

A security with 19 semiannual payments of $3 interest and a 20th payment of $103 (interest plus return of face value) with a semiannual discount rate of 3.5% is computed as:

$$P = \frac{3}{1.035^1} + \frac{3}{1.035^2} + \frac{3}{1.035^3} + \cdots + \frac{3}{1.035^{19}} + \frac{103}{1.035^{20}}$$

$P = 92.89$.

CFA Level 1
"Introduction to Fixed-Income Valuation," James F. Adams and Donald J. Smith
Section 2.1

99. An investor sells a bond at the quoted price of $98.00. In addition, she receives accrued interest of $4.40. The flat price of the bond is equal to the:

A. par value plus accrued interest.
B. agreed on bond price excluding accrued interest.
C. accrued interest plus the agreed on bond price.

Answer = B

The agreed on bond price without accrued interest is referred to as the flat price.

CFA Level 1
"Introduction to Fixed-Income Valuation," James F. Adams and Donald J. Smith
Section 3.1

100. A two-year spot rate of 5% is *most likely* the:

A. yield to maturity on a coupon-paying bond maturing at the end of Year 2.
B. yield to maturity on a zero-coupon bond maturing at the end of Year 2.
C. coupon rate in Year 2 on a coupon-paying bond maturing at the end of Year 4.

Answer = B

A spot rate is defined as the yield to maturity on a zero-coupon bond maturing at the date of that cash flow.

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

101. The process of securitization is *least likely* to allow banks to:

A. originate loans.
B. reduce the layers between borrowers and ultimate investors.
C. repackage loans into simpler structures.

Answer = C

Securitization allows banks to originate (or create) loans and the process results in a reduction in the layers between borrowers and ultimate investors. The loans are repackaged into more complex, not simpler, structures.

CFA Level I
"Introduction to Asset-Backed Securities", Frank J. Fabozzi
Section 2

102. Consider a five-year option-free bond that is priced at a discount to par value. Assuming the discount rate does not change, one year from now the value of the bond will *most likely*:

A. decrease.
B. stay the same.
C. increase.

Answer = C

The bond is priced below its par value but will be worth exactly par value at maturity. Over time, assuming a stable discount rate, the value of the bond must rise so that it is equal to par at maturity. That is, the price is "pulled to par."

CFA Level 1
"Introduction to Fixed-Income Valuation," James F. Adams and Donald J. Smith
Section 2.3

103. An investor who owns a mortgage pass-through security is exposed to contraction risk which is the risk that when interest rates:

A. decline, the security will effectively have a longer maturity than was anticipated at the time of purchase.
B. decline, the security will effectively have a shorter maturity than was anticipated at the time of purchase.
C. rise, the security will effectively have a shorter maturity than was anticipated at the time of purchase.

Answer = B

Contraction risk is the risk faced by investors when interest rates fall in that the security will effectively have a shorter maturity than was anticipated at the time of purchase because homeowners can refinance at new, lower interest rates.

CFA Level I
"Introduction to Asset-Backed Securities", Frank J. Fabozzi
Section 5.1.6

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

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

Answer = C

A callable bond exhibits negative convexity at low yield levels and positive convexity at high yield levels.

CFA Level 1
"Understanding Fixed-Income Risk and Return," James F. Adams and Donald J. Smith
Section 3.6

105. Consider two bonds that are identical except for their coupon rates. The bond that will have the highest interest rate risk *most likely* has the:

A. lowest coupon rate.
B. highest coupon rate.
C. coupon rate closest to its market yield.

Answer = A

A lower coupon rate means that more of the bond's value comes from repayment of face value, which occurs at the end of the bond's life.

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

106. In a securitization structure, credit tranching allows investors to choose between:

A. extension risk and contraction risk.
B. subordinated bonds and senior bonds.
C. partially amortizing loans and fully amortizing loans.

Answer = B

Credit tranching allows investors to choose between subordinate and senior bond classes as a means of credit enhancement. The purpose of this structure is to redistribute the credit risk associated with the collateral.

CFA Level I
“Introduction to Asset-Backed Securities,” Frank J. Fabozzi
Section 3.3

107. The *most likely* impact of adding commodities to a portfolio of equities and bonds is to:

A. increase risk.
B. reduce exposure to inflation.
C. provide higher current income.

Answer = B

Over the long term, commodity prices are closely related to inflation and thus including commodities in a portfolio of equities and bonds will reduce its exposure to inflation.

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

108. Alternative investments that rely on estimates rather than observable market prices for valuation purposes are *most likely* to report:

A. returns that are understated.
B. volatility of returns that is understated.
C. correlations of returns with the returns of traditional assets that are overstated.

Answer = B

The use of estimates tends to smooth the return series. As a consequence, the volatility of returns will be understated.

CFA Level I
"Introduction to Alternative Investments," Terri Duhon, George Spentzos, and Scott D. Stewart
Section 8.2

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

A. higher correlations with other asset classes.
B. unique legal and tax considerations.
C. greater liquidity.

Answer = B

Alternative investments are more likely characterized as having unique legal and tax considerations because of the broad range and complexity of the investments.

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

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

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

Answer = C

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

CFA Level I
“Introduction to Alternative Investments,” by Terri Duhon, George Spentzos, and Scott D. Stewart
Section 5.3

111. An investor whose portfolio lies to the right of the market portfolio on the capital market line (CML) has *most likely*:

A. loaned some funds at the risk-free rate and invested the remaining funds in the market portfolio.
B. borrowed funds at the risk-free rate and invested all available funds in the market portfolio.
C. invested all available funds in the risk-free asset.

Answer = B

A portfolio lying to the right of the market portfolio on the CML is formed by borrowing funds at the risk-free rate and investing all available funds in the market portfolio.

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 2.2.4

112. A correlation matrix of the returns for securities A, B, and C is reported below:

Security	**A**	**B**	**C**
A	1		
B	0.5	1	
C	0	–0.5	1

Assuming that the expected return and the standard deviation of each security are the same, a portfolio consisting of an equal allocation of which two securities will be *most effective* for portfolio diversification?

A. Securities A and B
B. Securities B and C
C. Securities A and C

Answer = B

The negative correlation of –0.5 between investment securities B and C is the lowest and thus is the most effective for portfolio diversification.

CFA Level I
"Portfolio Risk and Return: Part I," Vijay Singal
Section 4.3

113. Based on the capital asset pricing model (CAPM), the expected return on FGL Corp's shares is 12%. Using a model independent of the CAPM, an analyst has estimated the returns on the stock at 10%. Based on this information, the analyst is *most likely* to consider the stock to be:

A. overvalued.
B. correctly valued.
C. undervalued.

Answer = A

Because the estimated return on the stock is lower than the expected return using the CAPM, the stock does not compensate the investor for the level of risk and so it is most likely overvalued.

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 4.3

114. Which of the following performance measures *most likely* relies on systematic risk as opposed to total risk when calculating a risk-adjusted return?

A. Sharpe ratio
B. M-squared
C. Treynor ratio

Answer = C

The Treynor ratio measures the return premium of a portfolio versus the risk-free asset relative to the portfolio's beta, which is a measure of systematic risk.

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 4.3.2

115. The stock of GBK Corporation has a beta of 0.65. If the risk-free rate of return is 3% and the expected market return is 9%, the expected return for GBK is *closest* to:

A. 3.9%.
B. 6.9%.
C. 10.8%.

Answer = B

$$E(R_{\text{GBK}}) = R_f + \beta_{\text{GBK}} \times [E(R_{\text{Mkt}}) - R_f] =$$

$$0.03 + 0.65 \times (0.09 - 0.03) = 0.069 \text{ or } 6.9\ \%\ .$$

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 3.2.6

116. Stock X and Stock Y have the same level of total risk. Stock X has twice the systematic risk of Stock Y and half its non-systematic risk. Stock X's expected return will *most likely* be:

A. lower than the expected return of Stock Y.
B. the same as the expected return of Stock Y.
C. higher than the expected return of Stock Y.

Answer = C

Because Stock X has a higher systematic risk level compared with Stock Y, its expected return will be higher than that of Stock Y.

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 3.1

117. The strategic asset allocation and portfolio rebalancing policy are *most likely* addressed in which section of an investment policy statement?

A. Procedures
B. Appendices
C. Investment objectives

Answer = B

Information related to strategic asset allocation and portfolio rebalancing policy would be placed in the appendices of an investment policy statement.

CFA Level I
"Basics of Portfolio Planning and Construction," Alistair Byrne and Frank E. Smuddle
Section 2.2

118. Following its decision to divest its non-core assets, analysts expect HCL Corp's standard deviation of returns to rise to 30% and its correlation with the market portfolio to remain unchanged at 0.8. The risk-free rate and the market risk premium are expected to remain unchanged at 6% and 8%, respectively. However, the market portfolio's standard deviation of returns is expected to decrease to 15%. The firm's expected return after the restructure is *closest* to:

A. 9.2%.
B. 17.6%.
C. 18.8%.

Answer = C

We first compute the firm's beta using: $\beta_i = \frac{\rho_{i,m}\sigma_i}{\sigma_m}$ The beta is: $\beta_i = \frac{0.8(0.30)}{0.15} = 1.6$ The expected return is computed using: $E(R_i) = R_f + [E(R_m) - R_f]\beta_i$. So, $E(R_i) = 0.06 + (0.08)1.6 = 18.8\%.$

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Sections 3.2 and 4.2

119. An asset management firm generated the following annual returns in their US large-cap equity portfolio:

Year	**Net Return (%)**
2008	–34.8
2009	32.2
2010	11.1
2011	–1.4

The 2012 return needed to achieve a trailing five-year geometric mean annualized return of 5% when calculated at the end of 2012 is *closest* to:

A. 17.9%.
B. 27.6%.
C. 35.2%.

Answer = C

$$\bar{R}_G = 0.05 = \sqrt[5]{(1-0.348)(1+0.322)(1+0.111)(1-0.014)(1+R_{2012})} - 1$$

Holding period total return (cumulative) factor calculation through 2011:

(1 – 0.348) × (1 + 0.322) × (1 + 0.111) × (1 – 0.014) = 0.652 × 1.322 × 1.111 × 0.986 = 0.9442.

Compound total return (cumulative) factor at 5% per year of 5% for five years:

$1.05^5 = 1.2763$.

Return needed in 2012 to achieve a compound annualized return of 5%:

1.2763/0.9442 = 1.3517 = **35.2%.**

Check: 0.944 × 1.352 = $1.276^{(1/5)}$ = 1.050 = 5% annualized.

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

120. The variance of returns of a security and the market portfolio are 0.25 and 0.09, respectively. If the covariance of security returns and market returns is 0.06, the security's beta is *closest* to:

A. 0.40.
B. 0.67.
C. 0.24.

Answer = B

The security's beta is: $\beta_i = \frac{Cov(R_i, R_m)}{\sigma_m^2} = \frac{0.06}{0.09} = 0.67$

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 3.2