1. Carolina Ochoa, CFA, is the chief financial officer at Pantagonia Computing. Ochoa is currently the subject of an inquiry by Pantagonia's corporate investigations department. The inquiry is the result of an anonymous complaint accusing Ochoa of falsifying travel expenses for senior management related to a government contract. According to the CFA Institute Code of Ethics and Standards of Professional Conduct, it is most appropriate for Ochoa to disclose the allegations:

   A. to CFA Institute when the investigation concludes.
   B. on her Professional Conduct Statement.
   C. to CFA Institute if the allegations are proven correct.

   Answer = B

   Members and candidates must self-disclose on the annual Professional Conduct Statement all matters that question their professional conduct, such as involvement in civil litigation or criminal investigations or being the subject of a written complaint.

   CFA Level I
   "Code of Ethics and Standards of Professional Conduct"

2. Ileana Inkster, CFA, was recently offered a senior management position within the trust department at a regional bank. The department is new, but the bank has plans to expand it significantly over the next few months. Inkster has been told she will be expected to help grow the client base of the trust department. She is informed that the trust department plans to conduct educational seminars and pursue the attendees as new clients. Inkster notices that recent seminar advertisements prepared by the bank's marketing department do not mention investment products will be for sale at the seminar. The ads indicate attendees can "learn how to immediately add $100,000 to their net worth." What should Inkster *most likely* do to avoid violating any CFA Institute Standards of Professional Conduct?

   A. Decline to accept the new position
   B. Accept the position and inform senior management of inadequate compliance procedures
   C. Accept the position and revise the marketing material

   Answer = A

   The prospective supervisor's first step should be to not take the position. Accepting the position with inadequate procedures in place or improper marketing material would leave Inkster at risk of incurring a violation of Standard IV(C)–Responsibilities of Supervisors. She could agree to be hired as an interim consultant with the bank in order to implement adequate procedures before taking on any supervisory role.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard IV(C)–Responsibilities of Supervisors

3. Beth Kozniak, a CFA candidate, is an independent licensed real estate broker and a well-known property investor. She is currently brokering the sale of a commercial property on behalf of a client in financial distress. If the client's building is not sold within 30 days, he will lose the building to the bank. A year earlier, another client of Kozniak's had expressed interest in purchasing this same property. However, she is unable to contact this client, and she has not discovered any other potential buyers. Given her distressed client's limited time frame, Kozniak purchases the property herself and forgoes any sales commission. Six months later, she sells the property for a nice profit to the client who had earlier expressed interest in the property. Has Kozniak *most likely* violated the CFA Institute Standards of Professional Conduct?

   A. No
   B. Yes, she did not disclose her potential conflicts of interest to either client
   C. Yes, she profited on the real estate to the detriment of her financially stressed client

   Answer = A

   Kozniak does not appear to have violated any CFA Institute Standards of Professional Conduct. Because she is known in the market for investing and brokering property and both parties have worked with Kozniak in the past, both parties would know of her interests. In addition, in both cases, she acts for her own account as a primary investor, not as a broker. She buys the property for her own portfolio and then sells the property from her own portfolio. Therefore, Kozniak did not violate Standard VI(A)–Disclosure of Conflicts. When she purchased the property for her portfolio, she saved her client from losing the building to the bank and did not charge a sales commission. Because the sale of the property to her other client did not take place until six months after her purchase, and she was unable to contact the client who had earlier expressed interest prior to her purchase, she cannot be accused of violating Standard III(A)–Loyalty, Prudence, and Care with either client.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard III(A)–Loyalty, Prudence, and Care, Standard VI(A)–Disclosure of Conflicts

4. Mariam Musa, CFA, head of compliance at Dunfield Brokers, questions her colleague Omar Kassim, a CFA candidate and a research analyst, about his purchase of shares in a company for his own account immediately before he publishes a "buy" recommendation. He defends his actions by stating he has done nothing wrong because Dunfield does not have any personal trading policies in place. The CFA Institute Standards of Professional Conduct were most likely violated by:

   A. only Kassim.
   B. both Musa and Kassim.
   C. only Musa.

   Answer = B

   Both Musa and Kassim violated the Standards of Professional Conduct. Musa violated Standard IV(C)–Responsibilities of Supervisors by not ensuring policies were in place to prevent violations of the Standards of Professional Conduct (in this case, Standard VI(B)–Priority of Transactions) by someone subject to her supervision. As the head of compliance, Musa supervised Kassim and must meet her supervisory responsibilities outlined in the Standards of Professional Conduct. Kassim violated Standard VI(B)–Priority of Transactions because he did not give sufficient priority to Dunfield's clients before trading on his recommendation.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard IV(C)–Responsibilities of Supervisors, Standard VI(B)–Priority of Transactions

5. Which of the following statements does *not* accurately represent the objectives of Global Investment Performance Standards (GIPS)? The GIPS standards:

   A. ensure consistent, accurate investment performance data in the areas of reporting, records, marketing, and presentations.
   B. obtain global acceptance of calculation and presentation standards in a fair, comparable format with full disclosure.
   C. promote fair competition among investment management firms in all markets by requiring common fee structures.

   Answer = C

   One of the objectives of the GIPS standards is to promote fair competition among investment management firms in all markets; this objective does not require unnecessary entry barriers or hurdles for new firms, such as common fee structures.

   CFA Level I
   "The GIPS Standards," CFA Institute
   Fundamentals of Compliance

6. James Simone, CFA, the chief financial officer of a publicly listed company, seeks to improve the quality of his company's communication with institutional fund managers. He holds an investor briefing with this group the evening before the company earnings are announced. The company's quarterly earnings are broadcast in a press release the next day before the market opens. The earnings information in the investor briefing is identical to that in the press release. Did Simone *most likely* violate the CFA Institute Standards of Professional Conduct?

   A. Yes
   B. No, because the company releases information while the market is closed
   C. No, because investor briefing and press release information are identical

   Answer = A

   Simone violated Standard II(A)–Material Nonpublic Information by giving institutional fund managers access to material nonpublic information prior to public dissemination (i.e., the press release). By releasing earnings results to a select group of institutional fund managers prior to a public press release, Simone allows the institutional fund managers a time advantage over other investors not invited to the investor briefing.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard II(A)–Material Nonpublic Information

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

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

   Answer = C

   The information concerning the qualified opinion is material. It is also nonpublic because it has not been released and is not available online, so the mosaic theory would not hold up in this case. As a result, she would be in violation of Standard II(A)–Material Nonpublic Information if she took investment action based on this information. She should also make reasonable efforts to achieve public dissemination of the information.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard II(A) Material Nonpublic Information

8. Margie Germainne, CFA, is a risk management consultant who has been asked by a small investment bank to recommend policies to prevent bank employees from front running client orders. These clients generally invest in one or more of the bank's large cap equity unit trusts. To ensure compliance with the CFA Institute Standards of Professional Conduct, Germainne should *least likely* recommend which of the following? Employees should be restricted from trading:

   A. equity-related securities.
   B. without prior permission.
   C. during established time periods.

   Answer = A

   Although Standard VI(B)–Priority of Transactions is designed to prevent any potential conflict of interest or the appearance of a conflict of interest with respect to personal transactions, it does not ban employees from trading securities. A ban on all equity-related securities could be excessively restrictive to employees and unnecessary if appropriate personal transaction policies and procedures are in place.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard VI(B)–Priority of Transactions

9. Molly Burnett, CFA, is a portfolio manager for a fund that only invests in environmentally friendly companies. A multinational utility company recently acquired one of the fund's best-performing investments, a wind power company. The wind power company's shareholders received utility company shares as part of the merger agreement. The utility has one of the worst environmental records in the industry, but its shares have been one of the top performers over the past 12 months. Because the utility pays a high dividend every three months, Burnett holds the utility shares until the remaining two dividends are paid for the year then sells the shares. Burnett *most likely* violated the CFA Institute Standard of Professional Conduct concerning:

   A. Disclosure of Conflicts.
   B. Suitability.
   C. Independence and Objectivity.

   Answer = B

   The utility is not a suitable investment for a fund that only invests in companies with good environmental records. Continuing to hold this investment, therefore, was a violation of Standard III(C)–Suitability.

   CFA Level I
   "Guidance for Standards I–VII"
   Standard I(B)–Independence and Objectivity, Standard III(C)–Suitability, Standard VI(A)–Disclosure of Conflicts

10. Johannes Meir, CFA, is a compliance officer for Family Estate Planning, LLC, a private wealth consulting firm. Many of his colleagues have family members who have started their own retail businesses. Some of Meir's colleagues have been asked by relatives to serve as non-executive directors or advisers to their companies. Meir should *most likely* recommend which of the following policies to ensure compliance with the CFA Institute Standards of Professional Conduct?

    A. Require employees to declare all income sources annually
    B. Require employees to declare all outside business interests
    C. Prohibit employees from becoming directors or advisers

    Answer = B

    Standard VI(A)–Disclosure of Conflicts requires the disclosure of conflicts. For Meir to understand what potential conflicts of interest employees may have with the firm and with their clients, he would need to know the outside interests of each staff member. The staff members themselves may not know enough about the company and its clients to disclose those interests that would present a potential conflict. Therefore, it may be best to have all employees declare their outside business interests on an annual basis so Meir can make the determination as to what outside business interests need to be disclosed to clients.

    CFA Level I
    "Guidance for Standards I–VII"
    Standard VI(A)–Disclosure of Conflicts

11. Which of the following statements concerning requirements under Standard V(B)–Communication with Clients and Prospective Clients is *least likely* accurate? This standard requires members and candidates to:

    A. divulge the number of investment related personnel responsible for external communication.

B. distinguish between fact and opinion in the presentation of investment analysis and recommendations.
C. disclose the basic format and general principles of the investment process.

Answer = A

Standard V(B)–Communication with Clients and Prospective Clients does not limit the type or number of staff responsible for external communication.

CFA Level I
"Standards of Professional Conduct," CFA Institute
Standard V(B)–Communication with Clients and Prospective Clients

12. Gabrielle Gabbe, CFA has been accused of professional misconduct by one of her competitors. The allegations concern Gabbe's personal bankruptcy filing 10 years ago when she was a college student and had a large amount of medical bills she could not pay. By not disclosing the bankruptcy filing to her clients, did Gabbe *most likely* violate any CFA Institute Standards of Professional Conduct?

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

Answer = A

A personal bankruptcy does not necessarily constitute a violation of Standard I(C)–Misrepresentation or Standard I(D)–Misconduct. If the circumstances of the bankruptcy involved fraudulent or deceitful business conduct, then failing to disclose it may constitute a violation of the Standards of Professional Conduct.

CFA Level I
"Guidance for Standards I–VII"
Standard I(C)–Misrepresentation, Standard I(D)–Misconduct

13. Chan Liu, CFA, is the new research manager at the Pacific MicroCap Fund. Liu observed the following activities after she published a research report on a thinly traded micro-cap stock that included a "buy" recommendation:
• Pacific traders purchased the stock for Pacific's proprietary account and then purchased the same stock for all client accounts; and
• Pacific marketing department employees disseminated positive, but false, information about the stock in widely read internet forums.
Liu notes the stock's price increased more than 50% within a period of two days and was then sold for Pacific's account. Which of the following steps is most appropriate for Liu to take to avoid violating the CFA Institute Standards of Professional Conduct?

A. Remove her name from the micro-cap stock research report.
B. Publicly refute the false information posted on internet forums.
C. Report the observed activities to her employer.

Answer = C

Certain staff at Liu's employer appear to be engaged in front running, a violation of Standard VI(B)–Priority of Transactions, and market manipulation, a violation of Standard II(B)–Market Manipulation. If Liu observes these violations without taking steps to notify her employer, she will be in violation of

Standard I(A)–Knowledge of the Law. Liu should know that the conduct observed is likely a violation of applicable laws, rules, and regulations as well as a violation of the CFA Institute Standards of Professional Conduct. Her first step, therefore, should be to attempt to stop the behavior by bringing it to the attention of the employer through a supervisor or the firm's compliance department. Inaction may be construed as participation or assistance in the illegal or unethical conduct.

CFA Level I
"Guidance for Standards I–VII"
Standard I (A)–Knowledge of the Law, Standard II(B)–Market Manipulation, Standard VI(B)–Priority of Transactions

14. Francesca Ndenda, CFA, and Grace Rutabingwa work in the same department for New Age Managers, with Rutabingwa reporting to Ndenda. Ndenda learns that Rutabingwa received a Notice of Enquiry from the Professional Conduct Program at CFA Institute regarding a potential cheating violation when she sat for the CFA exam in June. As Rutabingwa's supervisor, Ndenda is afraid that Rutabingwa's behavior will be seen as a violation of the Code and Standards. Does Ndenda *most likely* have cause for concern?

A. No, not until Rutabingwa is found guilty of cheating
B. Yes
C. No, because her responsibilities do not apply

Answer = C

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

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

15. According the GIPS standards, for periods beginning on or after 1 January 2011, the aggregate fair value of total firm assets *most likely* includes all:

A. fee-paying discretionary accounts.
B. fee- and non-fee-paying discretionary accounts.
C. fee- and non-fee-paying discretionary and non-discretionary accounts.

Answer = C

For periods beginning on or after 1 January 2011, total firm assets must include the aggregate fair value of all discretionary and non-discretionary assets managed by the firm. This includes both fee-paying and non-fee-paying portfolios.

CFA Level I
"Global Investment Performance Standards (GIPS)"
GIPS Requirement 0.A.13

16. Which of the following statements concerning why the Global Investment Performance Standards (GIPS) were created is *least likely* correct? The GIPS standards were created to:

    A. provide clients certainty in what is presented and allow them to make reasonable comparisons.
    B. establish a standardized, industry wide approach for investment firms to follow.
    C. identify a set of ethical principles for firms to follow in calculating and presenting historical investment results.

    Answer = A

    The GIPS standards were created to ensure fair representation and full disclosure of investment performance, not to provide certainty in what is presented.

    CFA Level I
    "Introduction to the Global Investment Performance Standards (GIPS)," CFA Institute
    Why Were the GIPS Standards Created?

17. Jan Loots, CFA, quit his job as a portfolio manager at an investment firm with whom he had a non-solicitation agreement he signed several years ago. Loots received permission to take his investment performance history with him and also took a copy of the firm's software-trading platform. Subsequently, Loots sent out messages on social media sites announcing he was looking for clients for his new investment management firm. Access to Loots's social media sites is restricted to friends, family, and former clients. Loots *least likely* violated the CFA Institute Standards of Professional Conduct concerning his:

    A. non-solicitation agreement.
    B. investment performance history.
    C. trading software.

    Answer = B

    The portfolio manager received permission to use his investment performance history from his prior employer. The member violated his non-solicitation agreement by indicating his availability to new clients on several social media sites accessible by clients of his former employer. This action is a violation of Standard IV(A)–Loyalty because he did not act for the benefit of his former employer. In this case, the member may cause harm to his former employer if his messages result in clients moving to his new business from his former employer. The member also violated Standard IV(A) by taking his employer's property, the trading software.

    CFA Level I
    "Guidance for Standards I–VII"
    Standard IV(A)–Loyalty

18. Sergio Morales, CFA, believes he has found evidence that his supervisor is engaged in fraudulent activity involving a client's account. When Morales confronts his supervisor, he is told the client is fully aware of the issue. Later that day, Morales contacts the client and after disclosing the fraudulent activity, he is told by the client to mind his own business. Following the requirements of local law, Morales provides all of his evidence, along with copies of the client's most recent account statements, to a government whistleblower program. Has Morales *most likely* violated the CFA Institute Standards of Professional Conduct?

    A. No
    B. Yes, concerning Duties to Employers
    C. Yes, concerning Preservation of Confidentiality

Answer = A

Because Morales believes his supervisor and potentially the client are engaged in fraudulent activity and following the requirements of local law, he has not violated Standard III(E)–Preservation of Confidentiality or Standard (V)–Duties to Employers.

CFA Level I
"Guidance for Standards I–VII"
Standard III(E) Preservation of Confidentiality, Standard (IV) Duties to Employers, Standard (V) Duties to Employers

19. For a positively skewed unimodal distribution, which of the following measures is *most* accurately described as the largest?

A. Median
B. Mean
C. Mode

Answer = B

For a positively skewed unimodal distribution, the mode is less than the median, which is 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
Section 8

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

Head price	$83.50
Shoulder price	$72.00
Neckline price	$65.75
Current price	$64.00

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

A. $59.50.
B. $48.00.
C. $44.50.

Answer = B

Price target = Neckline − (Head − Neckline).

In this example, Price target = $65.75 − ($83.50 − $65.75) = $65.75 – $17.75 = $48.00.

CFA Level I

"Technical Analysis," Barry M. Sine and Robert A. Strong
Section 3.3.1.3

21. The following sample of 10 items is selected from a population. The population variance is unknown.

10	20	–8	2	–9	5	0	–8	3	21

The standard error of the sample mean is *closest* to:

A. 10.84.
B. 3.43.
C. 3.60.

Answer = B

When the population variance is unknown, the standard error of the sample mean is calculated as:

$s_{\bar{X}} = \frac{s}{\sqrt{n}}$, where *s* is the sample standard deviation and *n* is the size of the sample. The sample standard deviation is: $s = [\sum_{i=1}^{n} (X_i - \bar{X})^2/(n-1)]^{0.5}$. In this problem, $\bar{X}$ = (10 + 20 – 8 + 2 – 9 + 5 + 0 – 8 + 3 + 21)/10 = 3.6.

Deviation from Mean	Squared Deviation
(10 – 3.6) = 6.4	6.4^2 = 40.96
(20 – 3.6) = 16.4	16.4^2 = 268.96
(–8 – 3.6) = –11.6	-11.6^2 = 134.56
(2 – 3.6) = –1.6	-1.6^2 = 2.56
(–9 – 3.6) = –12.6	-12.6^2 = 158.76
(5 – 3.6) = 1.4	1.4^2 = 1.96
(0 – 3.6) = –3.6	-3.6^2 = 12.96
(–8 – 3.6) = –11.6	-11.6^2 = 134.56
(3 – 3.6) = –0.6	-0.6^2 = 0.36
(21 – 3.6) = 17.4	17.4^2 = 302.76
Total	1058.4
Variance	1058.4/9 = 117.6
Standard deviation (*s*):	√117.6 = 10.844

The standard error of the sample mean is therefore $10.844/10^{0.5}$ = 3.429 ~ 3.43.

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

22. A portfolio manager estimates the probabilities of the following events for a mutual fund:

- Event A: the fund will earn a return of 5%.
- Event B: the fund will earn a return below 5%.

The *least* appropriate description of the events is that they are:

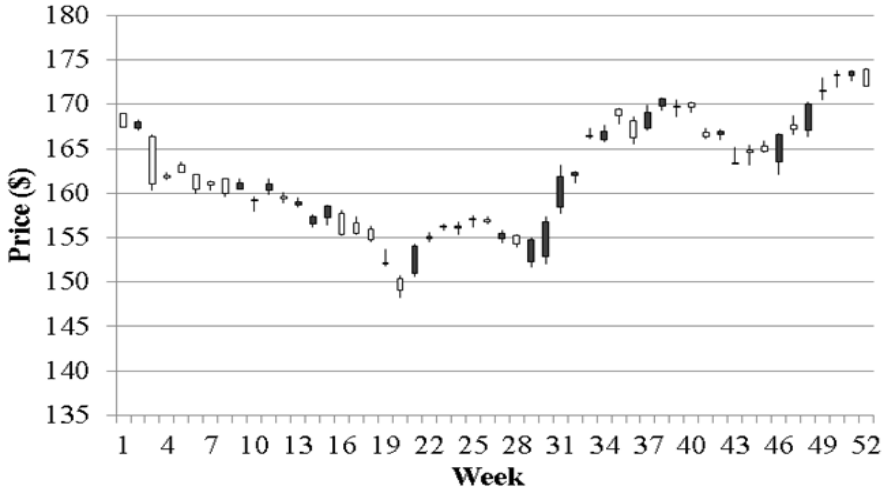
A. dependent.
B. exhaustive.
C. mutually exclusive.

Answer = B

Events are exhaustive when they cover all possible outcomes. Mutually exclusive means that only one event can occur at a time. Two events are dependent if the occurrence of one event does affect the probability of occurrence of the other event. In this situation, Event *A* and *B* are both mutually exclusive (because they cannot occur at the same time) and dependent (because if one event occurs, the probability of the other becomes zero). However, the two events are not exhaustive because they do not cover the event that the fund will earn a return above 5%.

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

23. The following chart is *best* described as an example of which type of technical analysis chart?



A. A candlestick chart
B. A bar chart
C. A point and figure chart

Answer = A

The chart is an example of a candlestick chart. A candlestick chart provides four prices per data point entry: the opening and closing prices and the high and low prices during the period (i.e., during a

week). In a candlestick chart, a vertical line represents the range through which the security price traveled during the time period. The line is known as the wick or shadow. The body of the candle is shaded if the opening price was higher than the closing price, and the body is clear if the opening price was lower than the closing price.

CFA Level I
"Technical Analysis," Barry M. Sine and Robert A. Strong
Section 3.1.3

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

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

Answer = A

When the sample size is small (and the population is normally or approximately normally distributed), the Student's *t*-distribution is preferred if the variance is unknown.

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

25. A stock is declining in price and reaches a price range wherein buying activity is sufficient to stop the decline. This range is *best* described as the:

A. change in polarity point.
B. resistance level.
C. support level.

Answer = C

The support level is defined to be a low price range in which buying activity is sufficient to stop the decline in price.

CFA Level I
"Technical Analysis," Barry M. Sine and Robert A. Strong
Section 3.2

26. An analyst collects data relating to five commonly used measures of financial leverage and interest coverage for a randomly chosen sample of 300 firms. The data come from those firms' fiscal year 2013 annual reports. These data are *best* characterized as:

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

Answer = C

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

CFA Level I
"Sampling and Estimation," Richard A. Defusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 2.3

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

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

Answer = B

The standard error of the sample mean, when the sample standard deviation is known, is:

$s_{\bar{X}} = \frac{s}{\sqrt{n}}$. In this case, $s_{\bar{X}} = \frac{15}{\sqrt{25}} = 3.00$.

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

28. If a stock's continuously compounded return is normally distributed, then the distribution of the future stock price is *best* described as being:

A. a Student's *t.*
B. lognormal.
C. normal.

Answer = B

If a stock's continuously compounded return is normally distributed, then the future stock price is necessarily lognormally distributed.

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

29. Independent samples drawn from normally distributed populations exhibit the following characteristics:

Sample	Size	Sample Mean	Sample Standard Deviation
A	25	200	45
B	18	185	60

Assuming that the variances of the underlying populations are equal, the pooled estimate of the common variance is 2,678.05. The *t*-test statistic appropriate to test the hypothesis that the two population means are equal is *closest* to:

A. 1.90.
B. 0.29.
C. 0.94.

Answer = C

The *t*-statistic for the given information (normally distributed populations, population variances assumed equal) is calculated as:

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{\left(\frac{s_p^2}{n_1} + \frac{s_p^2}{n_2}\right)^{0.5}}$$

In this case, we have:

s^2_p = 2678.05.

$$t = \frac{(200 - 185) - (0)}{\left(\frac{2678.05}{25} + \frac{2678.05}{18}\right)^{0.5}} = 0.93768 \sim \mathbf{0.94}$$

CFA Level I
"Hypothesis Testing," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 3.2

30. The following information is available for a portfolio:

Asset Class	Asset Allocation Weight (%)	Asset Class Return (%)	Correlation with Equities Class (%)
Equities	45	16	100
Mortgages	25	12	30
Cash and equivalents	30	2	10

The return on the portfolio is *closest* to:

A. 10.0%.
B. 8.2%.

C. 10.8%.

Answer = C

The portfolio return is the weighted mean return and is calculated as follows:

$$\bar{X}_w = \sum_{i=1}^{n} w_i X_i = (0.45 \times 16) + (0.25 \times 12) + (0.30 \times 2) = 10.8\ \%$$

CFA Level I
"Statistical Concepts and Market Returns," Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle
Section 5.4.1

31. A sample of 240 managed portfolios has a mean annual return of 0.11 and a standard deviation of returns of 0.23. The standard error of the sample mean is *closest* to:

A. 0.00096.
B. 0.00710.
C. 0.01485.

Answer = C

For a sample, the standard error of the mean is $s_{\bar{X}} = \frac{s}{\sqrt{n}}$ where *s* is the sample standard deviation and *n* is the sample size), which here is: 0.23/√240 = 0.01485.

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

32. A two-tailed *t*-test of the hypothesis that the population mean differs from zero has a *p*-value of 0.0275. Using a significance level of 5%, the *most* appropriate conclusion is:

A. to accept the null hypothesis.
B. to reject the null hypothesis.
C. that the chosen significance level is too high.

Answer = B

The *p*-value is the smallest level of significance at which the null hypothesis can be rejected. In this case, the given *p*-value (0.0275) is less than the given level of significance (0.05); therefore, 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. Which of the following is the *least likely* outcome when a monopolist adopts first-degree price discrimination because of customers' differing demand elasticities?

A. The monopolist shares the total surplus with consumers.
B. The output increases to the point at which price equals the marginal cost.
C. The price for a marginal unit decreases to less than the price for other units.

Answer = A

In a monopoly, perfect price discrimination results in the total surplus being kept by the producer, the monopolist.

CFA Level I
"The Firm and Market Structures," by Richard G. Fritz and Michele Gambera
Section 6.4

34. The primary monetary policy goal of most major central banks is *best* characterized as:

A. maintaining price stability.
B. stimulating economic growth.
C. maintaining low interest rates.

Answer = A

The primary monetary policy goal of most major central banks is to maintain price stability.

CFA Level I
"Monetary and Fiscal Policy,**"** Andrew Clare and Stephen Thomas
Section 2.3

35. Which of the following is *least likely* to be a valid function/characteristic of money? Money:

A. requires a double coincidence of wants.
B. acts as a unit of account.
C. provides a store of wealth.

Answer = A

The functions of money include being a means of payment, acting as a medium of exchange and acting as a unit of account. It does not require a double coincidence of wants, as barter does since it easily divisible and can act as a medium of exchange.

CFA Level I
"Monetary and Fiscal Policy,**"** Andrew Clare and Stephen Thomas
Section 2.1

36. Six companies in an industry have the following market shares:

Company	A	B	C	D	E	F
Market Share (%)	30	25	16	12	10	7

If Companies D and F merge into a new Company, G, the industry's three-company concentration ratio would be *closest* to:

A. 72%.
B. 74%.
C. 71%.

Answer = B

The concentration ratio for the top three companies would be 74%:
A (30%) + B (25%) + G (12% + 7%).

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

37. Which of the following will *most likely* cause the short-run aggregate supply (SRAS) curve to shift to the right?

A. Increase in business taxes
B. Increase in the supply of human capital
C. Increase in nominal wages

Answer = B

An increase in the supply of human capital will increase the resource base and cause the SRAS to shift to the right.

CFA Level I
"Aggregate Output, Prices, and Economic Growth," Paul R. Kutasovic and Richard G. Fritz
Sections 3.3.2, 3.3.3

38. A country's international transactions accounts data for last year are presented in its domestic currency:

Transaction	Amount
Exports of goods and services	10,000
Import of goods and services	14,216
Investment income payments made to foreigners	2,519
Investment income received from foreigners	3,409
Net change in assets owned abroad	1,548
Net change in foreign-owned assets domestically	4,989
Unilateral current transfers received	346
Unilateral current transfers paid	1,107
Statistical discrepancy	646

The current account balance is *closest* to:

A. –4,216.
B. –4,345.
C. –4,087.

Answer = C

Current Account Amounts with Signs and Grouped Appropriately:		
Transaction	**Amount**	**Totals**
Export of goods and services and income receipts		13,409
Export of goods and services	10,000	
Investment income received from foreigners	3,409	
Import of goods and services and income payments		–16,735
Import of goods and services	–14,216	
Investment income payments made to foreigners	–2,519	
Net unilateral current transfers		–761
Unilateral current transfers received	346	
Unilateral current transfers paid	–1,107	
Current account balance		**–4,087**

CFA Level I
"International Trade and Capital Flows," Usha Nair-Reichert and Daniel Robert Witschi
Sections 4.1, 4.2

39. The unemployment rate is *best* described as the ratio of unemployed to:

A. total population of people who are of working age.
B. labor force.
C. labor force minus frictionally unemployed.

Answer = B

The unemployment rate is the ratio of unemployed to labor force.

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

40. Assume that two firms in a duopoly enter into a collusive agreement in an attempt to form a cartel and restrict output, raise prices, and increase profits. According to the Nash equilibrium, a low price is *most likely* charged by:

A. only one firm.
B. both firms.
C. neither firm.

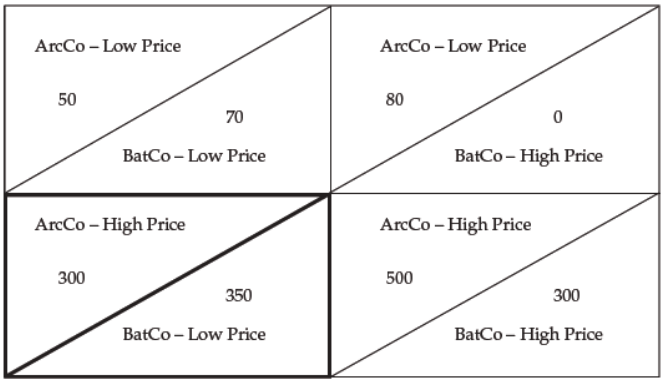
Answer = C

The market outcomes for two firms in a duopoly is shown in the diagram to the right.

The lower left hand quadrant is the Nash solution when there is **no collusion**.

However, **with collusion**, if ArcCo shares at least enough of its profit in the bottom right quadrant to provide BatCo more than it would receive in the lower left, it will be the optimal solution for the pair: the**maximum joint profits** will arise where ***both firms charge high prices for the product***.

Exhibit 15 **Nash Equilibrium in Duopoly Market**



CFA Level I
"The Firm and Market Structures," Richard G. Fritz and Michele Gambera
Section 5.1

41. First-degree price discrimination is *best* described as pricing that allows producers to increase their economic profit while consumer surplus:

A. increases.
B. decreases.
C. is eliminated.

Answer = C

In first-degree price discrimination, the entire consumer surplus is captured by the producer; the consumer surplus falls to zero.

CFA Level I
"The Firm and Market Structures," Richard G. Fritz and Michele Gambera
Section 6.4

42. Which characteristic is a firm *least likely* to exhibit when it operates in a market with a downward sloping demand curve, many competitors, and zero economic profits in the long run?

A. Differentiated product
B. Low barriers to entry
C. No pricing power

Answer = C

The characteristics of monopolistic competition include a large number of competitors, low pricing power, and the production of differentiated products (through advertising and other non-price strategies), but these still result in some pricing power. The ease of entry results in zero economic profits in the long run.

CFA Level I
"The Firm and Market Structures," Richard G. Fritz and Michele Gambera
Sections 2.1, 2.2, 4

43. An expansionary fiscal policy is *least likely* to include an increase in:

A. tax rates.
B. budget deficit.
C. government expenditures.

Answer = A

An expansionary fiscal policy means that the government increases its purchases of goods and services and/or cuts tax rates to increase aggregate demand. Furthermore, an increase in the budget deficit would be associated with an expansionary fiscal policy.

CFA Level I
“Monetary and Fiscal Policy,” by Andrew Clare and Stephen Thomas
Sections 3.1.1–3.1.2

44. The total output in units and average selling prices in a hypothetical economy producing only two products, X and Y, is provided:

	Product X		**Product Y**	
Year	**Output (units)**	**Selling Price/unit**	**Output (units)**	**Selling Price/unit**
1	2,800	€9	2,000	€47
2	3,000	€11	1,800	€52

If the implicit price deflator for GDP in Year 1 was 100, for Year 2, it is *closest* to:

A. 113.4.
B. 106.2.
C. 106.8.

Answer = A

Year	Nominal GDP	Real GDP
1	2,800 × 9 + 2,000 × 47 = 119,200	119,200
2	3,000 × 11 + 1,800 × 52 = 126,600 [A]	3,000 × 9 + 1,800 × 47 = 111,600 [B]

$$GDP\ Deflator = (\text{Nominal GDP})/(\text{Real GDP}) \times 100 = \frac{126,600}{111,600} \times 100 = \underline{\mathbf{113.4}}$$

$$= \frac{\text{Value of current output at current prices}}{\text{Value of current output at base year prices}} \times 100$$

[A] Value of current output at current prices
[B] Value of current output at base year prices

CFA Level I
"Aggregate Output, Prices, and Economic Growth," Paul R. Kutasovic and Richard G. Fritz
Section 2.1.2

45. Information about the coupon rates on the various long-term fixed-rate debt issues of a company can *most likely* be found in the:

A. non-current liabilities section of the balance sheet.
B. Management Discussion & Analysis (MD&A).
C. notes to the financial statements.

Answer = C

Information about the coupon rates on the various long-term fixed-rate debt issues can usually be found in the notes to the financial statements. The MD&A is more likely to discuss interest rate trends and/or current financing costs but not specific information on individual debt issues.

CFA Level I
"Non-Current (Long-Term) Liabilities," Elizabeth A. Gordon and Elaine Henry
Sections 2.6

46. A company is purchasing a customer list that it expects will provide economic benefits for the next 5 years. The company chooses to use an accelerated amortization method. The choice will *most likely* result in:

A. the highest amortization expense in the first year.
B. the highest amortization expense in the fifth year.
C. an equal amortization expense in all 5 years.

Answer = A

With accelerated amortization, first year amortization expense should be the highest.

CFA Level I
"Long-lived Assets," Elaine Henry and Elizabeth A. Gordon
Sections 3.1, 3.2

47. The following information (in millions) on a company is available:

Cost of goods sold	$500
Increase in total assets	$250
Increase in total liabilities	$200
Change in inventory	–$30
Change in accounts payable	–$25

The amount of cash (in millions) that the company paid to its suppliers is *closest* to:

A. $505.
B. $495.
C. $445.

Answer = B

Cost of goods sold	$500
Minus decrease in inventory	–$30
Purchases from suppliers	$470
Plus decrease in accounts payable	$25
Cash paid to suppliers	$495

CFA Level I
“Understanding Cash Flow Statements,” Elaine Henry, Thomas R. Robinson, Jan Hendrik van Greuning, and Michael A. Broihahn
Section 3.2.1.2

48. Which of the following is *most likely* a benefit of the direct method for reporting cash flow from operating activities? Compared with the indirect method, the direct method:

A. mirrors the forecasting approach normally used by analysts.
B. provides insight on differences between net income and operating cash flows.
C. provides details on the specific sources of operating receipts and payments.

Answer = C

The primary benefit of the direct method is that it provides information on the specific sources of operating cash receipts and payments.

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

Section 2.3

49. On 1 January, a company that prepares its financial statements according to International Financial Reporting Standards (IFRS) arranged financing for the construction of a new plant. The company:

• borrowed NZ$5,000,000 at an interest rate of 8%,

• issued NZ$5,000,000 of preferred shares with a cumulative dividend rate of 6%, and

• temporarily invested NZ$2,000,000 of the loan proceeds during the first six months of construction and earned 7% on that amount.

The amount of financing costs to be capitalized to the cost of the plant in the first year is *closest* to:

A. NZ$330,000.
B. NZ$400,000.
C. NZ$630,000.

Answer = A

The interest costs can be capitalized, but under IFRS, any amounts earned by temporarily investing the funds are deducted from the capitalized amount. The costs related to the preferred shares cannot be capitalized.

Capitalized Costs		**NZ$**
Interest costs	0.08 × 5,000,000	400,000
Minus interest income	0.07 × 2,000,000 × ½ year	– 70,000
Total capitalized costs		330,000

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 2.1

50. The following information for the current year is available for a company that prepares its financial statements in accordance with US GAAP.

	$ thousands
Revenue	7,000
Cost of goods sold	4,200
Other operating expenses	500
Restructuring costs	250
Interest expense	200

The company's operating profit (in thousands) is *closest* to:

A. $2,050.
B. $2,300.
C. $1,850.

Answer = A

	$ thousands	
Revenue	7,000	
Minus cost of goods sold	–4,200	
Minus other operating expenses	–500	
Minus restructuring expenses	–250	Under US GAAP, restructuring charges are operating items.
Operating profit	**2,050**	

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Sections 5.3, 5.5

51. For a company that prepares its financial statements under International Financial Reporting Standards (IFRS), for which of the following assets is it *most likely* that the company could report using the fair value model?

A. Houses built by the company for sale to customers
B. A building owned by the company and leased out to tenants
C. A building the company owns and uses to house its administrative activities

Answer = B

Under IFRS, a building owned for the purpose of earning rentals or capital appreciation—in this case, the one owned by the company and leased out to tenants—is an investment property and can be reported under either the cost model or fair value model.

CFA Level I
"Inventories," Michael A. Broihahn
Section 4

"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 8

52. The method a high end custom-built motorcycle manufacturer uses to value its inventory results in the matching of the physical flow of the particular items sold, and the items remaining in inventory, to their actual cost. Which of the following inventory valuation methods is the manufacturer *most likely* using?

A. FIFO
B. Weighted average cost
C. Specific identification

Answer = C

Specific identification is the inventory method that results in the matching of the physical flow of the particular items sold and would be most suitable for high-end custom-built motorcycles that are not ordinarily considered interchangeable.

CFA Level I

"Inventories," Michael A. Broihahn
Section 3.1

53. An analyst is reviewing the property, plant, and equipment disclosure related to a company's warehouse. The company uses the International Financial Reporting Standards (IFRS) revaluation model. The analyst would *least likely* be able to determine:

A. the carrying amount under the cost model.
B. the original date of acquisition.
C. how the fair value was obtained.

Answer = B

IFRS does not require disclosure of the original date of acquisition.

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

54. Selected information from a company's comparative income statement and balance sheet is presented below:

Selected Income Statement Data for the Year Ended 31 August ($ thousands)		
	2013	**2012**
Sales revenue	100,000	95,000
Cost of goods sold	47,000	47,500
Depreciation expense	4,000	3,500
Net Income	11,122	4,556

Selected Balance Sheet Data as of 31 August ($ thousands)		
	2013	**2012**
Current Assets		
Cash and investments	21,122	25,000
Accounts receivable	25,000	13,500
Inventories	13,000	8,500
Total current assets	59,122	47,000

Current liabilities		
Accounts payable	15,000	15,000
Other current liabilities	7,000	9,000
Total current liabilities	22,000	24,000

The cash collected from customers in 2013 is *closest* to:

A. $111,500.
B. $96,100.
C. $88,500.

Answer = C

Cash collected from customers = Revenues – Increase in accounts receivable = $100 – (25 – 13.5) = $88.5 thousand.

CFA Level I
"Understanding Cash Flow Statements," Elaine Henry, Thomas R. Robinson, Jan Hendrik van Greuning, and Michael A. Broihahn
Section 3.2.1.1

55. The following information applies to a capital asset of a company:

Year ending	**2014**	**2013**	**2012**
Capital asset	€2,500	€2,500	€2,500
Accumulated depreciation	375	250	125
Net book value	2,125	2,250	2,375

This company uses the straight line depreciation method for this capital asset.

At the end of 2014, the expected remaining life of the capital asset, in years, is *closest* to:

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

Answer = A

Based on the annual increase in accumulated depreciation, annual depreciation expense is $125 and the asset was acquired in 2012.
Total useful life of the capital asset = 2,500/125 = 20 years.
Remaining useful life three years later = 20 years – 3 years = 17 years.

CFA Level I
“Long-Lived Assets,” Elaine Henry and Elizabeth A. Gordon
Section 3.1

"Financial Statement Analysis: Applications," Thomas R. Robinson, Jan Hendrik van Greuning, Elaine Henry, and Michael A. Broihahn
Section 6.4

56. Assume a company has the following portfolio of marketable securities, which were acquired at the end of last year:

Category	**Original Cost (in €) at the End of Last Year**	**Fair Market Value (in €) at the End of the Current Year**
Held for trading	12,000,000	12,500,000
Available for sale	17,000,000	16,000,000

If the company reports under IFRS compared with US GAAP, its net income in the current year will *most likely* be:

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

Answer = B

Whether securities are classified as held for trading or available for sale, they are measured at their fair value on the balance sheet. All gains/losses on held-for-trading securities are reported on the income statements, whereas the unrealized gains/losses on available-for-sale securities are reported in equity. This treatment is the same for both IFRS and US GAAP reporting.

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Section 8

"Understanding Balance Sheets," Elaine Henry and Thomas R. Robinson
Section 4.5

57. Other comprehensive income is *least likely* to include gains or losses on:

A. the sale or disposal of discontinued operations.
B. the translation of foreign currency–denominated subsidiary financial statements.
C. derivative contracts accounted for as hedges.

Answer = A

Gains or losses on the disposal of discontinued operations are reported separately near the bottom of the income statement and are included in net income, not other comprehensive income.

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Sections 5.1, 8

58. A company that reports in accordance with International Financial Reporting Standards (IFRS) does not use the cost model to value its investment properties and property, plant, and equipment. Information related to an investment property and a plant is as follows:

	Fair Market Value	
	Beginning of the Year (€ thousands)	**End of the Year** (€ thousands)
Investment property	1,000	1,100
Plant	1,000	1,200

On its income statement for the year, the company will *most likely* recognize a gain (in thousands) of:

A. €200.
B. €300.
C. €100.

Answer = C

The fair value model would be used for the investment property and the €100 thousand gain should be recognized on the company's income statement. The revaluation model would be used for the plant, and the €200 thousand gain should be recognized in the revaluation surplus account on the balance sheet with no impact on net income. Therefore, only the €100 thousand will affect net income.

CFA Level I
"Long-Lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 8

59. A company that uses International Financial Reporting Standards (IFRS) entered into a three-year construction project with a total contract price (all figures in thousands) of $5,300 and expected costs of $4,400. At inception, the outcome of the contract could not be reliably measured, but the company did expect to recover its costs. Actual results are shown in the following table:

($ thousands)	**Year 1**	**Year 2**	**Year 3**	**Total**
Costs incurred and paid	$1,200	$2,000	$1,200	$4,400
Amounts billed and payments received	$800	$3,000	$1,500	$5,300

The amount of revenue (in thousands) the company recognized in Year 2 was *closest* to:

A. $0.
B. $2,409.
C. $2,000.

Answer = C

Under IFRS, if the outcome of the contract cannot be reliably measured, but the company expects to recover its costs, then revenue may be recognized to the extent of the contract costs incurred. In Year 2, the costs incurred were $2,000 thousand, thus, the revenue would also be $2,000 thousand and the gross profit would be $0.

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

60. Under IFRS, the costs incurred in the issuance of bonds are *most likely*:

A. deferred as an asset and amortized on a straight-line basis.
B. included in the measurement of the bond liability.
C. expensed when incurred.

Answer = B

Under IFRS, debt issuance costs are included in the measurement of the bond liability.

CFA Level I
"Non-Current (Long-Term) Liabilities," by Elizabeth A. Gordon and Elaine Henry
Section 2.1

61. A company values its ending inventory using the prices of its most recent purchases. The inventory valuation method that the company is *most likely* using is:

A. FIFO.
B. Weighted average cost.
C. LIFO.

Answer = A

FIFO values ending inventory using the most recent costs of goods purchased.

CFA Level I
"Inventories," Michael A. Broihahn
Sections 3.2, 3.3, 3.4

62. Income statements for two companies (A and B) and the common-size income statement for the industry are provided in the following table:

($ thousands)	**Company A**	**Company B**	**Industry**
Sales	$10,500	$8,250	100.0%
Cost of goods sold	6,353	5,239	62.8%
Selling, general, and administrative expenses	2,625	2,021	24.8%
Interest expense	840	536	7.0%
Pretax earnings	683	454	5.4%

Taxes	205	145	1.7%
Net earnings	$478	$309	3.7%

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

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

Answer = C

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

	Company A	Company B	Industry	Company A	Company B
Sales	$10,500	$8,250	100.0%	100%	100%
Cost of goods sold	6,353	5,239	62.8%	60.5%	63.5%
Gross margin			37.2%	39.5%	36.5%
Company A earns a higher gross margin than both Company B and the industry.					
Pretax earnings	$683	$454	5.4%	6.5%	5.5%
Taxes	205	145	1.7%	2.0%	1.8%
Tax rate = Taxes/Pretax earnings			32%	30%	32%
The tax rates for the companies are not higher than the industry.					

The tax rates for the companies are not higher than the industry. The interest rate is not a function of sales and cannot be analyzed on a common-size income statement. Tax rates are determined based on Taxes/Pretax earnings, not as a percentage of sales (as shown in common-size analysis).

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Section 7

"Financial Analysis Techniques," Elaine Henry, Thomas R. Robinson, and Jan Hendrik van Greuning
Sections 3.1, 3.2.2

63. If a company has a deferred tax asset reported on its statement of financial position and the tax authorities reduce the tax rate, which of the following statements is *most* accurate concerning the effect of the change? The existing deferred tax asset will:

A. not be affected.
B. decrease in value.
C. increase in value.

Answer = B

A decrease in the tax rate will result in a decrease in the previously reported amounts of deferred tax assets. That is, the value of the future tax assets, based on the new lower rate, is reduced for offsetting future tax payments.

CFA Level I
"Income Taxes," Elbie Antonites and Michael A. Broihahn
Section 3.3

64. The following common-size income statement data and tax rates are available on a company.

Financial Item	**Current Year (%)**
Revenues	100
Cost of goods sold	38.6
Interest expense	3.1
Research expenses	4.4
Selling and general expenses	32.9
Income tax rate	22%
Prior Year's Profitability Ratios	
Gross profit margin	60.5%
Operating profit margin	23.3%
Net profit margin	15.8%

The profitability ratio that had the *largest* absolute increase in value in the current year is the:

A. operating profit margin.
B. net profit margin.
C. gross profit margin.

Answer = C

The gross profit margin increased the most in the current year:

	Current Year (%)	Prior Year (%)	Increase
Revenues	100		
Cost of goods sold	38.6		
Gross profit margin	**61.4**	**60.5**	**+0.9**
Research expenses	4.4		
Selling and general expenses	32.9		
Operating margin	**24.1**	**23.3**	+0.8
Interest expense	3.1		
Earnings before tax	21.0		
Minus income tax expense	22% × 21 = 4.6		
Net profit margin	**16.4**	**15.8**	+0.6

CFA Level I
"Understanding Income Statements," Elaine Henry and Thomas R. Robinson
Sections 5.5, 7.2

"Financial Analysis Techniques," Elaine Henry, Thomas R. Robinson, and Jan Hendrik van Greuning
Section 4.5

65. The following data are available for a company's first year of operations:

Metric	£ Thousands
Earnings before tax reported on the income statement	2,640
Depreciation expense included in earnings before tax	4,500
Accounting expenses that are not deductible for tax purposes	2,130
Depreciation expense deductible for tax purposes in first year of operations	6,340
Corporate tax rate	25%

The company's end-of-year balance sheet will *most likely* include (in thousands) a deferred tax

A. liability of £733.
B. liability of £460.
C. asset of £73.

Answer = B

Deferred tax balances result from temporary differences between a company's income as reported for tax purposes and income reported for financial statement purposes. The temporary difference in this case arises from the difference between the depreciation for accounting purposes and the depreciation for tax purposes. Because of this difference, the company would report more income tax expense than would actually be paid in taxes. The difference is a deferred tax liability.

Temporary difference balance = Depreciation expense for accounting purposes – Depreciation for tax purposes	£6,340 – £4,500	£1,840
Deferred tax balance = Temporary difference balance × Corporate tax rate	£1,840 × 25%	£460

CFA Level I

"Understanding Balance Sheets," Elaine Henry and Thomas R. Robinson
Section 5.2

"Income Taxes," Elbie Antonites and Michael A. Broihahn
Sections 2.2, 4

66. The following data are available on a company:

Metric	**Current Year (¥ millions)**
Cash	114
Inventory	462
Marketable securities (at fair value)	23
Property, plant, and equipment (net)	677
Receivables	231
Current liabilities	390
Liquidity ratios in prior year	
Cash ratio	0.37
Current ratio	2.19
Quick ratio	0.97

The value of the company's liquidity ratio that decreased the *most* in the current year, compared with the prior year, is the:

A. cash ratio.
B. quick ratio.
C. current ratio.

Answer = C

	Current Ratio	Cash Ratio	Quick Ratio
Numerator	Current assets = Cash + Marketable securities + Receivables + Inventory	Cash + Marketable securities	Cash + Marketable securities + Receivables
Denominator	Current liabilities	Current liabilities	Current liabilities
Current year			
Numerator	114 + 23 + 231 + 462 = 830	114 + 23 = 137	114 + 23 + 231 = 368
Denominator	390	390	390
Ratio: Current year	2.13	0.35	0.94
Ratio: Prior year	2.19	0.37	0.97
Change in ratio	–0.06	–0.02	–0.03

CFA Level I
"Understanding Balance Sheets," Elaine Henry and Thomas R. Robinson
Section 7.2

"Financial Analysis Techniques," Elaine Henry, Thomas R. Robinson, and Jan Hendrik van Greuning
Section 4.3

67. Because of significant changes in the marketplace, the demand for a company's product has fallen and is not expected to recover to previous levels. The following information is related to the patent under which the product is produced:

Item Description	$ Thousands
Carrying value amount	36,000
Undiscounted expected future cash flows	38,000
Present value of expected future cash flows	32,000
Fair value if sold	34,000
Costs to sell	4,000

Which of the following statements is *most* accurate? The patent is impaired under:

A. IFRS only.
B. both IFRS and US GAAP.
C. US GAAP only.

Answer = A

Under IFRS (International Financial Reporting Standards), first determine the recoverable amount, which is the higher of
1. value in use (the present value of the expected future cash flows) = $32,000 or
2. fair value minus costs to sell = $34,000 – 4,000 = $30,000

The recoverable amount ($32,000) is lower than the carrying value ($36,000). Therefore, the asset is impaired and should be written down to that amount.

Under US GAAP, to assess impairment, the carrying value ($36,000) is compared with the undiscounted expected future cash flows ($38,000). In this case, the carrying value is lower so the patent is not impaired.

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

68. A company is selling a long-lived asset with a carrying amount of $70,000 for $80,000. The original cost of this asset was $120,000. In the year of sale, this event is *most likely* to be reported on the income statement as:

A. revenues of $80,000.
B. a gain of $10,000.
C. a loss of $40,000.

Answer = B

When a long lived asset is sold only the net gain or loss is reported on the income statement. The gain or loss on a sale = sales proceeds – carrying amount = $80,000 – $70,000 = $10,000 gain.

CFA Level I
"Long-lived Assets," Elaine Henry and Elizabeth A. Gordon
Section 6.1

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

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

Answer = C

$$\text{DOL} = \frac{\text{Quantity} \times \text{Contribution margin}}{[\text{Quantity} \times \text{Contribution margin} - \text{Fixed costs}]}$$

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

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

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

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

CFA Level I

"Measures of Leverage," Pamela Peterson Drake, Raj Aggarwal, Cynthia Harrington, and Adam Kobor
Section 3.3

70. A firm's price-to-earnings ratio (P/E) is 12.5. The firm has decided to repurchase shares using external funds that have an after-tax cost of 9%. After the repurchase, the earnings per share (EPS) will *most likely*:

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

Answer = A

Convert the P/E to the earnings yield, which is the earnings-to-price ratio (E/P): 1/12.5 = 8%. Because the after-tax cost of the external funds is higher than the earnings yield (i.e., 9% > 8%), the EPS will decrease after the repurchase.

CFA Level I
"Dividends and Share Repurchases: Basics," George H. Troughton and Gregory Noronha
Section 4.2.1

71. A company's optimal capital budget *most likely* occurs at the intersection of the:

A. marginal cost of capital and investment opportunity schedule.
B. marginal cost of capital and net present value profiles.
C. net present value and internal rate of return profiles.

Answer = A

The point at which the marginal cost of capital intersects the investment opportunity schedule is the optimal capital budget.

CFA Level I
"Capital Budgeting," John D. Stowe and Jacques R. Gagné
Section 4.7

"Cost of Capital," Yves Courtois, Gene C. Lai, and Pamela Peterson Drake
Section 2.3

72. The per unit contribution margin for a product is $12. Assuming fixed costs of $12,000, interest costs of $3,000, and taxes of $2,000, the operating breakeven point (in units) is *closest* to:

A. 1,000.
B. 1,250.
C. 1,417.

Answer = A

The operating breakeven point is:

$$\frac{\text{Fixed costs}}{\text{Contribution margin}} = \frac{\$12{,}000}{\$12} = 1{,}000.$$

CFA Level I
"Measures of Leverage," Pamela Peterson Drake, Raj Aggarwal, Cynthia Harrington, and Adam Kobor
Section 3.6

73. For a 90-day US Treasury bill selling at a discount, which of the following methods *most likely* results in the highest yield?

A. Money market yield (MMY)
B. Bond equivalent yield (BEY)
C. Discount-basis yield (DBY)

Answer = B

The face value is greater than the purchase price because the T-bill sells at a discount.

$$\text{DBY} = \frac{\text{Face value} - \text{Purchase price}}{\text{Face value}} \times \frac{360}{\text{Days to maturity}}$$

$$\text{MMY} = \frac{\text{Face value} - \text{Purchase price}}{\text{Purchase price}} \times \frac{360}{\text{Days to maturity}}, \text{MMY} > \text{DBY}$$

$$\text{BEY} = \frac{\text{Face value} - \text{Purchase price}}{\text{Purchase price}} \times \frac{365}{\text{Days to maturity}}$$

$$\text{BEY} = \text{MMY} \times \frac{365}{360}, \text{BEY} > \text{MMY} > \text{DBY}$$

CFA Level I
"Working Capital Management," Edgar A. Norton, Jr., Kenneth L. Parkinson, and Pamela Peterson Drake
Section 4.1.1

74. A firm's estimated costs of debt, preferred stock, and common stock are 12%, 17%, and 20%, respectively. Assuming equal funding from each source and a marginal tax rate of 40%, the weighted average cost of capital (WAAC) is *closest* to:

A. 16.3%.
B. 13.9%.
C. 14.7%.

Answer = C

WACC = $w_d r_d (1 - t) + w_p r_p + w_e r_{e=}$ [0.12 × (1 – 0.40) + 0.17 + 0.20]/3 = 14.73%.

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

75. After a two-for-one stock split, which of the following will *most likely* change relative to its pre-split value?

A. Earnings per share (EPS)
B. Price-to-earnings ratio (P/E)
C. Dividend payout ratio

Answer = A

A two-for-one stock split will double the amount of shares, thus reducing the EPS to half of its pre-split value. P/E will remain unchanged because the price also reduces by half and exactly cancels out the effect of the reduced EPS. The dividend payout ratio remains unchanged because the same proportion of earnings will still be used after the split.

CFA Level I
"Dividends and Share Repurchases: Basics," George H. Troughton and Gregory Noronha
Section 2.5

76. A company decides to repurchase 5 million of its outstanding 20 million shares with debt funding. After the repurchase, the company's after-tax earnings decline by 20%. The new earnings per share (EPS) is *most likely*:

A. equal to the pre-repurchase EPS.
B. less than the pre-repurchase EPS.
C. greater than the pre-repurchase EPS.

Answer = C

The pre-repurchase EPS is Net income (NI)/20 million. The EPS after the repurchase is [NI × (1 – 20%)/15 million]. To connect the two values algebraically:
(NI/20 million) × X = [NI × (1 – 20%)/15 million]
X = (1 – 20%) × (20 million/15 million) = 1.067
Because X is greater than 1, the EPS has increased after the repurchase.

CFA Level I
"Dividends and Share Repurchases: Basics," George H. Troughton and Gregory Noronha
Section 4.2.1

77. The market price of a company's stock is $5 per share with 50 million shares outstanding. The company decides to use its cash reserves to undertake a $10 million share buyback. Just prior to the buyback, the company reports total assets of $650 million and total liabilities of $450 million. The company's book value per share after the share buyback is *closest* to:

A. $3.96.
B. $4.17.
C. $3.80.

Answer = A

No. of shares purchased	$10 million ÷ $5 per share =	2 million shares
Remaining no. of shares after share buyback	50 million – 2 million =	48 million shares
Book value of company after buyback:	Total assets less cash used minus total liabilities: $650 million – $10 million – $450 million =	$190 million
BVPS after buyback	($200 million - $10 million) ÷ 48 million =	**$3.96** per share

CFA Level I
"Dividends and Share Repurchases: Basics," George H. Troughton, and Gregory Noronha
Section 4.2.2

78. A trader buys 500 shares of a stock on margin at $36 a share using an initial leverage ratio of 1.66. The maintenance margin requirement for the position is 30%. The stock price at which the margin call will occur is *closest* to:

A. $25.20.
B. $30.86.
C. $20.57.

Answer = C

Initial equity (%) in the margin transaction = 1/Leverage ratio = 1/1.66 = 0.60;
Initial equity per share at the time of purchase = $36 × 0.60 = $21.60;
Price (P) at which margin call occurs:
Equity per share/Price per share = Maintenance margin (%)
= ($21.60 + P – $36)/P = 0.30;
0.7P = $14.40;
P = $20.57.

CFA Level I
“Market Organization and Structure,” Larry Harris
Section 5.2

79. After the public announcement of the merger of two firms, an investor makes abnormal returns by going long on the target firm and short on the acquiring firm. This *most likely* violates which form of market efficiency?

A. Semi-strong form only
B. Semi-strong and strong forms
C. Weak and semi-strong forms

Answer = B

In a semi-strong efficient market, prices adjust quickly and accurately to new information. In this case, prices would quickly adjust to the merger announcement, and if the market is a semi-strong efficient market, investors acting after the merger announcement would not be able to earn abnormal returns. Therefore, the market is not semi-strong-form efficient. A market that is not semi-strong-form efficient is also not strong-form efficient. Thus, violating the semi-strong-form efficiency also implies violating the strong-form efficiency. However, the market could still be weak-form efficient because past prices are not being used to make abnormal profits. Thus, we cannot say that the weak-form market efficiency has been violated.

CFA Level I
"Market Efficiency," W. Sean Cleary, Howard J. Atkinson, and Pamela Peterson Drake
Section 3.2

80. The data for two stocks in an index are as follows:

Stock	Shares Outstanding	Percent of Shares in Market Float	Beginning of Period Price ($)	End of Period Price ($)	Dividends per Share ($)
A	5,000	90	40	45	1.00
B	2,000	100	68	60	0.50

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

A. 102.68.
B. 102.06.
C. 103.80.

Answer = B

In float-adjusted market-capitalization weighting, the weight on each constituent security is determined by adjusting its market capitalization for its market float. As the following computations show, the ending value of the index equals 102.06 (322,500/316,000).

Stock	Shares Outstanding	Percent of Shares in Market Float	Shares in Index	Beginning of Period Price ($)	Beginning Float Adjusted Market Cap ($)	End of Period Price ($)	Ending Floated Adjusted Market Cap ($)
Calculation	**(1)**	**(2)**	**(1) × (2) = (3)**	**(4)**	**(3) × (4) = (5)**	**(6)**	**(3) × (6)**
A	5,000	90	4,500	40	180,000	45	202,500
B	2,000	100	2,000	68	136,000	60	120,000
Total					316,000		322,500
Index value					100		**102.06**

CFA Level I
"Security Market Indices," Paul D. Kaplan and Dorothy C. Kelly
Section 3.2.3.1

81. Which of the following statements is *most* accurate in an efficient market?

A. Securities market prices fully reflect their fundamental values.
B. Active strategies will lead to excess risk adjusted portfolio returns.
C. Securities market prices respond over time to changes in economic information.

Answer = A

In an efficient market, market participants will process available information and those with opposite views will trade among each other until securities market prices fully reflect their fundamental values. An efficient market is thus a market in which asset prices reflect all past and present information.

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

82. Participating preference shares are *least likely* to entitle the shareholders to participate in:

A. additional distribution of the company's assets upon liquidation.
B. corporate decisions through voting rights.
C. additional dividends if the company's profits exceed a predetermined level.

Answer = B

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

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

83. Which of the following statements regarding a commodity index is *most* accurate?

A. Commodity index returns differ from the changes in the prices of their underlying commodities.
B. Commodity indices commonly use an equal weighting method.
C. Commodity indices in the same markets will share similar risk and return profiles.

Answer = A

The performance of commodity indices can be different from their underlying commodities because the indices consist of futures contracts on the commodities rather than the actual commodities. Commodity index returns reflect the risk-free interest rate, the changes in future prices, and the roll yield.

CFA Level I
"Security Market Indices," Paul D. Kaplan and Dorothy C. Kelly
Section 7.1

84. Compared with public equity markets, which of the following statements is *most* accurate about private equity markets? Operating in the private market:

A. offers stronger incentives to improve corporate governance.
B. allows more opportunities to raise capital.
C. allows management to better adopt a long-term focus.

Answer = C

The management of a public firm is under pressures to meet shorter-term demands, such as meeting quarterly sales and earnings projections from analysts. Private owners are thus better able to focus on longer-term value creation opportunities.

CFA Level I
"Overview of Equity Securities," Ryan C. Fuhrmann, and Asjeet S. Lamba
Section 4

85. An internal evaluation of the trading behavior of three fund managers of a mutual fund company during the past year has revealed the following:

Manager X	Was slower than peers when reacting to changes in information
Manager Y	Rarely realized investment losses but realized most of the investment gains
Manager Z	Tended to overreact by disliking losses more than liking comparable gains

Which of the three managers *most likely* displayed the disposition effect bias?

A. Manager X
B. Manager Y
C. Manager Z

Answer = B

The disposition effect relates to the behavioral bias in which investors tend to avoid realizing losses but, rather, seek to realize gains. Manager Y has displayed this bias.

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

86. An equity analyst follows two industries with the following characteristics:

Industry 1: A few companies with proprietary technologies, products with unique features, high switching costs, and minimal regulatory influences.
Industry 2: A few companies producing relatively similar products, sales varying with disposable income and employment levels, high capital costs and investment in physical plants, rapid shifts in market shares of competing firms, and minimal regulatory influences.

Based on the above information, the analyst will *most* appropriately conclude that, compared with the firms in Industry 2, those in Industry 1 would potentially have:

A. over-capacity problems.
B. larger economic profits.
C. high bargaining power of customers.

Answer = B

The economic profit (the spread between the return on invested capital and the cost of capital) tends to be larger in industries with differentiated products, greater pricing power, and high switching costs to customers. Industry 1 has these features. In contrast, firms in Industry 2 have little pricing power (undifferentiated products and rapid shifts in market shares, indicating intense rivalry), which is indicative of potentially smaller economic profits.

CFA Level I
"Introduction to Industry and Company Analysis," Patrick W. Dorsey, Anthony M. Fiore, and Ian Rossa O'Reilly
Section 5.1

87. Which of the following statements concerning companies in different industry environments is *most* accurate?

A. Companies in mature industries tend to focus on efficiency gains and gain market share through superior products.
B. An industry's experience curve declines with a decrease in the utilization of capital equipment and spreading overhead over a fewer number of units.
C. Companies in fragmented industries would not be highly price competitive because they tend to think individualistically, making coordination difficult.

Answer = A

Companies in mature industries are likely to pursue replacement demand rather than new buyers and are probably focused on extending successful product lines rather than introducing revolutionary new products. Therefore, they tend to focus on cost rationalization and efficiency gains rather than on taking a lot of market share. Furthermore, companies with superior products or services are likely to gain market share.

CFA Level I
"Introduction to Industry and Company Analysis," Patrick W. Dorsey, Anthony M. Fiore, and Ian Rossa O'Reilly
Sections 5, 5.1.2, 5.1.5

88. For a US investor, which of the following statements concerning investing in depository receipts (DRs) is *least* accurate?

A. Investors in unsponsored DRs would have the same voting rights as the direct owners of common shares.
B. Investing in DRs could provide arbitrage opportunities and entail currency risk.
C. Sponsored DRs are subject to greater reporting requirements than unsponsored DRs.

Answer = A

Investors of unsponsored DRs would not have the same voting rights as the direct owners of common shares because the depository bank retains the voting rights.

CFA Level I
"Overview of Equity Securities," Ryan C. Fuhrmann and Asjeet S. Lamba
Section 5.2

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

A. Firms with low levels of cash flow
B. Firms with high dividend payout ratios
C. Firms with large amounts of undervalued assets

Answer = C

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

CFA Level I
"Overview of Equity Securities," Ryan C. Fuhrmann and Asjeet S. Lamba
Section 4

90. Consider a $100 par value bond, with an 8% coupon paid annually, maturing in 20 years. If the bond currently sells for $96.47, the yield to maturity is *closest* to:

A. 8.37%.
B. 8.29%.
C. 7.41%.

Answer = A

A security with a present value of 96.47, 19 interest payments of 8, and a 20th payment of principal plus interest (108) has a yield to maturity of 8.37%.

CFA Level 1
"Introduction to Fixed-Income Valuation," James F. Adams and Donald J. Smith
Section 3

91. Which of the following terms in a bond issue *most likely* helps to reduce credit risk?

A. Term maturity structure
B. Sinking fund arrangement
C. Floating rate note

Answer = B

A sinking fund arrangement is a way to reduce credit risk by making the issuer set aside funds over time to retire the bond issue.

CFA Level 1
"Fixed-Income Markets: Issuance, Trading, and Funding," Moorad Choudhry, Steven V. Mann, and Lavone F. Whitmer
Section 6.3.3

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

A. –23.71%.
B. –17.65%.
C. –20.68%.

Answer = B

It is calculated as duration effect:

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

and convexity effect:

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

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

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

CFA Level I
"Understanding Fixed-Income Risk and Return," by James F. Adams and Donald J. Smith
Sections 3.5–3.6

93. Using the "Four Cs of Credit Analysis" framework, which of the following is the *least likely* factor to be considered under the category of "capacity"?

A. History of fraud or malfeasance
B. Level of competition
C. Industry fundamentals

Answer = A

Any history of fraud or malfeasance is a major warning flag to credit analysis under the category of "character."

CFA Level I
"Fundamentals of Credit Analysis," Christopher L. Gootkind
Section 5.2

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

Bond	Par Value Owned	Market Value Owned	Duration
A	$8,000,000	$12,000,000	3
B	$8,000,000	$6,000,000	7
C	$4,000,000	$6,000,000	6

The portfolio's duration is *closest* to:

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

Answer = A

The portfolio's duration is a weighted average of the durations of the individual holdings, computed as: (12/24) × (3.0) + (6/24) × (7.0) + (6/24) × (6.0) = 4.75.

CFA Level I
"Understanding Fixed-Income Risk and Return," James F. Adams and Donald J. Smith
Section 3.4

95. Duration is *most* accurate as a measure of interest rate risk for a bond portfolio when the slope of the yield curve:

A. stays the same.
B. increases.
C. decreases.

Answer = A

Duration measures the change in the price of a portfolio of bonds if the yields for all maturities change by the same amount; that is, it assumes the slope of the yield curve stays the same.

CFA Level 1
"Understanding Fixed-Income Risk and Return," James F. Adams and Donald J. Smith
Section 3

96. The following table provides information about a portfolio of three bonds.

Bond	Maturity	Price	Par Amount	Duration
1	17-year	$109.2461	$16 million	8.56
2	20-year	$100.4732	$4 million	9.19
3	25-year	$84.6427	$8 million	11.48

Based on this information, the duration of the portfolio is *closest* to:

A. 9.74.
B. 9.48.
C. 9.35.

Answer = C

The market values of the bonds (Price × Par amount) are $17,479,376, $4,018,928, and $6,771,416, respectively, for a portfolio value of $28,269,720. Therefore, the duration of the portfolio is

$$\left(\frac{17{,}479{,}376}{28{,}269{,}720}\times 8.56\right)+\left(\frac{4{,}018{,}928}{28{,}269{,}720}\times 9.19\right)+\left(\frac{6{,}771{,}416}{28{,}269{,}720}\times 11.48\right)=9.35.$$

CFA Level I
"Understanding Fixed-Income Risk and Return," James F. Adams and Donald J. Smith
Section 3.4

97. Consider a $100 par value bond with a 7% coupon paid annually and 5 years to maturity. At a discount rate of 6.5%, the value of the bond today is $102.08. One day later, the discount rate increases to 7.5%. Assuming the discount rate remains at 7.5% over the remaining life of the bond, what is *most likely* to occur to the price of the bond between today and maturity?

A. Decreases then remains unchanged
B. Decreases then increases
C. Increases then decreases

Answer = B

If the discount rate increases to 7.5% from 6.5%, the price of a bond decreases. At a discount rate of 7.5%, the bond sells at a discount to face value. As a discount bond approaches maturity, it will increase in price over time until it reaches par at maturity.

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

98. Using the following US Treasury forward rates, the value of a 2½-year $100 par value Treasury bond with a 5% coupon rate is *closest* to:

Period	Years	Forward Rate
1	0.5	1.20%
2	1	1.80%
3	1.5	2.30%
4	2	2.70%
5	2.5	3.00%

A. $101.52.
B. $104.87.
C. $106.83.

Answer = C

The value of the bond is

$$\frac{2.5}{(1+.012/2)}+\frac{2.5}{(1+.012/2)\times(1+.018/2)}+\frac{2.5}{(1+.012/2)\times(1+.018/2)\times(1+.023/2)}$$

$$+\frac{2.5}{(1+.012/2)\times(1+.018/2)\times(1+.023/2)\times(1+.027/2)}$$

$$+\frac{102.5}{(1+.012/2)\times(1+.018/2)\times(1+.023/2)\times(1+.027/2)\times(1+.030/2)\times}=\$106.83$$

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

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

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

Answer = B

Approximate percentage price change = –[7.81 × (–0.0025)] = 0.01953 or 1.95%.

CFA Level I
"Understanding Fixed-Income Risk and Return," James F. Adams and Donald J. Smith
Section 4.1

100. Compared with investment-grade bonds, the spread movements on high-yield bonds are influenced:

A. less by interest rate changes and exhibit a greater correlation with movements in equity markets.
B. more by interest rate changes and exhibit a greater correlation with movements in equity markets.
C. less by interest rate changes and exhibit a lower correlation with movements in equity markets.

Answer = A

High-yield bonds can be thought of as a hybrid between investment-grade bonds and equity securities. Their spread movements are less influenced by interest rate changes than are investment-grade bonds and they exhibit greater correlation with movements in equity markets.

CFA Level I
"Fundamentals of Credit Analysis", Christopher L. Gootkind
Section 7.1

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

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

Answer = B

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

CFA Level I
"Introduction to Fixed-Income Valuation," James F. Adams and Donald J. Smith
Section 2.2

102. An investor notices that the price of an American call option is above the price of a European call option with otherwise identical features. What is the *most likely* reason for this difference?

A. The options are deep-in-the-money.
B. The underlying will go ex-dividend.
C. The options are close to expiration.

Answer = B

American call prices can differ from European call prices only if there are cash flows on the underlying.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.3

103. Which of the following statements is *least* accurate concerning differences in the pricing of forwards and futures?

A. Pricing differences can arise if futures prices and interest rates are uncorrelated.
B. Interest rate volatility can explain pricing differences.
C. Differences in the pattern of cash flows of forwards and futures can explain pricing differences.

Answer = A

If futures prices and interest rates are uncorrelated, the prices of forwards and futures will be identical.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 3.2

104. Which statement *best* describes the early exercise of American options? Early exercise may be advantageous for:

A. both deep-in-the-money calls and deep-in-the-money puts.
B. deep-in-the-money puts.
C. deep-in-the-money calls.

Answer = B

Only deep-in-the-money put options may be exercised early. The price cannot fall below zero and thus the additional upside of such an option is limited.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 4.3

105. When valuing a call option using the binomial model, an increase in the probability that the underlying will go up, *most likely* implies that the current price of the call option:

A. remains unchanged.
B. decreases.
C. increases.

Answer = A

The probability that the underlying will go up is not part of the binomial model for pricing options. This probability is irrelevant, since the options are priced using risk-neutral probabilities. These are derived by constructing a hedged portfolio in the absence of arbitrage opportunities.

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

106. Valuation of a swap during its life will *least likely* involve the:

A. use of replication.
B. investor's risk aversion.
C. application of the principle of no arbitrage.

Answer = B

Risk neutrality, not risk aversion, is a key element of derivatives pricing, including swaps.

CFA Level I
"Basics of Derivative Pricing and Valuation," Don M. Chance
Section 1

107. An investor purchases ABC stock at $71 per share and executes a protective put strategy. The put option used in the strategy has a strike price of $66, expires in two months, and is purchased for $1.45. At expiration, the protective put strategy breaks even when the price of ABC is closest to:

A. $64.55.
B. $67.45.
C. $72.45.

Answer = C

To break even, the underlying stock must be at least as high as the amount expended up front to establish the position. To establish the protective put, the investor would have spent $71 + $1.45 = $72.45.

CFA Level I
"Risk Management Applications of Option Strategies," Don M. Chance
Section 2.2.2

108. Concentrated portfolio strategies are attractive because of their:

A. ability to track market indices.
B. low risk.
C. potential to generate alpha.

Answer = C

Concentrated portfolio strategies focus on only a few securities, strategies, or managers. This focus reduces diversification but may enable investors to achieve alpha.

CFA Level I
"Introduction to Alternative Investments," Terri Duhon, George Spentzos, and Scott D. Stewart
Section 2.2

109. Which of the following is *most likely* a private equity strategy?

A. Merger arbitrage
B. Quantitative directional
C. Venture capital

Answer = C

Venture capital is a private equity strategy in which private equity companies invest and get actively involved in the management of portfolio companies.

CFA Level I
"Introduction to Alternative Investments," Terri Duhon, George Spentzos, and Scott D. Stewart
Section 4.2.2

110. Which of the following is *most likely* a private real estate investment vehicle?

A. Real estate limited partnership
B. Collateralized mortgage obligation
C. Real estate investment trust

Answer = A

Real estate limited partnerships are a form of private real estate investment.

CFA Level I
"Introduction to Alternative Investments," Terri Duhon, George Spentzos, and Scott D. Stewart
Section 5.1

111. If the price of a commodity futures contract is below the spot price, it is *most likely* that the:

A. convenience yield exceeds storage costs.
B. cost of carry exceeds the convenience yield.
C. roll yield is negative.

Answer = A

The convenience yield must exceed the cost of carry to arrive at a futures price below the spot price because the futures price is approximately equal to the spot price [(1 + *r*) + Storage cost – Convenience yield] and the cost of carry is defined as interest cost plus storage cost. Given that interest cost is always positive, the convenience yield must also exceed storage costs to arrive at a futures price below the spot price.

CFA Level I
"Introduction to Alternative Investments," Terri Duhon, George Spentzos, and Scott D. Stewart
Section 6.4.1

112. A hedge fund that implements trades based on a top-down analysis of expected movements in economic variables *most likely* uses a(n):

A. macro strategy.
B. event-driven strategy.
C. relative value strategy.

Answer = A

Macro strategies emphasize a top-down approach, and trades are made based on expected movements of economic variables.

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

113. In a strategic asset allocation, assets within a specific asset class are *least likely* to have:

A. low paired correlations.
B. low correlations with other asset classes.
C. similar risk and return expectations.

Answer = A

In a strategic asset allocation, assets within a specific asset class have high paired correlations and low correlations with other asset classes.

CFA Level I
"Basics of Portfolio Management and Construction," Alistair Byrne and Frank E. Smudde
Section 3.2

114. Which of the following is *least likely* an assumption of the capital asset pricing model (CAPM)?

A. Security prices are not affected by investor trades.
B. An investor can invest as much as he or she desires in any asset.
C. Investors are different only with respect to their unique holding periods.

Answer = C

One of the assumptions of the CAPM is that investors plan for the same single holding period.

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 4.1

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

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

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

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

Answer = C

$\beta_{JKU} = \rho_{JKU,M} \times \sigma_{JKU}/s_M = 0.75 \times 0.2/0.15 = 1.0$ and $E(R_{JKU}) = RFR + \beta_{JKU} \times (R_M - RFR) = 0.05 + 1 \times (0.12 - 0.05) = 0.12$. The required rate of return of JKU is 12%, and the expected return of JKU is 15%. Therefore, JKU is undervalued relative to the security market line (SML); the risk–return relationship lies above the SML.

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 4

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

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

Answer = B

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

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 2.1

117. A stock has a correlation of 0.45 with the market and a standard deviation of returns of 12.35%. If the market has a standard deviation of returns of 8.25%, then the beta of the stock is *closest* to:

A. 0.67.
B. 1.50.
C. 0.30.

Answer = A

$$\beta = \frac{\rho_{im}\sigma_i\sigma_m}{\sigma_m^2}$$

$$\frac{0.45 \times 0.1235 \times 0.0825}{0.0825^2} = 0.67$$

CFA Level I
"Portfolio Risk and Return: Part II," Vijay Singal
Section 3.2.4

118. An investor's transactions in a mutual fund and the fund's returns over a four-year period are provided in the following table:

	Year			
	1	**2**	**3**	**4**
New investment at the beginning of the year (US$)	2,500	1,500	1,000	0
Investment return for the year	–20%	65%	–25%	10%
Withdrawal by investor at the end of the year (US$)	0	–500	–500	0

Based on this data, the money-weighted return (or internal rate of return) for the investor is *closest* to:

A. 7.50%.
B. 2.15%.
C. 3.96%.

Answer = C

Year	**1**	**2**	**3**	**4**
Starting balance (US$)	0.00	2,000.00	5,275.00	4,206.25
New investment at the beginning of the year (US$)	2,500.00	1,500.00	1,000.00	0.00
Net balance at the beginning of year (US$)	2,500.00	3,500.00	6,275.00	4,206.25
Investment return for the year	–20%	65%	–25%	10%
Investment gain (loss) (US$)	–500.00	2,275.00	–1,568.75	420.63
Withdrawal by investor at the end of the year (US$)	0.00	–500.00	–500.00	0.00
Balance at the end of year (US$)	2,000.00	5,275.00	4,206.25	4,626.88

The money weighted return is calculated by solving for *i* in the following equation:

$$2500 = \frac{-1500}{(1+i)^1} + \frac{-500}{(1+i)^2} + \frac{500}{(1+i)^3} + \frac{4626.88}{(1+i)^4}$$

CF0 = –2,500

CF1 = –1,500 (new investment beginning of Year 2)

CF2 = –500 (withdrawal of 500, end of Year 2; –1000 new investment beginning Year 3)

CF3 = –500 (withdrawal of 500, end of Year 3)

CF4 = 4,626.88 (balance at end of Year 4)*i* = 0.0396.

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

Section 2.1.4

119. A portfolio contains equal weights of two securities having the same standard deviation. If the correlation between the returns of the two securities was to decrease, the portfolio risk would *most likely*:

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

Answer = C

The formula for the return standard deviation (risk) of a two asset portfolio is

$$\sigma_P = \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2\sigma_1\sigma_2 COV(R_1,R_2)}$$

.

The formula for portfolio risk shows that portfolio risk decreases as the correlation decreases.

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

120. Last year, a portfolio manager earned a return of 12%. The portfolio's beta was 1.5. For the same period, the market return was 7.5%, and the average risk-free rate was 2.7%. Jensen's alpha for this portfolio is *closest* to:

A. 2.10%.
B. 4.50%.
C. 0.75%.

Answer = A

Jensen's alpha = 0.12 – [0.027 + 1.5(0.075 – 0.027)] = 0.021, or 2.10%.

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