2018 Level I Mock Exam PM

The afternoon session of the 2018 Level I Chartered Financial Analyst® Mock Examination has 120 questions. To best simulate the exam day experience, candidates are advised to allocate an average of one and a half minutes per question for a total of 180 minutes (3 hours) for this session of the exam.

Questions	Topic	Minutes
1–18	Ethical and Professional Standards	27
19–33	Quant	22.5
34–45	Econ	18
46–69	Financial Reporting and Analysis	36
70–78	Corporate Finance	13.5
79–86	Portfolio Management	12
87–98	Equity	18
99–110	Fixed Income	18
111–115	Derivatives	7.5
116–120	Alternative Investments	7.5
	Total:	**180**

2018 LEVEL I MOCK EXAM PM

1 Which of the following is *least likely* a requirement of the GIPS standards? Firms are required to:

A have their performance records verified by an independent third party.

B include all discretionary, fee-paying portfolios in at least one composite.

C present a minimum of five years of annual investment performance compliant with GIPS standards.

A is correct because it is a recommendation but not a requirement that firms obtain independent third-party verification to claim GIPS compliance. Firms are required to include all discretionary, fee-paying portfolios in at least one composite. They must also present a minimum of five years of annual investment performance compliant with GIPS standards.

B is incorrect because it is a requirement.

C is incorrect because it is a requirement.

Global Investment Performance Standards (GIPS)
LOS a

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

A unable to claim GIPS compliance in cases where local regulations prohibit accurate calculation.

B required to calculate and maintain two sets of performance data in order to claim GIPS compliance.

C required to comply with local regulations and make full disclose of the conflict to claim GIPS compliance.

C is correct because in cases where applicable local laws governing calculation and presentation of investment performance conflict with the GIPS standards, firms are required to comply with local regulations and make full disclose of the conflict in the compliant presentation.

A is incorrect because is a not a requirement for or obstacle to GIPS compliance in cases where local laws conflict with GIPS standards.

B is incorrect because is a not a requirement for or obstacle to GIPS compliance in cases where local laws conflict with GIPS standards.

Global Investment Performance Standards (GIPS)
LOS c
Section 4.A.22

3 Vishal Chandarana, an unemployed research analyst, recently registered for the CFA Level I exam. After two months of intense interviewing, he accepts a job with a stock brokerage company in a different region of the country. Chandarana posts on a social media blog how being a CFA candidate really helped him get a job. He also notes how relieved he was when his new employer

didn't ask him about being fired from his former employer. Which CFA Institute Code of Ethics or Standards of Professional Conduct did Chandarana *least likely* violate?

A Misconduct

B Loyalty to Employers

C Reference to the CFA Program

C is correct because there is no evidence Chandarana violated Standard VII(B) with regard to his being a CFA candidate. Specifically, Chandarana does not overstate his competency or imply he will achieve superior performance as a result of his CFA designation. It does appear, however, Chandarana did not act with integrity when he hid information that could potentially harm his new employer's reputation, thus violating Standard I(D)–Professionalism (Misconduct) and Standard IV(A)–Duty to Employers (Loyalty).

A is incorrect because it appears Chandarana did not act with integrity when he hid information that could potentially harm his new employer's reputation violating Standard I(D)–Professionalism (Misconduct).

B is incorrect because it appears Chandarana did not act for the benefit of his employer when he hid information that could potentially harm his new employer's reputation violating Standard IV(A)–Duty to Employers (Loyalty).

Guidance for Standards I–VII
LOS b
Standard VII(B)–Reference to CFA Institute, the CFA Designation, and the CFA Program, Standard I(D)–Misconduct, Standard IV(A)–Loyalty

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

A across the participating client accounts at the same execution price.

B across the participating client accounts pro rata on the basis of account size.

C on a first-in, first-out basis with consideration of bundling orders for efficiency.

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

A is incorrect because according to Standard III(B) all clients participating in the block trade should receive the same execution price and be charged the same commission.

C is incorrect because this is one of the recommended procedures to follow for compliance with Standard III(B).

Guidance for Standards I–VII
LOS a
Standard III(B)–Fair Dealing

5 Lawrence Hall, CFA, and Nancy Bishop, CFA, began a joint research report on Stamper Corporation. Bishop visited Stamper's corporate headquarters for several days and met with all company officers. Prior to the completion of the report, Bishop was reassigned to another project. Hall utilized his and Bishop's research to write the report but did not include Bishop's name on the report because he did not agree with and changed Bishop's conclusion included in the final report. According to the CFA Institute *Standards of Practice Handbook*, did Hall *most likely* violate any CFA Institute Standards of Professional Conduct?

A No.

B Yes, with respect to misrepresentation.

C Yes, with respect to diligence and reasonable basis.

A is correct because members are in compliance with Standard V (A)–Diligence and Reasonable Basis if they rely on the research of another party who exercised diligence and thoroughness. Because Bishop's opinion did not agree with the final report, disassociating her from the report is one way to handle this difference between the analysts.

B is incorrect because Hall did not make any misrepresentation.

C is incorrect because Hall is allowed to rely on a third party who exercised diligence and thoroughness.

Guidance for Standards I–VII
LOS a
Standard V(A)–Diligence and Reasonable Basis

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

A Both violated.

B Neither violated.

C Only Leung violated.

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

B is incorrect as photocopying copyrighted material, regardless of the year of publication, is a violation of the CFA Institute Standards.

C is incorrect as photocopying copyrighted material, regardless of the year of publication, is a violation of the CFA Institute Standards.

Guidance for Standards I–VII
LOS a
Standard I(A)–Knowledge of the Law

7 Which of the following groups is *most likely* responsible for maintaining oversight and responsibility for the Professional Conduct Program (PCP)?

A CFA Institute Board of Governors

B Disciplinary Review Committee

C Professional Conduct Division

A is correct. All CFA Institute members and candidates enrolled in the CFA Program are required to comply with the Code and Standards. The CFA Institute Board of Governors maintains oversight and responsibility for the Professional Conduct Program (PCP).

B is incorrect. The Disciplinary Review Committee (DRC) works in conjunction with the PCP and is responsible for enforcement of the Code and Standards.

C is incorrect. The Professional Conduct Division works with the DRC to establish and review professional conduct policies and is also responsible for enforcing testing policies of other CFA Institute education programs as well as the professional conduct of Certificate in Investment Performance Measurement (CIPM) certificants.

Code of Ethics and Standards of Professional Conduct
LOS a

8 When can a party, nonmember or firm, *most likely* claim compliance with the CFA Institute Code of Ethics and Standards of Professional Conduct? Once they have:

A ensured that their code and ethics meets the principles of the Code and Standards.

B notified the CFA Institute of their claim.

C verified their claim of compliance with the CFA Institute.

A is correct. The Code and Standards apply to individual members of CFA Institute and candidates in the CFA Program. CFA Institute does encourage firms to adopt the Code and Standards, however, as part of their code of ethics. Those who claim compliance should fully understand the requirements of each of the principles of the Code and Standard.

B is incorrect. CFA Institute welcomes public acknowledgement when appropriate and encourages firms to notify the Institute of the adoption plans.

C is incorrect. CFA Institute does not verify claims of compliance with the Code of Ethics and Standards of Professional Conduct.

Code of Ethics and Standards of Professional Conduct
LOS c

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

A Record Retention

B Misrepresentation

C Performance Presentation

C is correct because Standard III(D)–Performance Presentation pertains to investment performance information, and there is no indication any violation has occurred.

A is incorrect because under Standard V(C)–Record Retention, Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

B is incorrect because Schlumberger has plagiarized the information he obtained from the websites of the World Bank and the various central banks by not quoting the sources within his research reports. This is a violation of Standard I(C)–Misrepresentation.

Guidance for Standards I–VII
Standard I(C)–Misrepresentation
LOS a, b

10 Richard Cardinal, CFA, is the founder of Volcano Capital Research, an investment management firm whose sole activity is short selling. Cardinal seeks out companies whose stocks have had large price increases. Cardinal also pays several lobbying firms to update him immediately on any legislative or regulatory changes that may impact his target companies. Cardinal sells short those target companies he estimates are near the peak of their sales and earnings and that his sources identify as facing legal or regulatory challenges. Immediately after he sells a stock, Cardinal conducts a public relations campaign to disclose all of the negative information he has gathered on the company, even if the information is not yet public. Which of Cardinal's following actions is *least likely* to be in violation of the CFA Institute Standards of Professional Conduct?

A Selling stock short

B Trading on information from lobbyists

C Disclosing information about target companies

A is correct because selling stock short is a management strategy and does not necessarily violate any aspect of the Code and Standards.

C is incorrect, as Cardinal's actions related to the public relations campaign and class action lawsuits are specifically intended to manipulate share prices lower and to advantage the manager. Cardinal has made deliberate attempts to create artificial price volatility designed to have a material impact on the price of an issuer's stock, in violation of Standard II(B)–Market Manipulation.

B is incorrect, as it appears a reasonable and diligent effort has been made as required by Standard V(A)–Diligence and Reasonable Basis to determine the investment action is sound and suitable for his clients. Information gathering is an integral part of investment analysis and the methods described do not necessarily violate any aspect of the CFA Code and Standards.

Guidance for Standards I–VII
LOS b
Standard II(B)–Market Manipulation

11 Monique Gretta, CFA, is a research analyst at East West Investment Bank. Previously, Gretta worked at a mutual fund management company and has a long-standing client relationship with the managers of the funds and their institutional investors. Gretta often provides fund managers, who work for Gretta's former employer, with draft copies of her research before disseminating the information to all of the bank's clients. This practice has helped Gretta avoid several errors in her reports, and she believes it is beneficial to the bank's clients, even though they are not aware of this practice. Regarding her research, Gretta least likely violated the CFA Institute Code of Ethics and Standards of Professional Conduct because:

A her report is a draft.

B this practice benefits all clients.

C the long-standing client relationships are not disclosed.

C is correct because the analyst does not violate any of the Standards of Professional Conduct by having long-standing client relationships and generally is not required to disclose such relationships. However, the analyst is not treating all clients fairly as required by Standard III(B)–Fair Dealing when disseminating investment recommendations; disclosure of the relationship with long-standing clients is not the issue. The analyst has advantaged some clients over others by providing advance information, and all clients do not have a fair opportunity to act on the information within the draft report. Members and candidates may differentiate their services to clients, but different levels of service must not disadvantage or negatively affect clients.

A is incorrect because research should be disseminated to clients fairly as required by Standard III(B)–Fair Dealing when disseminating investment recommendations, and not selectively as is current practice. Just because the research is in draft form it does not exempt it from being disseminated fairly.

B is incorrect because even though the research may benefit from the additional reviews, this practice favors clients who receive the research before others and as a result, the analyst has not treated clients fairly as required by Standard III(B)–Fair Dealing, when disseminating investment recommendations.

Guidance for Standards I–VII
LOS c
Standard III(B)–Fair Dealing

12 Sisse Brimberg, CFA, is responsible for performance presentations at her investment firm. The presentation that Sisse uses states that when making performance presentations her firm:

1 deducts all fees and taxes;

2 uses actual and simulated performance results; and

3 bases the performance on a representative individual account.

Based on the above information, which of the following is the *most* appropriate recommendation to help Brimberg meet the CFA Institute Standards of Professional Conduct in her performance presentations? She should present performance based on:

A a gross of fee basis.

B actual not simulated results.

C a weighted composite for all similar discretionary portfolios.

C is correct because in order to meet their obligations under Standard III(D), members should present the performance of the weighted composite of similar portfolios rather than using a single representative or all accounts, so this is the best selection of the options provided.

A is incorrect as either gross or net of fee performance may be disclosed.

B is incorrect since the use of simulated results is permitted as long as it is disclosed.

Guidance for Standards I–VII
LOS c
Standard III(D)–Performance Presentation

13 Which of the following statements is *least likely* correct with regards to the nine major sections comprising the GIPS standards?

A To claim compliance, firms need only calculate their performance according to GIPS requirements

B All requirements must be met in order to be fully compliant with the GIPS

C Firms are encouraged to adopt and implement the recommendations

A is correct. To claim compliance, firms must meet all GIPS requirements, not just calculate their performance according to GIPS requirements.

B is incorrect because the statement that firms are encouraged to adopt and implement the recommendations is accurate.

C is incorrect because the statement that all requirements must be met in order to be fully compliant with the GIPS standards is accurate.

The GIPS Standards
LOS d

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

A ignore the request.

B recommend the shares after additional analysis.

C follow the request as soon as the share price declines.

A is correct because Ducumon should refuse to recommend the shares as her opinion of the Babyskin shares must not be affected by internal pressure. If Ducumon followed the request from the investment banking department at her company, she would be

in violation of Standard I(B)–Independence and Objectivity. Ducumon must refuse to recommend the Babyskin shares until they are an attractive purchase based on fundamental analysis and market pricing.

B is incorrect because Ducumon should refuse to recommend the shares, as she must issue only recommendations that reflect her independent and objective opinion. Ducumon must refuse to recommend the Babyskin shares until they are an attractive purchase based on fundamental analysis and market pricing.

C is incorrect because Ducumon should refuse to recommend the shares, as she must issue only recommendations that reflect her independent and objective opinion. Ducumon must refuse to recommend the Babyskin shares until they are an attractive purchase based on fundamental analysis and market pricing.

Guidance for Standards I–VII
LOS c
Standard I(B)–Independence and Objectivity

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

A both clients' portfolio.

B only Randolf's portfolio.

C only Kitagawa's portfolio.

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

A is incorrect because this investment would not be suitable for Kitagawa. Amadon would violate Standard III(C)–Suitability by investing Kitagawa's portfolio in low yielding small-cap companies that are thought to be high risk due to the limited number of shares traded, their share volatility, and the risks inherent in a small company with limited revenue sources. These investments are not suitable as they are not likely to meet Kitagawa's investment goals of a steady rate of return with low volatility.

C is incorrect because this investment would not be suitable for Kitagawa. Amadon would violate Standard III(C)–Suitability by investing Kitagawa's portfolio in low yielding small-cap companies. These investments are not suitable as they are not likely to meet Kitagawa's investment goals of a steady rate of return with low volatility.

Guidance for Standards I–VII
LOS b
Standard III(C)–Suitability

16 David Bravoria, CFA, is an independent financial advisor for a high-net-worth client with whom he had not had contact in more than two years. During a recent brief telephone conversation, the client states that he wants to increase his risk exposure. Bravoria subsequently recommends and invests in several

high-risk venture capital funds on behalf of the client. Bravoria continues, as he has done in the past, to send to his client monthly, detailed, itemized investment statements. Did Bravoria *most likely* violate any CFA Standards?

A No.

B Yes, with regard to investment statements.

C Yes, with regard to purchasing venture capital funds.

C is correct because Bravoria violated Standard III(A)–Loyalty, Prudence, and Care as he had not updated his client's profile in more than two years and thus should not have made further investments, particularly in high-risk investments, until such time as he updated the client's risk and return objectives, financial constraints, and financial position. Bravoria provided his client with investment statements more frequently than that which is required, i.e., quarterly, so was not in violation of regular account information.

A is incorrect because Bravoria violated Standard III(A)–Loyalty, Prudence, and Care.

B is incorrect because Bravoria provided his client with investment statements more frequently than required, i.e., quarterly.

Guidance for Standards I–VII
LOS b
Standard III(A)–Loyalty, Prudence, and Care

17 Maria Martinez is a research analyst and a Level II CFA candidate. Recently, friends of Martinez organized a party for her thirtieth birthday. At the party, Martinez received an inexpensive gift from a friend who is the CEO of a publicly listed company Martinez recommends to clients. Martinez also received gifts from some of the firm's best clients. Aware of her employer's policy requiring her to report all gifts received within one week of receipt, Martinez declares the gifts she received from the firm's clients two days after the party. Does Martinez *most likely* violate the CFA Institute Standards of Professional Conduct?

A Yes.

B No, because her CEO friend's gift was inexpensive.

C No, because the gifts do not impact her research independence and objectivity.

A is correct because Standard I(D)–Misconduct states that members and candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence. By only reporting the gifts she received from clients but not the inexpensive gift from her CEO friend, she does not conform to her employer's gift policy of reporting all gifts. Her non-compliance with employer policies reflects adversely on her professional reputation and honesty.

B is incorrect because the company policy is to report all gifts, not just those from clients.

C is incorrect because while she would likely maintain her appearance of being independent and objective by accepting an inexpensive gift from a CEO of a publicly listed company, she does not comply with her employer's policy of disclosing all gifts, regardless of value.

Guidance for Standards I–VII
LOS b
Standard I(D)–Misconduct

18 Anna Saar, CFA, is the head of compliance for Tranne Advisory Services, a regional financial services group including asset management, investment banking, and stock brokerage entities. Reviewing a draft client investment management agreement for the asset management unit, she is concerned that the relationships between the firm's various business units are not properly disclosed. To prevent violating CFA Institute Standard VI(A)–Disclosure of Conflicts, which of the following should *least likely* be addressed in the investment management agreement?

A The group subsidizes staff loans for share purchases.

B Management fees are frequently loss leaders for brokerage.

C Asset managers are likely to support corporate finance deals.

A is correct because the group subsidizing staff loans for the purchase of shares is not a conflict of interest for clients because it is a funding mechanism and does not interfere with objectivity when rendering investment advice or taking investment action. However, asset managers subsidizing their asset management fees and supporting the investment banking corporate finance deals should be disclosed per Standard VI(A)–Conflicts of Interest and Standard VI(B)–Priority of Transactions, respectively.

B is incorrect because asset managers subsidizing their asset management fees on the basis that they will use the group's brokerage services is a cross-departmental conflict of interest and should be disclosed in the section on cross-departmental conflicts.

C is incorrect because the fact that the asset managers will support the investment banking corporate finance deals is a cross-departmental conflict of interest and should be disclosed in the section on cross-departmental conflicts.

Guidance for Standards I–VII
LOS c
Standard VI(A)–Disclosure of Conflicts, Standard VI(B)–Priority of Transactions

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

A 9.00%.

B 9.86%.

C 9.42%.

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

A is incorrect because it treats the stated rate and the EAR as equivalents.

B is incorrect; it is calculated using (9/365) × 4 = 0.09863.

The Time Value of Money
LOS c
Sections 3.2, 3.3,

20 The dollar discount on a US Treasury bill with 91 days until maturity is $2,100. The face value of the bill is $100,000. The bank discount yield of the bill is *closest* to:

A 8.31%.

B 8.40%.

C 8.58%.

A is correct. Solve for bank discount yield, r_{BD}, using:

$$r_{BD} = (D/F) \times (360/t)$$
$$r_{BD} = (2{,}100/100{,}000) \times (360/91)$$
$$= 0.083077 \sim 8.31\%.$$

B is incorrect; it is calculated as (2,100/100,000) × 4 = 8.40%.
C is incorrect; it is calculated as [2,100/(100,000 – 2,100)] × 4 = 8.58%.

Discounted Cash Flow Applications
LOS e
Section 4

21 The belief that trends and patterns tend to repeat themselves and are, therefore, somewhat predictable *best* describes:

A arbitrage pricing theory.

B weak-form efficiency.

C technical analysis.

C is correct. Technical analysts believe that trends and patterns tend to repeat themselves and are, therefore, somewhat predictable.

A is incorrect; predictable trends are not an underlying principle of arbitrage pricing theory.

B is incorrect; weak-form efficiency argues *against* the existence of predictable trends.

Technical Analysis
LOS a
Section 2.1

22 Event X and Event Y are independent events. The probability of X is 0.2 [$P(X) = 0.2$] and the probability of Y is 0.5 [$P(Y) = 0.5$]. The joint probability of X and Y, $P(XY)$, is *closest* to:

A 0.7.

B 0.3.

C 0.1.

C is correct. Given that *X* and *Y* are independent, their joint probability is equal to the product of their individual probabilities. In this case: $P(XY) = P(X)P(Y) = 0.2 \times 0.5 = 0.1$.

A is incorrect; it is the sum of the two individual probabilities (i.e., 0.5 + 0.2 = 0.7).

B is incorrect; it is the difference between the two individual probabilities (i.e., 0.5 – 0.2 = 0.3).

Probability Concepts
LOS f
Section 2

23 A discrete uniform distribution consists of the following 12 values:

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

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

A 16.67%.

B 27.59%.

C 33.33%.

A is correct. First order the values from smallest to largest.

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

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

B is incorrect; it is calculated as dividing the range between –2 and 2 by the range of distribution (9.2 – (–5.3) = 14.5 as in 4/14.5 = 0.27586.

C is incorrect; it is calculated as dividing the range between –2 and 2 by the number of values in the distribution: 4/12 = 0.33333.

Common Probability Distributions
LOS f
Section 2.1

24 Which of the following is *best* described as a discrete random variable?

A The expected percentage change in a country's gross national product for the next year

B The number of days on which the DJIA experienced an increase since 2013

C The expected annual return on the Nikkei 225 Index over the next year

B is correct. A discrete random variable is a random variable that can take on at most a countable number of possible values. The number of days on which the DJIA experienced an increase since 2013 is the only choice with a discrete number of possible values.

A is incorrect. A percentage change is an example of a continuous random variable.

C is incorrect. A return is an example of a continuous random variable.

Common Probability Distributions
LOS a
Section 2

25 An investment in 10,000 common shares of a company for one year earned a 15.5% return. The investor received a $2,500 dividend just prior to the sale of the shares at $24 per share. The price that the investor paid for each share one year earlier was *closest* to:

A $20.80.

B $20.50.

C $21.00.

C is correct. Holding period return,

$$\text{HPR} = (P_1 - P_0 + D_1)/P_0$$

where

P_0 = initial investment
P_1 = price received at the end of holding period
D_1 = dividend paid by the investment at the end of holding period
= $2,500/10,000 shares = $0.25/shares

$0.155 = (24 - P_0 + 0.25)/P_0$, and solving for P_0

$P_0 = \$20.99 \sim \mathbf{\$21.00}$

A is incorrect because it ignores dividend.

$$0.155 = (24 - P_0)/P_0$$
$$P_0 = \$20.78$$

B is incorrect because it is calculated as $\text{HPR} = (P_1 - P_0 + D_1)/P_1$

$$0.155 = (24 - P_0 + 0.25)/24$$
$$P_0 = \$20.53$$

Discounted Cash Flow Applications
LOS c
Section 3

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

A subjective probability.

B a priori probability.

C empirical probability.

C is correct. An empirical probability is a probability estimated from data as a relative frequency of occurrence.

A is incorrect. A subjective probability is a probability drawing on personal or subjective judgment.

B is incorrect. An a priori probability is a probability obtained based on logical analysis.

Probability Concepts
LOS b
Section 2

27 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 0.01485.

B 0.00096.

C 0.00710.

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

B is incorrect because 0.23/240 = 0.00096.

C is incorrect because $0.11/\sqrt{240} = 0.00710$.

Sampling and Estimation
LOS f
Section 3.1

28 A hypothesis test fails to reject a false null hypothesis. This result is *best* described as a:

A Type II error.

B Type I error.

C test with little power.

A is correct. Failure to reject a false null hypothesis is a Type II error.

B is incorrect. Rejection of a true null hypothesis is a Type I error.

C is incorrect. The power of a test is the probability of correctly rejecting the null.

Hypothesis Testing
LOS c
Section 2

29 Using a two-tailed test of the hypothesis that the population mean is zero, the calculated test statistic is 2.51. The sample has 23 observations. The population is normally distributed with an unknown variance.

Degrees of freedom	$p = 0.10$	$p = 0.05$	$p = 0.025$	$p = 0.01$	$p = 0.005$
21	1.323	1.721	2.080	2.518	2.831
22	1.321	1.717	2.074	2.508	2.819
23	1.319	1.714	2.069	2.500	2.807
24	1.318	1.711	2.064	2.492	2.797

An analyst will *most likely* reject the null hypothesis at significance levels of:

A 0.10 only.

B 0.10, 0.05, and 0.01.

C 0.10 and 0.05.

C is correct. This is a two-tailed hypothesis testing because it concerns whether the population mean is zero.

H_0: μ = 0 versus H_a: μ ≠ 0

With degrees of freedom (df) = $n - 1 = 23 - 1 = 22$, the rejection points are as follows:

Significance level	Rejection points for *t*-test
0.10	$t < -1.717$ and $t > 1.717$
0.05	$t < -2.074$ and $t > 2.074$
0.01	$t < -2.819$ and $t > 2.819$

Because the calculated test statistic is 2.51, the null hypothesis is thus rejected at the 0.05 and 0.10 levels of significance but not at 0.01.

A is incorrect. As explained in choice C.

B is incorrect. As explained in choice C.

Hypothesis Testing
LOS g
Section 3

30 The *least* accurate statement about measures of dispersion for a distribution is that the:

A range provides no information about the shape of the data distribution.

B arithmetic average of the deviations around the mean will be equal to one.

C mean absolute deviation will be either less than or equal to the standard deviation.

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

A is incorrect. Range does not provide information about the shape of the distribution.

C is incorrect. The mean absolute deviation will always be less than or equal to the standard deviation.

Statistical Concepts and Market Returns
LOS g
Sections 7.1, 7.2, 7.4.2

31 Which sampling-related bias is *most likely* to result in finding apparent significance when none exists?

A Sample selection bias

B Look-ahead bias

C Data mining bias

C is correct. Data mining bias comes from overuse or misuse of the data and can result in finding models or patterns where none exist.

A is incorrect. Sample selection bias often results when data availability leads to certain data being excluded from the analysis.

B is incorrect. Look-ahead bias exists if the model uses data not available to the analyst at the time the analyst act on the model.

Sampling and Estimation
LOS k
Section 5.1

32 When working backward from the nodes on a binomial tree diagram, the analyst is attempting to calculate:

A the number of potential outcomes.

B the probability of a given scenario.

C an expected value as of today.

C is correct. In a tree diagram, a problem is worked backward to formulate an expected value as of today.

A is incorrect because the number of nodes is determined by the number of periods as well as the number of forecasted probabilities per period. These inputs will be used in the model to find the potential outcomes. Working backward will then provide the expected value as of today.

B is incorrect because the probability of a given scenario is estimated by the analyst for use in forecasting ending values.

Probability Concepts
Section 8.2
LOS j

33 It is *most likely* that the distance between the outer bands of Bollinger Bands will be farthest apart when

A the moving average period is longer.

B trading volume is higher.

C price volatility is higher.

C is correct. Bollinger Bands consist of a moving average price plus a higher line representing the moving average plus a set number of standard deviations from the average price and a lower line that is the moving average minus the same set number of standard deviations. Higher price volatility increases the standard deviation, making the bands wider.

A is incorrect. The length of time used to determine the moving average price affects the center line that the bands are based on, but not the width of the bands.

B is incorrect. Trading volume does not directly affect the bands, only average price and price volatility.

Technical Analysis
LOS e
Section 3.4.1.2

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

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

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

A $659,250.

B $784,250.

C $318,750.

A is correct.

Economic profit = Accounting profit – Total implicit opportunity costs

where

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

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

Total revenue	3,550 × $1,110	$3,940,500	# units × average revenue
Less Total variable costs	3,550 × $750	$2,662,500	# units × average var cost
Less Total fixed costs		$300,000	given
Accounting profit		$978,000	

Opportunity cost of capital	$1,550,000 × 0.125	$193,750	Investment × Required return
Opportunity cost of owner's labor		$125,000	Given
Total opportunity costs		$318,750	
Economic profit		**$659,250**	

C is incorrect because it calculates the normal profit or the total implicit opportunity cost.

B is incorrect because it does not take into account the opportunity cost of labor. Total implicit opportunity cost = $1,550,000 × 0.125 = $193,750. Economic profit = $978,000 – $193,750 = $784,250.

The Firm and Market Structures
LOS b
Section 3.2
Topics in Demand and Supply Analysis
LOS e
Section 3.2

35 The *most* relevant measure of income that economists use in determining household decisions to save and spend is personal:

A earned income.

B disposable income.

C taxable income.

B is correct. Personal disposable income, which is equal to personal income minus personal taxes, is the most relevant measure of income for household spending and saving decisions.

C is incorrect. Taxable income does not include the personal income taxes individuals have to pay and hence is not the net income at their disposal.

A is incorrect. Personal earned income is personal income less unearned income (e.g., transfer payments, such as social insurance, unemployment, and disability payments). It is not the most relevant measure of a household's ability to save and spend because it excludes unearned income and also doesn't reflect household income after personal taxes.

Aggregate Output, Prices, and Economic Growth
LOS d
Section 2.3

36 The following data are for a basket of three consumption goods used to measure the rate of inflation:

	Prior Year		Current Year	
Goods	**Quantity**	**Price**	**Quantity**	**Price**
5 lb. bag sugar	150 bags	$3.12	180 bags	$2.92
5 lb. bag flour	800 bags	$2.18	750 bags	$3.12
Frozen pizza (each)	250	$2.90	250	$3.00

Using the consumption basket for the current year, the Paasche Index is *closest* to:

A 124.6.

B 123.7.

C 125.4.

B is correct. The Paasche index uses the current composition of the basket.

$$\text{Paasche index} = \frac{180 \times 2.92 + 750 \times 3.12 + 250 \times 3.00}{180 \times 3.12 + 750 \times 2.18 + 250 \times 2.90} \times 100 = 123.75$$

A is incorrect. It is the Fisher index, the geometric mean of the Paasche and Laspeyres indexes.

$$\text{Fisher index} = (123.75 \times 125.43)^{0.5} = 124.59$$

C is incorrect. It is the Laspeyres index, which uses the base period composition of the basket.

$$\text{Laspeyres index} = \frac{150 \times 2.92 + 800 \times 3.12 + 250 \times 3.00}{150 \times 3.12 + 800 \times 2.18 + 250 \times 2.90} \times 100 = 125.43$$

Understanding Business Cycles
LOS f, g
Section 4.2.2

37 Successful advertising and product differentiation are *most likely* to have a positive impact on the economic profits of a producer under:

A monopolistic competition.

B perfect competition.

C monopoly.

A is correct. Advertising and product differentiation are most likely to have a positive impact on the economic profits of producers under monopolistic competition. The monopoly aspect of this structure arises from the ability to differentiate its product.

C is incorrect. Under monopoly, advertising and product differentiation are of little consequence in determining economic profits.

B is incorrect. Under perfect competition, all producers (and all consumers) are price takers, and economic profits do not exist.

The Firm and Market Structures
LOS a
Sections 2.1, 2.2

38 Based on the elasticities approach, a country can implement an exchange rate policy to improve its trade balance *most* effectively if it imports and exports products:

A that are consumer necessities.

B with no good substitute.

C traded in competitive markets.

C is correct. In the elasticities approach, changes in exchange rate policy will be a more-effective mechanism for trade balance adjustment if a country imports and exports products that trade in competitive markets, with good substitutes, and luxury products rather than necessities.

A is incorrect. In the elasticities approach, changes in exchange rate policy will be a more-effective mechanism for trade balance adjustment if a country imports and exports products that trade in competitive markets, with good substitutes, and luxury products rather than necessities.

B is incorrect. In the elasticities approach, changes in exchange rate policy will be a more-effective mechanism for trade balance adjustment if a country imports and exports products that trade in competitive markets, with good substitutes, and luxury products rather than necessities.

Currency Exchange Rates
LOS j
Section 5.1

39 Given the function

$$Q_x^d = 5.7 - 1.3P_x + 0.03I - 0.03P_y$$

where

Q_x^d = the quantity demanded of good X
P_x = the price per unit of good X
I = consumers' income
P_y = the price per unit of good Y

the *most likely* cause of a shift in the demand curve is a change in:

A P_y.

B Q_x^d

C P_x.

A is correct. A shift in the demand curve results from a change in any variable other than the good's own price, P_x. Given the demand function, a change in either P_y or I would result in a shift in the demand curve. A change in quantity demanded, which refers to a movement along the demand curve, arises when the good's own price changes.

B is incorrect. A change in Q_x^d is the result rather than the cause of change.

C is incorrect. A change in quantity demanded, which refers to a movement along the demand curve, arises when the good's own price changes.

Topics in Demand and Supply Analysis
LOS a, b
Section 2.4

40 After noting positive changes in the aggregate index of coincident economic indicators, an increase in the ratio of consumer installment debt to income would *most likely* help confirm that an expansion is:

A forthcoming.

B underway.

C ending.

B is correct. The ratio of consumer installment debt to income is a lagging indicator. An increase in it, by itself, would be evidence that an upturn is already underway. This would confirm the implication of positive changes in coincident indicators that an expansion is in place.

A is incorrect. Leading indicators indicate what is coming, but the ratio of consumer installment debt to income is a lagging indicator. The reason it is a lagging indicator is because consumers only borrow heavily when they are confident in the economy.

C is incorrect. Although the ratio of consumer installment debt to income is a lagging indicator, it is more directly indicating that an upturn has been underway, not that the expansion is over because consumers only borrow heavily when they are confident in the economy.

Understanding Business Cycles
LOS i
Section 5

41 Assume that the nominal spot exchange rate (USD/EUR) increases by 7.5%, the eurozone price level decreases by 4%, and the US price level increases by 2.5%. The change in the real exchange rate (%) is *closest* to:

A 0.7%.

B –6.3%.

C 14.8%.

A is correct.

$$\text{Real exchange rate} = \text{Nominal spot exchange rate} \times (\text{CPI of the foreign country/CPI of the domestic country})$$

$$\text{Change in the real exchange rate} = [(1 + \text{Change in exchange rate}) \times (1 + \text{Change in price level in foreign country})]/(1 + \text{Change in price level in domestic country}) - 1$$

$$= [(1 + 7.5\%) \times (1 - 4\%)]/(1 + 2.5\%) - 1 = 0.7\%$$

B is incorrect because the change in the nominal exchange rate is not included: (1 – 4%)/(1 + 2.5%) – 1= –6.3%.

C is incorrect because the change in the price levels are inverted: [(1 + 7.5%) × (1 + 2.5%)[/(1 – 4%) – 1= 14.8%.

Currency Exchange Rates
LOS a
Section 2

42 Assume economic activity is accelerating, inflation is increasing modestly, and unemployment is low. The economy is *most likely* in which phase of the business cycle?

A Peak

B Early expansion

C Late expansion

C is correct. The late expansion phase is characterized by acceleration of growth rate, decreasing of unemployment rate, and increasing of inflation rate.

	Early Expansion	Late Expansion	Peak
Economic Activity	Gross domestic product (GDP), industrial production, and other measures of economic activity turn from decline to expansion.	Activity measures show an accelerating rate of growth.	Activity measures show decelerating rate of growth
Employment	Layoffs slow (and net employment turns positive), but new hiring does not yet occur and the unemployment rate remains high. At first, business turns to overtime and temporary employees to meet rising product demands.	Business begins full time rehiring as overtime hours rise. The unemployment rate falls to low levels.	Business slows its rate of hiring; however, the unemployment rate continues to fall.
Inflation	Inflation remains moderate and may continue to fall.	Inflation picks up modestly.	Inflation further accelerates.

A is incorrect because the peak phase is characterized by deceleration of growth rate.

B is incorrect because the early expansion phase is not characterized by low unemployment.

Understanding Business Cycles
LOS a
Section 2.1

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

A $2.6.

B $4.2.

C $1.3.

B is correct.

The fiscal multiplier is $\frac{1}{1 - c(1 - T)}$

where

c = marginal propensity to consume = consumption/disposable income
T = the tax rate

Assuming pre-tax income of $100

Disposable income: $100 × (1 − 0.25) = $75

Marginal propensity to consume: $70/$75 = 0.933

The fiscal multiplier: 1/[1 − 0.933(1 − 0.25)] = 3.33

With government expenditure of $1.25 billion, total incomes and spending will rise by $1.25 billion × 3.33 = $4.2 billion

A is incorrect. It calculates the MPC from pre-tax income (MPC = 0.70) but applies the formula correctly: 1/[1 − c(1 − T)]: 1/[1 − 0.70(1 − 0.25)] = 2.10; resulting in an overall stimulus effect of 2.10 × 1.25 = 2.60.

C is incorrect. It uses G/MPC: 1.25/0.933 = 1.34

Monetary and Fiscal Policy
LOS p
Section 3.2.2

44 A developing country that maintains a fixed value for its currency relative to the US dollar is experiencing a decline in its economic activity, and its inflation rate falls below the level of inflation in the United States. The *most likely* result of the developing country's actions to maintain the fixed exchange rate target is that its:

A foreign exchange reserves will decrease.

B short-term interest rates will fall.

C money supply will contract.

B is correct. With a decline in economic activity and domestic inflation, the currency of the developing country would start to rise against the dollar. To protect the exchange rate target, the developing country's monetary authority will purchase foreign exchange reserves and sell its own currency. This will increase the domestic money supply, decrease short-term interest rates, and increase foreign exchange reserves.

A is incorrect. With a decline in economic activity and domestic inflation, the currency of the developing country would start to rise against the dollar. To protect the exchange rate target, the developing country's monetary authority will purchase foreign exchange reserves and sell its own currency. This will increase the domestic money supply, decrease short-term interest rates, and increase foreign exchange reserves.

C is incorrect. With a decline in economic activity and domestic inflation, the currency of the developing country would start to rise against the dollar. To protect the exchange rate target, the developing country's monetary authority will purchase foreign exchange reserves and sell its own currency. This will increase the domestic money supply, decrease short-term interest rates, and increase foreign exchange reserves.

Monetary and Fiscal Policy
LOS k
Section 2.3.5

45 Four countries operate within a customs union. One country proposes moving to a common market structure. What additional level of economic integration between the countries would *most likely* arise if this change took place? They would:

A begin to allow free movement of the factors of production.

B establish common economic institutions and coordination of economic policies.

C establish common trade barriers against non-members.

A is correct. A common market structure incorporates all aspects of the customs union and extends it by allowing free movement of factors of production among members.

B is incorrect. It arises in an economic union.

C is incorrect. A customs union already includes common trade barriers.

International Trade and Capital Flows
LOS f
Section 3.4

46 In 2013, a software company recorded unearned revenue related to a software license that it will recognize as revenue during 2014. Ignoring income taxes, the recognition of the software revenue in 2014 will *most likely* result in 2014 cash from operations being:

A lower.

B higher.

C unchanged.

C is correct. The company received the cash in 2013 when it recorded the unearned revenue, and it increased cash from operations in that year. In 2014, the revenue is earned, but there is no cash exchanged and thus no effect on the cash from operations, ignoring taxes.

A is incorrect because recording unearned revenue as revenue has no effect on the cash position.

B is incorrect because recording unearned revenue as revenue has no effect on the cash position.

Financial Reporting Mechanics
LOS f
Section 5.1
Understanding Cash Flow Statements

(continued)

LOS e
Sections 3.1, 3.2.5

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

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

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

A £24,341.

B £23,091.

C £22,766.

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

Cost Determination	£ thousands
Purchase price (1,000 × £20.20)	20,200
Volume rebate	(404)
Import and sales taxes	2,970
Transport and transport insurance	325
Total costs to be inventoried	**£23,091**

A is incorrect. It includes the storage costs: 23,091 + 1,250 = 24,341.

C is incorrect. It does not include transportation and insurance costs: 23,091 – 325 = 22,766.

Inventories
LOS a
Section 2

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

A Transparency to the underlying economics

B Consistency in the measurement basis used across the balance sheet

C Uniform treatment of transactions by different entities

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

B is incorrect. Both US GAAP and IFRS utilize multiple measurement bases on the balance sheet, including historical cost, amortised cost, current cost, realizable value, present value, and fair value. A single measurement approach is not necessarily the most effective way to portray assets and liabilities because it does not consider the appropriate trade-off between the relevance and faithful representation of the information.

C is incorrect. "Uniform" treatment is too strong. An effective framework should ensure reasonable consistency across entities, balanced against the need for sufficient flexibility to allow companies the discretion to report results in accordance with underlying economic activity.

Financial Reporting Standards
LOS g
Section 6.1

49 Which of the following *best* describes a use of the balance sheet? A company's balance sheet:

A provides detail on its overall financial position at the end of a period.

B includes detail on its cash receipts and payments made during a period.

C specifies how much revenue it generated during a period.

A is correct. The balance sheet enables an analyst to evaluate a company's liquidity, solvency, and overall financial position. It discloses what an entity owns, what it owes, and what the owners' claims are at a specific point in time.

B is incorrect. The cash flow statement provides information about a company's cash receipts and payments during a period. The balance sheet reports a total amount for cash and cash equivalents at a specific point in time, but it does not provide the underlying detail on the receipts and payments made during the period.

C is incorrect. The income statement communicates how much revenue a company generates during a period and what costs it incurred in connection with that revenue. The balance sheet reports earnings, but it does not provide detail to communicate how much revenue a company generated during a period.

Understanding Balance Sheets
LOS b
Section 2

50 An e-commerce company sells hotel room nights on its website under agreement from a large number of major hotel chains. The hotel chains grant the company flexibility for the rooms they supply to the company's website and for the prices charged. These major chains bear the responsibility for providing all services once a customer books a room from the website. During the current year, the company received $5 million in payments from the sale of hotel rooms. The cost of these rooms was $4.5 million, which does not include $250,000 in direct selling costs. Under US GAAP, the e-commerce company's cost of sales is *closest* to:

A $4,750,000.

B $4,500,000.

C $250,000.

C is correct. Cost of sales is reported on the same basis as revenue. To report revenue under gross reporting, the e-commerce company must meet four criteria:

Criteria	Met/Not Met
The e-commerce company must:	
be the primary obligor under the contract.	Not met
bear the inventory risk and credit risk.	Not met
be able to choose its supplier.	Met
also have reasonable latitude to establish pricing.	Met

The first criterion is not met. The major hotel chains have the obligation of fulfilling the room contract once it is entered into. The second criterion is not met either because the e-commerce company did not incur costs for vacant rooms. The major chains bear the inventory risk. Because all criteria are not met, the e-commerce company must use net reporting for which revenue is $500,000 and cost of sales is $250,000.

A is incorrect. This amount would be applicable under the gross reporting approach, but the net reporting approach must be used in this situation.

B is incorrect. This is simply the cost of rooms and is not applicable under either the gross reporting or net reporting approaches.

Understanding Income Statements
LOS b, e
Section 3.2.4

51 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.

C is correct. 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

A is incorrect. The operating profit margin would have the greatest increase if interest expense was incorrectly included in the calculation:

	Current Year (%)	Prior Year (%)	Decrease
Correct operating margin (as calculated above)	24.1	23.3	
Less: Interest expense	3.1		
Incorrect operating margin	21	23.3	−2.3

The operating profit margin would have the greatest increase if research expenses were mistakenly excluded from the calculation:

	Current Year (%)	Prior Year (%)	Increase
Correct gross margin (as calculated above)	61.4	60.5	
Less: Selling and general expenses	32.9		
Incorrect operating margin	28.5	23.3	+5.2

B is incorrect. The net profit margin would have the greatest increase if income tax expense was incorrectly omitted:

	Current Year (%)	Prior Year (%)	Increase
Net income before tax (as calculated above)	21	15.8	+5.2

Understanding Income Statements
LOS g, k
Sections 5.5, 7.2
Financial Analysis Techniques
LOS b
Section 4.5

52 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 the same.

B €500,000 higher.

C €500,000 lower.

A is correct. 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.

B is incorrect. It treats only the trading securities at FMV under IFRS and BV for US GAAP, and either treats available for sale correctly (whereby gains/losses flow through equity) or leaves them both at BV, i.e., 500,000 gain for held for trading.

C is incorrect. It treats both types of securities under IFRS at FMV but at BV under US GAAP. The net result is +500,000 – 1,000,000 = –500,000 lower under IFRS.

Understanding Income Statements
LOS m
Section 8
Understanding Balance Sheets
LOS e
Section 4.5

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

A expensed when incurred.

B included in the measurement of the bond liability.

C deferred as an asset and amortized on a straight-line basis.

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

A is incorrect. Under both US GAAP and IFRS, they are not expensed.

C is incorrect. This is US GAAP.

Non-Current (Long-Term) Liabilities
LOS a
Section 2.1

54 In the current year, a company increased its deferred tax asset by $500,000. During the year, the company *most likely*:

A became entitled to a $500,000 tax refund.

B had permanent differences between accounting profit and taxable income.

C reported a lower accounting profit than taxable income.

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

A is incorrect. Deferred tax assets are simply the results of differences between accounting profit and taxable income. It is not an amount of a tax refund that would be an income tax receivable.

B is incorrect. Only temporary differences create deferred tax assets or liabilities

Income Taxes
LOS a, b, f
Section 2.2

55 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 notes to the financial statements.

B non-current liabilities section of the balance sheet.

C Management Discussion and Analysis (MD&A).

A is correct. 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.

B is incorrect. Only the carrying amount can be found in the non-current liabilities section of the balance sheet.

C is incorrect. Financing strategies and market trends can be found in the MD&A.

Non-Current (Long-Term) Liabilities
LOS e
Sections 2.6

56 The role of the International Organization of Securities Commissions (IOSCO) is *best* described as:

A promoting cross-border cooperation and uniformity in securities regulation.

B enforcing financial reporting requirements for entities participating in capital markets.

C promoting the use of International Financial Reporting Standards (IFRS) and the convergence of national accounting standards.

A is correct. IOSCO provides a forum for regulators from different jurisdictions to work together toward fair, efficient, and transparent markets, promoting cross-border cooperation and uniformity in securities regulation.

B is incorrect. This is the role of regulatory authorities such as the Securities Exchange Commission. IOSCO is not a regulator and as such has no authority to regulate.

C is incorrect. This is the role of the IFRS Foundation.

Financial Reporting Standards
LOS b
Section 3.2.1

57 A company using the last-in, first-out (LIFO) inventory method reports a year-end LIFO reserve of $85,000, which is $20,000 lower than the prior year. If the company had used first-in, first-out (FIFO) instead of LIFO in that year, its financial statements would *most likely* have reported:

A a higher cost of goods sold (COGS) but a lower inventory balance.

B both a higher cost of goods sold (COGS) and a higher inventory balance.

C a lower cost of goods sold (COGS) but a higher inventory balance.

B is correct.

FIFO COGS = LIFO COGS – Change in LIFO reserve	The negative change in the LIFO reserve would *increase* the COGS under FIFO compared with LIFO.
FIFO inventory = LIFO inventory + LIFO reserve	The LIFO reserve has a positive balance so that FIFO inventory would be *higher* than LIFO inventory.

A is incorrect. As per the table, inventory would be higher.

C is incorrect. As per the table, COGS would be higher.

Inventories
LOS f, e, l
Section 4.1

58 Amounts recorded as deferred revenue are *most likely* included in income when they are:

A earned.

B invoiced.

C paid.

A is correct. Deferred revenue is a liability account that arises when money has been collected for goods or services that have not been delivered. Revenue is recognized (included in income) as it is earned, and the deferred revenue liability will decrease accordingly.

B is incorrect. Unearned revenue is recognized when it is earned, regardless of when the company invoices for the goods or services.

C is incorrect. Deferred revenue is recognized when it is earned, regardless of when cash for goods or services have been paid.

Understanding Balance Sheets
LOS e
Section 3.2

59 The following information is available for a company ($):

December 31, 2011:	
Total assets	100,000
Net income for the year	4,000
Dividends paid	0
Assets are equally financed with debt and equity	
50% of the equity comes from contributed capital	

December 31, 2012:	
Total assets	92,000
Net income (loss) for the year	(3,000)
No new debt or equity issued or repurchased	

In 2012, the company *most likely*:

A paid a dividend of $1,000.

B did not pay a dividend because it incurred a loss.

C paid a dividend of $5,000.

C is correct.

	2011 ($)	**2012 ($)**
Total assets (given)	100,000	92,000
Total debt (50% in 2011, no change in 2012)	50,000	50,000
Total equity (Total assets – Total debt)	50,000	42,000
Equity Components		
Contributed capital (50% of equity in 2011, no change in 2012)	25,000	25,000
Retained earnings (solved for): Total equity – Contributed capital	25,000	17,000
Retained earnings = Opening RE + Net income – Dividends 2012 Retained earnings = 17,000 = 25,000 – 3,000 – Dividends **Dividends = 5,000**		

A is incorrect. It assumes that the funding for the company is still 50:50 (i.e., $46 of equity so that 46 = 25 + 25 – 3 – Dividends; Dividends = 1).

B is incorrect. Suffering a loss does not prevent the firm from paying a dividend (if retained earnings > 0) and/or with no debt covenants that preclude it.

Financial Reporting Mechanics
LOS c, d
Section 3.2

60 The following annual financial data are available for a company:

	£ millions
Beginning interest payable	90.4
Cash paid for interest	103.3
Ending interest payable	84.5

Interest expense (in millions) for the year is *closest* to:

A £97.4.

B £109.2.

C £71.6.

A is correct. Interest expense can be determined from the following relationship:

	£ millions
Beginning interest payable	90.4
Plus interest expense	?
Minus cash paid for interest	–103.3
Ending interest payable	84.5
Solving for interest expense = 97.4	

B is incorrect. Instead of adding ending interest payable, it subtracted it, and instead of subtracting beginning interest payable, it added it.

Interest expense = Cash paid for interest – Ending interest payable + Beginning interest payable

103.3 – 84.5 + 90.4 = 109.2

C is incorrect, per the calculation above. Instead of adding cash paid for interest, it subtracted it, and instead of adding beginning interest payable, it added it.

Interest expense = Ending interest payable – Cash paid for interest + Beginning interest payable

84.5 – 103.3 + 90.4 = 71.6

Understanding Cash Flow Statements
LOS f
Section 3.2.1.5

61 The following financial statement data are available for a company:

Metric	$ thousands
Operating income	3,390
Net income	2,210
Operating assets	3,850
Change in cash and cash equivalents	1,010
Change in cash from operating activities	1,750
Free cash flow to the firm	2,240

The company's cash-to-income ratio is *closest* to:

A 0.79.

B 0.66.

C 0.52.

C is correct.

$$\begin{aligned}\text{Cash to income} &= \text{Cash flow from operating activities (CFO)/Operating income}\\ &= (1{,}750/3{,}390)\\ &= 0.52\end{aligned}$$

B is incorrect. The calculation incorrectly uses free cash flow in the numerator.

$$\begin{aligned}\text{Incorrect cash to income} &= \text{Free cash flow to the firm/Operating income}\\ &= 2{,}240/3{,}390\\ &= 0.66\end{aligned}$$

A is incorrect. The calculation incorrectly uses net income in the denominator.

$$\begin{aligned}\text{Incorrect cash to income} &= \text{Cash flow from operations/Net income}\\ &= 1{,}750/2{,}210\\ &= 0.79\end{aligned}$$

Understanding Cash Flow Statements
LOS i
Section 4.4

62 An analyst is comparing the solvency of a company over the past two years using the information below:

2013	¥ millions
Total debt	2,300
Total shareholders' equity	17,000
Total assets	20,000
Net income	375
Interest payments	200
Taxes paid	125

Ratios in 2012	
Debt to capital	12.7%
Interest coverage	2.9

The *best* conclusion the analyst can make about 2013 is that compared with 2012, the company's solvency has:

A been inconclusive because the ratios give conflicting results.

B deteriorated because both ratios have weakened.

C improved because both ratios have strengthened.

C is correct.

	2012	2013 Calculations (¥ millions)	2013
Debt to capital	12.7%	2,300/(2,300 + 17,000) = 11.9%	11.9%
Interest coverage	2.9	(375 + 200 + 125)/200 = 3.5	3.5 times

Both ratios have improved from 2012 to 2013, thus the company is more solvent in 2013.

A is incorrect. It calculates interest coverage using net income instead of EBIT (1.875), a deterioration, and correctly notes the debt to capital as an improvement.

B is incorrect. It calculates interest coverage using net income instead of EBIT (1.875), and interprets the change in debt to capital as a deterioration because the value has decreased.

Non-Current (Long-Term) Liabilities
LOS k
Section 5

63 Which of the following is the *best* example of conservative accounting?

A Reducing the allowance for bad debt expense below the experienced loss rate.

B Deferring R&D expenses to a subsequent year.

C Choosing to depreciate new equipment over the shortest estimate of its useful life.

C is correct. Depreciating equipment over the shortest estimated period of its useful life is a conservative accounting choice that reduces earnings in the early years and increases them in the future, creating a positive trajectory.

A is incorrect. Reducing the bad debt allowance below the experienced loss rate is an aggressive choice that causes earnings to appear higher in the current year.

B is incorrect. Deferring R&D is an aggressive choice that causes earnings to appear higher in the current year.

Financial Reporting Quality
LOS c
Section 2.3

64 Selected information about a company is as follows:

	Current Year ($ thousands)	Projection for Next Year ($ thousands)
Sales	2,200	2,500
Variable operating costs (% of sales)	28%	30%
Fixed operating costs	1,400	1,400
Tax rate	25%	25%
Dividends paid	55	60
Interest bearing debt at 5%	500	500

The forecasted net income (in $ thousands) for next year is *closest* to:

A 169.

B 244.

C 202.

B is correct. Forecasted net income (in $ thousands) is calculated as follows:

Sales	2,500	Given
Variable costs	–750	30% of sales
Fixed costs	–1,400	Given
Interest expense	–25	0.05 × Average debt of $500
Earnings before taxes (EBT)	325	
Taxes	–81.25	25% of EBT
Net income	243.75	Rounded to $244

A is incorrect. It calculates interest expense as a percent of sales not as a percent of debt:

	Correct	Dividends	Interest as Percent of Sales
Sales	2,500	2,500	2,500
Variable costs	750	750	750
Fixed costs	1,400	1,400	1,400
Dividends		55	
interest expense	25	25	125
EBT	325	270	225
Taxes	81.25	67.5	56.25
Net income	243.75	202.5	168.75

C is incorrect. It deducts dividends as a before tax expense.

	Correct	Dividends	Interest as Percent of Sales
Sales	2,500	2,500	2,500
Variable costs	750	750	750
fixed costs	1,400	1,400	1,400
Dividends		55	
interest expense	25	25	125
EBT	325	270	225

(continued)

	Correct	Dividends	Interest as Percent of Sales
Taxes	81.25	67.5	56.25
Net income	243.75	202.5	168.75

Financial Statement Analysis: Applications
LOS b
Section 3.2

65 A company has announced that it is going to distribute a group of long-lived assets to its owners in a spin-off. The *most* appropriate way to account for the assets until the distribution occurs is to classify them as:

A held for sale with no depreciation taken.

B held for use until disposal with no deprecation taken.

C held for use until disposal with depreciation continuing to be taken.

C is correct. Long-lived assets that will be disposed of other than by sale, such as in a spin-off, an exchange for other assets, or abandonment, are classified as held for use until disposal and continue to be depreciated until that time.

A is incorrect. Assets to be disposed of by means other than by sale are not classified as held for sale.

B is incorrect. The assets would be held for use until disposal, but would continue to be depreciated.

Long-Lived Assets
LOS j
Section 6.2

66 All else being equal, which of the following depreciation methods is *most likely* to result in higher operating margins in the later years of an asset's useful life?

A Straight line

B Declining balance

C Units of production

B is correct. Under the declining balance approach, depreciation is calculated as a fixed percentage of the asset's carrying amount, year after year. As the undepreciated value decreases, so does the reported depreciation expense. The effect is most pronounced in the later years of the asset's life when the undepreciated cost is much lower and hence the expense is lower (and operating margins higher).

A is incorrect. Under the straight-line approach, the annual depreciation expense is constant.

C is incorrect. Although the units of production method could show the described expense recognition pattern (if the asset was used more heavily in the later years of its life compared to the early years), but other patterns are also possible. This response is not as strong as that of declining balance.

Long-Lived Assets
LOS e
Section 3.1

67 Which of the following most likely results in an increase of owners' equity?

A Share repurchase

B Cash dividend

C New equity issuance

C is correct. The basic components of owners' equity are paid-in capital and retained earnings. In the paid-in capital account, an example of an increase in owners' equity is a new equity issuance. Cash dividends reduce retained earnings and owners' equity. Share repurchases reduce paid-in capital and owners' equity.

A is incorrect because for the paid-in capital account an example of a decrease in owners' equity is the repurchase of previously issued shares.

B is incorrect because a cash dividend payment is the most common cause of a decrease in owners' equity.

Financial Statement Analysis: An Introduction
LOS b
Section 3.1.3

68 Which of the following will be higher using the LIFO method compared with the FIFO method during periods of rising inventory unit costs?

A Gross profit

B Cost of sales

C Ending inventory

B is correct. Under either a perpetual or periodic inventory system, using the LIFO method will result in higher cost of sales than the FIFO method when inventory costs are increasing. This is because the cost allocated to cost of sales under the LIFO method more closely reflects current replacement values of inventory, which is higher than older inventory which was purchased at a lower cost.

A is incorrect because under either a perpetual or periodic inventory system, using the LIFO method will result in a higher cost of sales during periods of rising inventory costs because the cost of sales more closely reflects current replacement values. As such, the higher cost of sales will result in a lower gross profit, operating income, and net income as compared with the FIFO method.

C is incorrect because in an environment of rising inventory costs, ending inventory amounts under the LIFO method are typically not reflective of current replacement value because the ending inventory is assumed to be the oldest inventory, which is lower than current replacement costs. As such, ending inventory amounts under the LIFO method will be lower than the FIFO method.

Inventories
LOS c
Section 3.5

69 An analysis used to forecast earnings that shows a range of possible outcomes as specific assumptions change *best* describes which of the following techniques?

A Scenario analysis

B Simulation

C Sensitivity analysis

C is correct. Sensitivity analysis, also known as "what if" analysis, shows the range of possible outcomes as specific assumptions are changed.

A is incorrect. Scenario analysis shows changes in key financial quantities that result from given economic events.

B is incorrect. Simulation is a computer-generated sensitivity or scenario analysis based on probability models for the factors that drive outcomes.

Financial Analysis Techniques
LOS g
Section 8

70 The following information is available for a company:

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

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

A 11.5%.

B 14.3%.

C 13.4%.

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

$r_d = 9.2\%$

$r_p = D_p/P_p = \$1.35/\$8.18 = 16.5\%$

$r_e = R_F + \beta[E(R_M) - R_F] = 4\% + 1.3[11\%] = 18.3\%$

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

A is incorrect because 7% (i.e., 11% – 4%) is used as the market risk premium when finding the cost of common equity.

$r_e = R_F + \beta[E(R_M) - R_F] = 4\% + 1.3[7\%] = 13.1\%$

$\text{WACC} = 30\% \times 9.2\% \times (1 - 35\%) + 15\% \times 16.5\% + 55\% \times 13.1\%$
$= 11.47\%$

C is incorrect because both the cost of debt and preferred stock are tax adjusted.

$\text{WACC} = 30\% \times 9.2\% \times (1 - 35\%) + 15\% \times 16.5\% \times (1 - 35\%) + 55\% \times 18.3$
$= 13.43\%$

Cost of Capital
LOS a, b
Section 2, 2.1, 3.2, 3.3
Portfolio Risk and Return: Part II
LOS g
Section 3.2.6

71 A company issues new 20-year $1,000 bonds with a coupon rate of 6.2% payable semiannually at an issue price of $1,030.34. Assuming a tax rate of 28%, the firm's annual after-tax cost of debt (%) is *closest* to:

A 5.94.

B 4.28.

C 4.46.

B is correct. The annual after-tax cost of debt is the after tax annual yield to maturity (YTM). Find the YTM by using a financial calculator as follows:

PV = –1,030.34, FV = 1,000, N = 40 (20 × 2), PMT = 31 (0.062 × 1,000 × 0.5), compute i.

i = 2.97 semiannually

Annually, YTM = 2.97 × 2 = 5.94

Therefore, the associated after-tax value = 0.0428 = 0.0594 × (1 – 0.28).
A is incorrect because it is the yield to maturity.
C is incorrect because it is based on the coupon rate of 0.0620 annually.

Cost of Capital
LOS b, f
Section 3.1.1

72 Business risk *most likely* incorporates operating risk and:

A financial risk.

B sales risk.

C interest rate risk.

B is correct. Business risk is the combination of sales risk and operating risk.

A is incorrect because does not include financial risk.

C is incorrect because business risk does not include interest rate risk.

Measures of Leverage
LOS a
Sections 3.1, 3.2

73 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 1,417.

B 1,000.

C 1,250.

B is correct. The operating breakeven point is:

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

C is incorrect because the numerator is ($12,000 + $3,000) making it the breakeven quantity and not the operating breakeven quantity.

A is incorrect because the numerator is ($12,000 + $3,000 + $2,000) = 1,417.

Measures of Leverage
LOS e
Section 3.6

74 A company that wants to determine its cost of equity gathers the following information:

Rate of return on 3-month Treasury bills	3.0%
Rate of return on 10-year Treasury bonds	3.5%
Market risk premium	6.0%
The company's equity beta	1.6
Dividend growth rate	8.0%
Corporate tax rate	35%

Using the capital asset pricing model (CAPM) approach, the cost of equity (%) for the company is closest to:

A 12.6%.

B 7.5%.

C 13.1%.

C is correct. CAPM: Cost of equity = Risk-free rate + Beta × Market risk premium = 3.5% + 1.6 × (6.0%) = 13.1%

The 10-year risk-free rate is appropriate based on the long-term duration of the cash flows from the project.

B is incorrect. Deducting the risk-free rate from the market risk premium would lead to:

$$3.5\% + 1.6 \times (6.0\% - 3.5\%) = 7.5\%$$

A is incorrect. If the 90-day T-Bill rate is used as the risk-free rate, the answer will be:

$$3.0\% + 1.6 \times (6.0\%) = 12.6\%$$

Cost of Capital
LOS h
Section 3.3.1

75 Based on good corporate governance practices, it is *most* appropriate for a company's compensation committee to:

A develop director remuneration policies.

B recommend remuneration for the external auditors.

C include some external directors.

A is correct. Under good corporate governance practices the compensation committee develops remuneration policies for directors as well as key executives. The audit committee, not the compensation committee, would be involved in the remuneration of the external auditors.

C is incorrect. The committee should be composed of independent (non-executive) members only.

B is incorrect. The audit committee is responsible for proposing the external auditor's remuneration.

Corporate Governance and ESG: An Introduction
LOS f
Section 5.3.3

76 The effective annualized cost (%) of a banker's acceptance that has an all-inclusive annual rate of 5.25% for a one-month loan of $2,000,000 is *closest* to:

A 5.54%.

B 5.38%.

C 5.27%.

C is correct. Calculate the effective annualized cost:

$$\frac{\text{Interest}}{\text{Net proceeds}} \times 12 = \frac{2{,}000{,}000 \times 0.0525 \times 1/12}{2{,}000{,}000 \times \left(1 - 0.0525 \times 1/12\right)} \times 12$$

$$= 0.0527 = 5.27\%$$

A is incorrect. No monthly adjustment is made within the calculation.

$$0.0554 = \frac{2{,}000{,}000 \times 0.0525}{2{,}000{,}000 \times (1 - 0.0525)}$$

B is incorrect. It is the effective annual rate.

$$0.0538 = \left(1 + \frac{0.0525}{12}\right)^{12} - 1$$

Working Capital Management
LOS g
Section 8.4, Example 7

77 A project has the following cash flows:

Year 0	Year 1	Year 2	Year 3	Year 4
–$1,000	$100	$100	$100	$1,100

The internal rate of return (IRR) for the project is *closest* to:

A 9.1%.

B 10.0%.

C 8.8%.

B is correct. The IRR is the discount rate when the net present value (NPV) = 0. The NPV is zero when discounting at 10%: ($100/10%) × [1 – 1/(1 +10%)^3] + $1,100/(1 +10%)^4 – $1,000.00 = $0. Consequently, 10% is the IRR. Using a financial calculator and recognizing that it is a bond: PV = 1,000, FV = –1,000, PMT = –100, *N* = 4, and solve for *i*, which will equal 10%.

C is incorrect because the NPV will be positive, and it is calculated as the holding period return: ($1400/$1000)$^{1/4}$ – 1.

A is incorrect because the NPV will be positive, and it is calculated as $100 / $1,100.

Capital Budgeting
LOS d
Section 4.2

78 A credit rating agency assesses a company's corporate governance structure as favorable to creditor rights. The *most likely* impact of this assessment on the company is a(n):

A increase in its risk of default.

B reduction in its financial performance.

C reduction in its cost of debt.

C is correct. Governance arrangements that help protect creditor rights can reduce a company's cost of debt and default risk.

A is incorrect. Governance arrangements that help protect creditor rights can reduce a company's cost of debt and default risk.

B is incorrect. Good corporate governance usually results in better (increased) financial performance, not decreased.

Corporate Governance and ESG: An Introduction
LOS h
Section 7.2.4

79 A portfolio manager decides to temporarily invest more of a portfolio in equities than the investment policy statement prescribes because he expects equities will generate a higher return than other asset classes. This decision is *most likely* an example of:

A rebalancing.

B tactical asset allocation.

C strategic asset allocation.

B is correct. Tactical asset allocation is the decision to deliberately deviate from the policy exposures to systematic risk factors with the intent to add value based on forecasts of the near-term returns of those asset classes.

A is incorrect. Rebalancing is the process of returning to the strategic asset allocation.

C is incorrect. Strategic asset allocation is the set of exposures to IPS-permissible asset classes that is expected to achieve the client's long-term objectives given the client's investment constraints.

Basics of Portfolio Planning and Construction
LOS g
Section 3.3

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

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

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

A 27.6%.

B 17.9%.

C 35.2%.

C is correct.

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

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

$(1 - 0.348) \times (1 + 0.322) \times (1 + 0.111) \times (1 - 0.014) = 0.652 \times 1.322 \times 1.111 \times 0.986 = 0.9442$

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

$1.05^5 = 1.2763$

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

$1.2763/0.9442 = 1.3517 = 35.2\%$

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

A is incorrect because this answer is the total compound return that results from compounding 5% over five years: $1.05^5 = 1.2763 = 27.6\%$.

B is incorrect because this is the return needed in 2012 to result in an arithmetic mean annual return of 5%: (–34.8 + 32.2 + 11.1 + (–1.4) +17.9)/5 = 5.

Portfolio Risk and Return: Part I
LOS a
Section 2.1.3

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

A the efficient frontier.

B a capital allocation line.

C the security market line.

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

A is incorrect. A portfolio that is 100% invested in an efficient risky portfolio will lie on the efficient frontier. When combined with a risk-free asset, the resulting portfolio will lie on a capital allocation line.

C is incorrect. Only a portfolio with 50% in a risk-free asset and 50% in the market portfolio will lie on the capital market line.

Portfolio Risk and Return: Part II
LOS b
Section 2.1

82 All else held constant, a lower correlation between the assets in a portfolio most likely results in higher:

A diversification.

B volatility.

C portfolio return.

A is correct. An investor may achieve diversification by combining two assets that are not perfectly correlated. This diversification increases as the correlation decreases.

B is incorrect. The portfolio volatility would decrease, all else being equal, when the correlation between assets decreases.

C is incorrect. The portfolio return does not change with lower correlation between assets, as long as the expected returns of the individual assets are unchanged.

Portfolio Risk and Return: Part I
LOS f
Section 4.1.3

83 A major benefit of employing a risk budgeting process is that it *most likely*:

A allows the organization to determine its enterprise risk tolerance.

B forces risk tradeoffs across the organization.

C eliminates the need for hedging within the organization.

B is correct. Adding a risk budgeting process causes the organization to consider how its total risk tolerance will be allocated across its subsidiaries. Either the total current risks the subsidiaries are engaging in will exceed the risk tolerance and subsidiaries will have to compete for risk by demonstrating highest returns per unit of risk or the total current risks will be less than the risk tolerance and a search will be underway for the subsidiaries that can best utilize the remaining risk budget. The risk tolerance is determined and then sets the risk budget, rather than being determined by it. Hedging can be a part of risk budgeting if hedging produces the superior risk adjusted returns.

A is incorrect because the risk tolerance of the organization defines its risk budget, not the other way around.

C is incorrect because hedging can be a part of risk budgeting if it produces the best returns per unit of the risk budget.

Risk Management: An Introduction
LOS e
Section 3.3

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

A employer accepts the investment risk.

B employer provides a specified retirement benefit.

C employee accepts the investment risk.

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

A is incorrect. This is a feature of a defined-benefit plan.

B is incorrect. This is a feature of a defined-benefit plan.

Portfolio Management: An Overview
LOS c
Section 3

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

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

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

A 0.43.

B 0.23.

C 1.88.

A is correct.

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

B is incorrect. This is the value for σ_i.

$\sigma_i = \text{Cov}(R_i,R_m)/(\sigma_m \times \rho_{i,m}) = 0.01104/(0.16 \times 0.3) = 0.23$

C is incorrect. Instead of Cov(R_i,R_m), $\rho_{i,m}$ is used in the formula: $0.3/(0.16)^2 = 1.88$.

Portfolio Risk and Return: Part II
LOS e
Section 3.2.4

86 An example of risk transfer combined with self-insurance is *most likely*:

A a bond portfolio hedged with an interest rate option.

B an insurance policy with a deductible.

C a bank that establishes a loan loss reserve fund.

B is correct. Risk transfer is accomplished through an insurance policy. A deductible in an insurance policy means the insured is bearing some of the risk of loss and thereby (partially) self-insuring. Hedging with derivatives accomplishes risk shifting, not risk transfer. A bank loan loss reserve is a form of self-insurance combined with diversification, but it does not include risk transfer.

A is incorrect because hedging with derivatives accomplishes risk shifting, not risk transfer.

C is incorrect because a bank loan loss reserve is a form of self-insurance combined with diversification, but it does not include risk transfer.

Risk Management: An Introduction
LOS g
Section 5.3

87 An industry experiencing slow growth, high prices, and volumes insufficient to achieve economies of scale is *most likely* in the:

A shakeout stage.

B embryonic stage.

C mature stage.

B is correct. An embryonic industry is one that is just beginning to develop and is characterized by slow growth, high prices, volumes not yet sufficient to achieve meaningful economies of scale, developing distribution channels, and low brand loyalty because there is low customer awareness of the industry's product.

A is incorrect. A shakeout stage is usually characterized by slowing growth, intense competition, and declining profitability. In this stage, companies also tend to increasingly focus on reducing their cost structure and building brand loyalty.

C is incorrect. A mature industry is characterized by little or no growth, industry consolidation, and relatively high barriers to entry. The surviving companies tend to have brand loyalty and relatively efficient cost structures.

Introduction to Industry and Company Analysis
LOS h
Section 5.1.5.1

88 Which of the following statements concerning the objectives of market regulation is *least* accurate? Regulators:

A set standards to ensure that all agents acting in the market are skilled.

B promote fair and orderly markets.

C ensure that systems are in place to prevent fraud.

A is correct. Regulators help solve agency problems by setting minimum standards of competence, not skill, for agents and by defining and enforcing minimum standards of practice.

B is incorrect. One of the objectives of market regulation is to promote fair and orderly markets in which traders can trade at prices that accurately reflect fundamental values.

C is incorrect. Regulators ensure that systems are in place to protect customers from fraud.

Market Organization and Structure
LOS l
Section 10

89 For portfolio managers of passive funds, market indexes are *least* useful as:

A proxies to measure systematic risk.

B benchmarks for portfolio performance attribution.

C tools to develop exchange-traded funds for non-accessible markets.

B is correct. Market indexes are used as benchmarks for actively managed portfolios, which is not relevant to passively managed funds.

A is incorrect. Market indexes are used as proxies to measure systematic risk. The use is relevant to passively managed funds.

C is incorrect. Market indexes are used as model portfolios to develop new ETFs. The use is relevant to these portfolio managers as some emerging markets are not easily accessible for direct investments.

Security Market Indexes
LOS g
Section 4

90 An investor buys a stock on margin. Assume that the interest on the loan and the dividend are both paid at the end of the holding period. The data related to the transaction are as follows:

Number of shares	500
Purchase price per share	$28
Leverage ratio	3.33
Commission	$0.05/share
Position holding period	Six months
Sale price per share	$30
Call money rate	5% per year
Dividend	$0.40/share

The investor's total return on this investment over the margin holding period is *closest* to:

A 15.6%.

B 16.7%.

C 21.4%.

C is correct.

Initial investment	[($28 × 500) × (1/3.33)] + ($0.05 × 500)	$4,229
– Purchase commission	$0.05 × 500	– 25
+ Trading gain	($30 – $28) × 500	1,000
– Margin interest paid	$9,800 × 0.05 × 6 months	– 245
+ Dividends received	$0.40 × 500	200
– Sales commission paid	$0.05 × 500	– 25
= Remaining equity		$5,134
Return on investment	($5,134 – $4,229)/$4,229	21.4%

A is incorrect. It computes margin interest for the entire year, not six months.

Initial investment	[($28 × 500) × (1/3.33)] + ($0.05 × 500)	$4,229
– Purchase commission	$0.05 × 500	– 25
+ Trading gain	($30 – $28) × 500	1,000
– Margin interest paid	$9,800 × 0.05	– 490
+ Dividends received	$0.40 × 500	200

– Sales commission paid	$0.05 × 500	– 25
= Remaining equity		$4,889
Return on investment	($4,889 – $4,229)/$4,229	15.6%

B is incorrect. It ignores the dividend received during the margin period.

Initial investment	[($28 × 500) × (1/3.33)] + ($0.05 × 500)	$4,229
– Purchase commission	$0.05 × 500	– 25
+ Trading gain	($30 – $28) × 500	1,000
– Margin interest paid	$9,800 × 0.05 × 6 months	– 245
+ Dividends received		0
– Sales commission paid	$0.05 × 500	– 25
= Remaining equity		$4,934
Return on investment	($4,934 – $4,229)/$4,229	16.7%

Market Organization and Structure
LOS f
Section 5.2

91 Which of the following statements concerning the use of industry analysis is most accurate? Industry analysis is *most* useful for:

A sector allocations in passive equity portfolios.

B portfolio performance attribution.

C evaluating market efficiency.

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

A is incorrect. Industry analysis is used for identifying active equity investment opportunities, not passive allocation.

C is incorrect. Key determinants of the forms of market efficiency are types of available information that is reflected in market prices.

Introduction to Industry and Company Analysis
Sections 1–2
LOS a

92 An analyst will *most likely* put a "sell" recommendation on a stock when its:

A intrinsic value is positive.

B market value is higher than intrinsic value.

C market value is lower than fundamental value.

B is correct. Intrinsic value is the true value so an analyst will put a "sell" recommendation on a stock when its market value, the price at which a stock is traded, is higher than intrinsic value.

A is incorrect. Positive intrinsic value would not warrant a "sell" recommendation on a stock. An analyst must compare its market value to intrinsic value.

C is incorrect. If a stock's market value is lower than its fundamental (intrinsic) value, a stock is undervalued, so an analyst will put a "buy" not a "sell" recommendation on it.

Market Efficiency
LOS b
Section 2.2

93 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

C is correct. 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.

B is incorrect. A high dividend payout ratio is not a preferred characteristic for MBO.

A is incorrect. Companies with low levels of cash flow are not preferred candidates for MBO.

Overview of Equity Securities
LOS c
Section 4

94 A portfolio of securities representing a given security market, market segment, or asset class is best described as a:

A benchmark.

B security market index.

C total return index.

B is correct. A security market index represents a given security market, market segment, or asset class and is normally constructed as portfolios of marketable securities.

A is incorrect. A security market index represents a given security market, market segment, or asset class. A benchmark is a comparison portfolio and is used to evaluate the performance of active portfolio managers.

C is incorrect. A total return index reflects not only the prices of the constituent securities but also the reinvestment of all income received since inception.

Security Market Indexes
LOS a
Section 2

95 An investor gathers the following information about a company:

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

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

A $28.36.

B $29.65.

C $29.08.

B is correct.

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

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

$$= \$29.65$$

A is incorrect. It uses the historical growth rate and the constant growth model for estimating the intrinsic value.

$$V_0 = \frac{3 \times 1.04}{0.15 - 0.04}$$

$$= \$28.36$$

B is incorrect. It uses the historical growth rate rather than an analyst's growth forecast.

$$V_0 = \frac{3 \times 1.04}{1 + 0.15} + \frac{3 \times (1.04)^2}{(1 + 0.15)^2} + \frac{\left[3 \times (1.04)^3\right] + 33}{(1 + 0.15)^3}$$

$$= 2.71 + 2.45 + 2.22 + 21.70$$

$$= \$29.08$$

Equity Valuation: Concepts and Basic Tools
LOS g
Section 4.3

96 A company's non-callable, non-convertible preferred stock that pays an annual dividend of $3.75 is currently selling at its par value of $50 per share. If the required rate of return increases by 75 bps, the preferred stock's new price is *closest* to:

A $45.45.

B $49.50.

C $55.56.

A is correct.

Investors' current required return = \$3.75/\$50 = 7.50%

New required return = 7.50% + 0.75% = 8.25%

New market price = \$3.75/0.0825 = \$45.45

B is incorrect. Mistake in computing new return.

Investors' current required return = \$3.75/\$50 = 7.50%

New required return = 7.50% + 0.075 = 7.575%

New market price = \$3.75/0.07575 = \$49.50

C is incorrect. It mistakenly subtracts the increase in the required return.

New required return = 7.50% – 0.75% = 6.75%

New market price = \$3.75/0.0675 = \$55.56

Equity Valuation: Concepts and Basic Tools
LOS f
Section 4.1

97 An investor considering the enterprise value approach to valuation gathers the following data:

Earnings before interest, taxes, depreciation, and amortization (EBITDA)	\$65.8 million
Value of debt	\$90.0 million
Value of preferred stock	\$25.4 million
Cash and marketable securities	\$6.9 million
Number of common shares outstanding	12.5 million
Firm's tax rate	30%
EV/EBITDA multiple	6×

The value per share of the company's common stock is *closest* to:

A \$13.43.

B \$22.35.

C \$22.90.

C is correct. First, compute the enterprise value (EV) from EBITDA × EV/EBITDA multiple.

Next, determine market capitalization (value of equity per share) using the following expression:

EV = Market capitalization + Market value (MV) of preferred stock + MV of debt – Cash and investments

Market capitalization = EV – MV of preferred stock – MV of debt + Cash and investments

Value per share = Market capitalization/Number of outstanding shares

Enterprise value = 65.8 × 6	394.8
– Value of debt	–90.0

– Value of preferred stock	–25.4
+ Cash and marketable securities	6.9
= Market capitalization, or value of equity	286.3
Value per share = 286.3/12.5	$22.90

A is incorrect. It adjusts EBITDA for tax effect.

Enterprise value = 65.8 × (1 – 0.30) × 6	276.4
– Value of debt	–90.0
– Value of preferred stock	–25.4
+ Cash and marketable securities	6.9
= Market capitalization or Value of equity	167.9
Value per share = 167.9/12.5	$13.43

B is incorrect. It ignores adjusting for cash and marketable securities.

Enterprise value = 65.8 × 6	394.8
– Value of debt	–90.0
– Value of preferred stock	–25.4
+ Cash and marketable securities	N/A
= Market capitalization or Value of equity	279.40
Value per share = 279.40/12.5	$22.35

Equity Valuation: Concepts and Basic Tools
LOS k
Section 5.4

98 In behavioral finance, which of the following statements *best* describes the bias of conservatism? Investors:

A tend to be slow to react to new information and continue to maintain their prior views or forecasts.

B focus on issues in isolation and respond to the issues based on how the issues are posed.

C assess new information and probabilities of outcomes based on similarity to the current state.

A is correct. Conservatism is a behavioral bias in which investors tend to be slow to react to new information and continue to maintain their prior views or forecasts.

B is incorrect. If investors focus on issues in isolation and respond to the issues based on how the issues are posed, then they show a behavioral bias called narrow framing.

C is incorrect. If investors assess new information and probabilities of outcomes based on similarity to the current state or to a familiar classification, then they show a behavioral bias called representativeness.

Market Efficiency
LOS g
Section 5.5

99 In a low interest rate environment, the effective duration of a callable bond relative to a comparable non-callable bond, will *most likely* be:

A higher.

B lower.

C the same.

B is correct. When interest rates are low, the callable bond's price will not increase as much because the presence of the call option will limit the price increase. Because the bond is likely to be called when interest rates are falling, the embedded call option will reduce the effective duration of the bond.

A is incorrect because in a falling interest rate environment the effective duration of a callable bond will be lower, not higher, than the effective duration of a comparable non-callable bond.

C is incorrect because in a falling interest rate environment the effective duration of a callable bond will be lower than the effective duration of a comparable non-callable bond.

Understanding Fixed-Income Risk and Return
LOS e
Section 3.3

100 The following table provides a history of a fixed-income security's coupon rate and the risk-free rate over a five-year period.

Year	Risk-Free Rate	Coupon Rate
1	3.00%	6.00%
2	3.50%	5.00%
3	4.25%	3.50%
4	3.70%	4.60%
5	3.25%	5.50%

The security is *most likely* a(n):

A inverse floater.

B deferred coupon bond.

C step-up note.

A is correct. Because the security's coupon rate moves in the opposite direction (or inversely) from the risk-free rate, it is an inverse floater. (Specifically, Coupon rate = 12.00% – 2 × Risk-free rate.)

B is incorrect because a deferred coupon bond does not pay interest during the first years of its life.

C is incorrect because a step-up note's coupon rate increases following a predetermined pattern, irrespective of changes in the market index.

Fixed-Income Securities: Defining Elements
LOS e
Section 4.2

101 The type of residential mortgage *least likely* to contain a "balloon" payment is a(n):

A interest-only mortgage.

B fully amortizing mortgage.

C partially amortizing mortgage.

B is correct. A fully amortizing mortgage is least likely to contain a balloon payment because the sum of all the scheduled principal repayments during the mortgage's life is such that when the last mortgage payment is made the loan is paid in full.

A is incorrect because in some interest-only mortgages ("bullet" mortgages) there are no scheduled principal repayments over the entire life of the loan. In such cases, the balloon payment is equal to the original loan amount.

C is incorrect because in a partially amortizing mortgage, the sum of all the scheduled principal repayments is less than the amount borrowed where the last payment made is the unpaid mortgage balance, or a balloon payment.

Introduction to Asset-Backed Securities
LOS c
Section 4.3

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

A amortizing security.

B zero-coupon bond.

C callable bond.

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

A is incorrect because the investor has to reinvest the amortized principle before the maturity.

C is incorrect because when a callable bond is called before the maturity, the investor is facing the reinvestment risk between the call date to the maturity.

Understanding Fixed-Income Risk and Return
LOS a
Section 2

103 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? The price:

A decreases then increases.

B increases then decreases.

C decreases then remains unchanged.

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A is correct. 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.

B is incorrect. The price action is reversed.

C is incorrect because as the bond approaches maturity its price will increase as it is "pulled to par."

Introduction to Fixed-Income Valuation
LOS b
Section 2.3

104 Using the following US Treasury forward rates, the value of a 2.5-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 $104.87.

B $101.52.

C $106.83.

C is correct. The value of the bond is

$$\frac{2.5}{(1+0.012/2)}+\frac{2.5}{(1+0.012/2)\times(1+0.18/2)}+\frac{2.5}{(1+0.012/2)\times(1+0.018/2)\times(1+0.023/2)}+\frac{2.5}{(1+0.012/2)\times(1+0.018/2)\times(1+0.023/2)\times(1+0.027/2)}+\frac{2.5}{(1+0.012/2)\times(1+0.018/2)\times(1+0.023/2)\times(1+0.027/2)\times(1+0.030/2)}=\$106.83$$

A is incorrect because it treats the forward rates as spot rates.

B is incorrect because it does not divide the forward rates by two.

Introduction to Fixed-Income Valuation
LOS h
Section 4

105 Which bonds *most likely* rank the highest with respect to priority of claims?

A Subordinated debt

B Second lien debt

C Senior unsecured bond

B is correct. Second lien debt has a secured interest in the pledged assets and ranks higher than the unsecured debt, such as senior unsecured bonds and subordinated debt.

A is incorrect because subordinated debts are the lowest rank among those three.

C is incorrect because senior unsecured bonds are a type of unsecured claim. They rank lower than second lien debts, which are secured claims to the pledged assets.

Fundamentals of Credit Analysis
LOS b
Section 3.2

106 A bond has a 10-year maturity, a $1,000 face value, and a 7% coupon rate. If the market requires a yield of 8% on similar bonds, it will *most likely* trade at a:

A discount.

B premium.

C discount or premium, depending on its duration.

A is correct. When the required yield is higher than the coupon rate, the bond will trade at a discount to par.

B is incorrect because a bond trades at a premium when the required yield is less than the coupon rate.

C is incorrect because a bond trades at a discount when the required yield is higher than the coupon rate.

Introduction to Fixed-Income Valuation
LOS e
Section 2.2

107 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 less by interest rate changes and exhibit a lower correlation with movements in equity markets.

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

A is correct. 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.

B is incorrect because the spread movement on high-yield bonds is less influenced by interest rate changes than are investment-grade bonds, and they exhibit greater, not lower, correlation with movements in equity markets.

C is incorrect because the spread movements on high-yield bonds are less, not more, influenced by interest rate changes than are investment-grade bonds, and they exhibit greater correlation with movements in equity markets.

Fundamentals of Credit Analysis
LOS j
Section 7.1

108 A bond has a duration of 4.50 and convexity of 39.20. If interest rates increase by 0.5%, the percentage change in the bond's price will be closest to:

A –2.20%.

B –2.15%.

C –2.25%.

A is correct. Incorporating both duration and convexity, the percentage change in a bond's price = $(-\text{Duration} \times \Delta y) + (0.5 \times C \times (\Delta y)^2) = (-4.50 \times 0.005) + (0.5 \times 39.20 \times 0.005^2) = -0.0220$ or –2.20%.

B is incorrect because it treats the convexity as positive rather than negative.

C is incorrect because it ignores convexity.

Understanding Fixed-Income Risk and Return
LOS i
Section 3.6

109 China Construction Development Corporation needs to finance a three-year construction project in Singapore. The corporation plans to issue a bond with coupon payments to be paid in Chinese yuan and principal to be repaid in Singapore dollars. This bond is *most likely* an example of a:

A dual currency bond.

B currency option bond.

C foreign currency bond.

A is correct. A dual currency bond makes coupon payments in one currency and pays the par value at maturity in another currency.

B is incorrect because a currency option bond gives bondholders the right to choose the currency in which they want to receive interest payments and principal repayments.

C is incorrect because a foreign currency bond is issued in foreign currency for both principal and interest payments.

Fixed-Income Securities: Defining Elements
LOS a
Section 2.1.5

110 Which of the following are *most likely* a kind of supranational bonds? Bonds issued by the:

A Federal Farm Agency of the United States.

B Government of Malaysia.

C European Investment Bank.

C is correct. Supranational bonds are bonds issued by such supranational agencies as the European Investment Bank and the International Monetary Fund.

A is incorrect because bonds issued by Federal Farm Agency of the United States are a type of quasi-government bonds.

B is incorrect because bonds issued by the government of Malaysia are a type of government bonds.

Fixed-Income Markets: Issuance, Trading, and Funding
LOS e
Section 5.3

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

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

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

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

C is correct. Put-call-forward parity can be written as:

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

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

A is incorrect. Neither put–call parity nor put–call–forward parity support this interpretation.

B is incorrect. Neither put–call parity nor put–call–forward parity support this interpretation.

Basics of Derivative Pricing and Valuation
LOS m
Section 4.1.9

112 Which of the following is *least likely* to be an example of a derivative?

A An exchange-traded fund

B A contract to sell Alphabet Inc.'s shares at a fixed price

C A contract to buy Australian dollars at a predetermined exchange rate

A is correct. Although an exchange-traded fund derives its value from the underlying assets it holds, it does not transform the performance of those assets and so is not a derivative.

B is incorrect. A contract to sell Alphabet Inc.'s shares transforms the performance of the underlying shares of Alphabet Inc and is an example of an option derivative.

C is incorrect. A contract to buy Australian dollars transforms the performance of the underlying currency and is an example of a currency derivative.

Derivative Markets and Instruments
LOS a
Section 2

113 Which of the following is *least likely* one of the main benefits of derivative markets? Derivative markets:

A exhibit lower volatility compared with the spot market.

B enable companies to more easily practice risk management.

C reveal prices and volatility of the underlying assets.

A is correct. Derivative markets are not necessarily more or less volatile than spot markets. Derivative markets reveal prices and volatilities of the underlying assets and facilitate risk management.

B is incorrect. One of the main purposes of derivative markets is risk management

C is incorrect. One of the main purposes of derivative markets is price discovery.

Derivative Markets and Instruments
LOS d
Section 5

114 If a forward contract requires no cash outlay at initiation, it is *most likely* true that at initiation:

A value exceeds price.

B price exceeds value.

C price is equal to value.

B is correct. At initiation, value is equal to zero. Price is a positive number that states the amount that must be paid when the purchase takes place.

A is incorrect. Value is zero; price is a positive number.

C is incorrect. Value is zero; price is a positive number.

Basics of Derivative Pricing and Valuation
LOS b
Section 2.4

115 A swap that involves the exchange of a fixed payment for a floating payment can be interpreted as a series of forward contracts with different expiration dates. These implied forward contracts will *most likely* have:

A different prices due to differences in the price of the underlying at expiration.

B identical prices.

C different prices due to differences in the cost of carry.

C is correct. Due to differences in the cost of carry, implied forward contracts will have different prices. The differences in the cost of carry stem from the timing differences of the payments.

A is incorrect. Differences in price are due to differences in the cost of carry. The price of the underlying at expiration is irrelevant for the price. It determines the value of the swap.

B is incorrect. The prices will be different due to differences in the cost of carry.

Basics of Derivative Pricing and Valuation
LOS g
Section 3.3

116 In the context of venture capital financing, seed-stage financing *most likely* supports:

A initial commercial production and sales.

B product development and/or marketing efforts.

C transformation of an idea into a business plan.

B is correct. Support of product development and/or marketing efforts takes place during seed-stage financing.

A is incorrect. Support of initial commercial production and sales takes place during early stage financing.

C is incorrect. Support in the transformation of an idea into a business plan takes place during angel investing.

Introduction to Alternative Investments
LOS b
Section 4.2.2

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

A higher level of due diligence expertise.

B multilayered fee structure.

C ability to negotiate better redemption terms.

B is correct. Funds of funds have a multilayered fee structure that will reduce the returns to the investor.

A is incorrect because one advantage of fund of funds is that they usually have a high level of due diligence expertise.

C is incorrect because another advantage of fund of funds is their ability to negotiate better redemption terms such as shorter lockup and notice periods.

Introduction to Alternative Investments
LOS d
Section 3

118 The return on a commodity index is *likely* to be different from returns on the underlying commodities because:

A data are subject to survivorship bias.

B indices are constructed using futures contracts.

C assets are not marked to market.

B is correct. Because commodity indices are constructed using commodity futures and not the underlying commodities, there can be differences between commodity index returns and the returns of the underlying commodities.

A is incorrect. There are no survivorship bias concerns with commodity index returns (that is a concern with hedge fund and private equity returns).

C is incorrect. Commodity index returns reflect market values, but private equity returns may not.

Introduction to Alternative Investments
LOS e
Section 6.1

119 Which of the following infrastructure investments would *most likely* be easiest to value? A:

A master limited partnership holding greenfield investments.

B master limited partnership holding brownfield investments.

C private equity fund holding brownfield investments.

B is correct. A master limited partnership (MLP) is publicly traded, whereas a private equity fund is not. Therefore the MLP will have market pricing information to help with valuation. A brownfield investment is an existing asset that likely has operational and financial history to aid in valuation; a greenfield investment is in new construction.

A is incorrect because greenfield investments have no operational or financial history to aid in valuation, whereas brownfield investments do.

C is incorrect because master limited partnerships are publicly traded, with market pricing data available for valuation purposes, whereas private equity funds are not.

Introduction to Alternative Investments
LOS f
Section 7

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

A Fixed-income convertible arbitrage

B Quantitative directional

C Merger arbitrage

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

A is incorrect. Fixed-income convertible arbitrage is a relative value strategy.

B is incorrect. Quantitative directional is an example of an equity hedge strategy.

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Section 3.1