


2018

CFA® EXAM REVIEW



ANSWERS
AND
SOLUTIONS

LEVEL I CFA®
MOCK EXAM

WILEY

Copyright © 2018 by John Wiley & Sons Inc
All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600, or on the Web at www.copyright.com. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>. Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages. For general information on our other products and services or for technical support, please visit www.efficientlearning.com/cfa or contact our Customer Care Department at info@efficientlearning.com.

CFA Institute does not endorse, promote, or warrant the accuracy or quality of the products and services offered by Wiley Efficient Learning. CFA Institute, CFA® and Chartered Financial Analyst® are registered trademarks owned by CFA Institute.

Mock Exam 6 – Morning Session – Solutions

Questions 1–18 Ethical and Professional Standards

1. Which of the following statements is *most accurate*? The CFA Institute Code and Standards are an example of:
- A. rule-based standards.
 - B. principle-based standards.
 - C. government-mandated legislation.

Answer: B

The CFA Code and Standards are principle-based and applicable to all candidates and members across various roles, locations, and situations. They are based on shared principles of honesty, integrity, transparency, diligence, and placing clients' interests first.

2. Brian Milton, CFA, works as an equity analyst and has recently taken over the coverage of North American bank research. The previous analyst for the sector has been promoted to VP of equity research and has asked Milton to maintain recommendations for most of the covered banks. As this is common practice in his firm, Milton agrees to this request. In maintaining the recommendations, which of the following statements is *most correct*? Milton has:
- A. violated CFA standards.
 - B. not violated CFA standards, as he is following company practices.
 - C. not violated CFA standards, as there is a reasonable basis for the recommendation.

Answer: A

Milton should only issue recommendations based on his own independent judgement. In maintaining the recommendations, he is likely to be violating the Standard I(B) Independence and Objectivity.

3. In the bibliography for a manuscript titled *Wealth Management in New Zealand* by May Heung, CFA, the following statements are included:

Statement 1: Heung has long been one of the premier investment professionals in New Zealand, being one of the first in the country to complete the CFA program.

Statement 2: The CFA program is one of the most respected and prestigious investment management designations in the world.

Statement 3: As a CFA, Heung has delivered expert investment advice to individuals and institutions for over 20 years.

Which statement has *most likely* violated CFA standards?

- A. Statement 1
- B. Statement 2
- C. Statement 3

Answer: C

In Statement 3, “CFA” is incorrectly used as a noun instead of an adjective. This is a violation of Standard VII(B) Reference to CFA Institute, the CFA Designation, and the CFA Program.

4. Carmichael Ho, CFA, is a broker at Far-West Securities LLC, where he earns a base salary plus a portion of trade commissions above a minimum trade level. After receiving a number of internal reports recommending to sell a particular holding, Ho decides it appropriate to swap this holding with a more favorable company for most of his clients. This trade allows Ho to earn a substantial bonus for the quarter. Which of the following statements is *most accurate*?
- A. Ho has not violated the Code and Standards.
 - B. To remain compliant with the Codes and Standards, Ho should reject the bonus for the quarter.
 - C. To remain compliant with the Codes and Standards, Ho should include only one side of the trade in bonus calculations.

Answer: A

There is no evidence that Ho has engaged in excessive trading in order to reach his bonus targets and thus he is not likely in violation of Standard III(A) Loyalty, Prudence, and Care.

5. Jason Stein, CFA, is the head of trading at Cumulo Asset Management (CAM). To facilitate currency transactions for the various CAM portfolios, Stein currently uses the services of Mountain FX, who consistently provides superior rates and spreads. A competitor company, Go Currency Solutions, has recently sent Stein two box tickets to an major upcoming sporting event. In order to avoid violating CFA Codes and Standards, which of the following actions is *least appropriate*? Stein should:
- A. not accept the tickets.
 - B. disclose the gift to his firm.
 - C. accept the tickets, but refuse to use the services of Go Currency Solutions.

Answer: C

Refusing to use the services of Go Currency Solutions might reduce the perception of a conflict of interest, but the gift would still unduly influence appropriate decision making. For example, if Go Currency Solutions became the lower cost or best performing provider, not using them would be a disservice to the firm or clients. Thus, the tickets should not be accepted.

6. Jessica Vine, CFA, works as a portfolio manager for a GIPS-compliant firm in Country X. Investment performance regulations in Country X conflict with GIPS, and Vine is currently preparing a performance presentation for the previous year. Which of the following actions should Vine *most likely* follow? For any specific conflict, Vine should:
- A. follow the stricter of either the local regulations or GIPS.
 - B. present performance figures under both the local regulations and GIPS.
 - C. adhere to local regulations and disclose the conflict in the presentation for GIPS compliance.

Answer: C

In cases in which laws and/or regulations conflict with the GIPS standards, firms are required to comply with the laws and regulations and make full disclosure of the conflict in the compliant presentation. This is regardless of perceived strictness of the standards.

7. Benny Mao, CFA, is the compliance officer for Redmiser Wealth Management. New legislation requires all financial service firms to disclose information for all clients who have transacted more than \$1 million in net assets overseas during the past 12 months. Due to the potential cost to the firm of extrapolating out affected clients, and to be safe, Mao provides authorities with information on all existing clients who have had overseas transactions in the past 12 months. Mao has *least likely*:
- A. complied with the CFA standards.
 - B. violated the CFA standards by reporting on more clients than necessary.
 - C. violated the CFA standards by including only existing client information.

Answer: A

In accordance with Standard III(E) Preservation of Confidentiality, members have a duty of care to clients to not disclose personal information unless the client has given permission to do so, or if required by law, or there are illegal activities involved. The legal requirement was specific to clients who had transactions over a certain amount, therefore, providing details of clients who did not fit into this category was a violation of this standard.

8. Mikael Vincheyk, CFA, is the portfolio manager for a strong-performing micro-cap equity fund. Each quarter, Vincheyk receives a 5% performance fee from the fund should it beat its benchmark and hurdle rate. This quarter, the fund is close to achieving its performance bonus, but some poor news just before the end of the quarter about one of its holdings, Evershine LLC, has caused the fund to lose a substantial amount. Vincheyk decides to post on a blog his opinion that the market reaction to this stock has been overblown. On the last day of the quarter, Vincheyk puts in a large buy order for the stock, which is several multiples above the daily trade volume. As a result, the stock price rebounds back to its previous level and he reduces the portfolio's holding in Evershine over the following few weeks. Vincheyk has *most likely*:
- A. complied with CFA standards.
 - B. violated CFA standards relating to his blog post.
 - C. violated CFA standards relating to his trading in Evershine.

Answer: C

Vincheyk has violated Standard II(B) by *most likely* seeking to artificially increase the price of Evershine on the last day of the quarter.

9. Regarding GIPS compliance, which of the following statements is *most accurate*? For periods on or after 1 January 2011, reporting on total firm assets:
- A. include all accounts of the firm.
 - B. can exclude non-fee paying accounts.
 - C. can exclude nondiscretionary accounts.

Answer: A

According to GIPS, total firm assets must be the aggregate fair value of all discretionary and nondiscretionary assets managed by the firm, including both fee paying and non-fee paying accounts.

10. Henrietta Jessop, CFA, has received an allocation of shares in a new IPO for her wealth management clients, of which three had requested to participate in the new listing. Due to an oversubscription, the amounts requested cannot be met in full. Due to the popularity of the float, two more clients have also requested some of the IPO allocation. Which of the following actions is *least likely* a violation of CFA standards? Jessop could:
- A. distribute the IPO shares evenly among the five clients.
 - B. allocate the IPO shares to the three initial clients as a pro-rata of their requested allocations.
 - C. allocate the minimum share allotment to the three initial clients and any excess allocation to her personal account.

Answer: B

It would not be fair for one client to receive their full requested allotment, while the other subscribed clients receive less. Thus, in accordance with Standard III(B) Fair Dealing, it is appropriate to pro-rata allocations on oversubscribed issues.

11. Carrie Phillips, CFA, manages the ABC Diversified Growth Fund, as well as the International equity portfolios for various ABC clients and the model portfolio for international equities, which is used by internal managers and external clients. In preparing GIPS-compliant performance data for the ABC International equity composite, which of the following is *least appropriate*?
- A. The composite may include the ABC model portfolio data.
 - B. The composite must include terminated portfolios in historical performance data.
 - C. The composite may include the international equity segment of the ABC Diversified Growth Fund under strict circumstances.

Answer: A

In accordance with GIPS, composite performance figures must only include actual portfolios, and not simulated or model portfolios.

12. The Haley Kumar Global Fund has been trading for the past 4 years and has recently become GIPS compliant. In regard to presenting and reporting requirements, which of the following is *most correct*?
- A. The firm will have to wait 1 year to present its first GIPS compliant report.
 - B. After 1 year, the firm is required to present only 5 years of performance data ongoing.
 - C. The firm is required to increase the performance data for the fund every year by 1 year, until it reaches 10 years of performance data.

Answer: C

After a firm presents the minimum 5 years of data, it is required to extend this to 10 years of data over the proceeding 5 years (i.e., increase the performance data to 10 years by increasing the period by 1 year per year).

13. Which of the following statements is *most correct*? An ethical decision-making framework:
- A. can help reduce unexpected consequences.
 - B. is a tool to improve compliance with the law.
 - C. is redundant when employees follow the law.

Answer: A

The integration of ethics into the decision-making process enhances the ability and the motivation of employees to act ethically. An ethical decision-making framework is a tool to improve adherence to a code of ethics and can help to reduce unanticipated ethical lapses and unexpected consequences.

14. Gerard Smoot, CFA, works as an asset consultant and resides in Patania, which is a small island country with laws and regulations considered to be less strict than the CFA Code and Standards. He has recently been hired to assist with fund manager selection for a company in Berenland, a neighboring country with laws and regulations stricter than the CFA Code and Standards. If Berenland law applies to his investment work, which of the following statements is *most correct*? As a CFA member, Smoot must adhere to:
- A. Patania law.
 - B. Berenland law.
 - C. CFA Code and Standards.

Answer: B

CFA members should adhere to the CFA Code and Standards unless a stricter law applies. As Berenland has more strict securities law, Smoot should adhere to this legislation.

15. Monty Wordsmith, CFA, works as a portfolio manager and is currently putting together some marketing material for a new fund strategy. The strategy of the fund is partly based on some new external research into momentum drivers in illiquid securities, and in the material, he uses a number of graphs he finds on a website, which he thinks might have been copied from the external research article. Which of the following statements is *most correct*? To comply with CFA standards, Wordsmith should:
- A. reproduce the graphs with minor changes and make no citations.
 - B. cite only the website if he has not reviewed the original research article.
 - C. cite only the research article if he has found the graphs to be a reproduction from the research article.

Answer: C

In accordance with Standard I(C) Misrepresentation, members must not present others' work as their own and should acknowledge all sources. If the true author of the graphs is found to be the author of the research article, the website need not be referenced.

16. Ben Sosa, CFA, is an equity analyst for a large fund manager based in Boston. He is currently researching MoreCover LLC, a manufacturer of roofing materials and is due to release an updated recommendation report. Sosa is impressed with the board and its strategy and expects the company to perform well. An industry analysis for the company shows that the construction sector has some strong economic tailwinds with industry growth likely to be above average over the coming 3 years. MoreCover has only one major competitor in North America, New England Rooftops (NER) LLC, which has its main factory close to Sosa's home. In a visit to a local store, Sosa overhears two NER factory workers discussing their concerns about the state of the factory and the overall discontent of the workforce. Sosa finishes his research report the following week and upgrades MoreCover to a "Strong Buy" recommendation. Which of the following statements is *most correct*? Sosa has:
- A. not violated CFA standards.
 - B. violated CFA standards as he has no reasonable basis for his recommendation.
 - C. violated CFA standards as he has utilized nonpublic information in forming his recommendation.

Answer: A

Members are not permitted to use material, nonpublic information in forming investment recommendations; however, there is no evidence that Sosa has done so in this case. He has likely used material, public information in his company and industry analysis and the conversation he overheard in the local store would likely be immaterial, nonpublic information. Under the "mosaic theory," analysts are permitted to use such information in building their recommendations.

17. Keith Samuels, CFA, works for Beta Investments and Research (BIR) as an asset consultant. BIR has been contracted to provide an independent asset consultant for the Southern Coast Pension Scheme, and Samuels has been appointed as BIR's representative. Which of the following statements regarding his appointment is *most correct*? In his role as an asset consultant to the pension fund, Samuel's ultimate loyalty lies with:
- A. his employer.
 - B. the pension fund.
 - C. the pension fund clients.

Answer: C

In accordance with Standard III(A) Loyalty, Prudence, and Care, members must place their client's interests above that of their employer or their own. The investment client is the individual or group who are ultimately affected by the investment decisions, which in this case is the clients of the pension fund.

18. Veronika Chan, CFA, manages the fixed income portfolios of Poste Lever Investments (PLI), a large fund manager based in London. She has recently been headhunted by a rival firm based in Frankfurt and she is about to resign her position at PLI. Prior to resigning, she downloads the various pricing models that she has created herself, and leaves behind the work of others. She also makes a number of aggressive portfolio transactions in an effort to boost her final bonus payment. While serving her "noncompete" period, she posts a message on her personal social media account, thanking PLI and clients for the opportunity to work with them. In regard to her conduct, Chan has *least likely* violated the CFA standards by:
- A. downloading the pricing models.
 - B. making the portfolio transactions.
 - C. posting the social media message.

Answer: C

Even though the social media message was posted during her "noncompete" period, it would be likely for Chan to expect that clients were already aware of her departure and thus her simple message would not likely be a contravention of her employment agreement or a violation of Standard IV(A) Loyalty.

Questions 19–32 Quantitative Methods

19. Terrence Barnes, CFA, has calculated the effective annual yield on a security to be 24.62%. If he has held the asset for 52 days and plans to hold onto it indefinitely, the holding period yield for the past 52 days is *closest to*:

A. 3.2%
B. 3.6%
C. 24.6%

Answer: A

$$\begin{aligned}\text{HPY} &= (1 + \text{EAY})^{t/365} - 1 \\ &= (1.2462)^{52/365} - 1 \\ &= 3.19\%\end{aligned}$$

20. The probability of a recession in the next 3 years is deemed to be 32% and the probability of both a recession occurring and a localized flood occurring over the next 3 years is estimated to be 26%. If the probability of a recession occurring given that a localized flood has occurred over the next 3 years is 40%, the probability of either a recession or localized flood occurring in the next 3 years is *closest to*:

A. 71%
B. 92%
C. 98%

Answer: A

$$P(R/F) = \frac{P(R \cap F)}{P(F)}$$

Therefore,

$$\begin{aligned}P(F) &= \frac{P(R \cap F)}{P(R/F)} \\ &= 26\%/40\% \\ &= 65.0\%\end{aligned}$$

$$\begin{aligned}P(R \cup F) &= P(R) + P(F) - P(R \cap F) \\ &= 32\% + 65\% - 26\% \\ &= 71\%\end{aligned}$$

21. Which of the following statements is *most correct*? The ratio of the standard deviation of a set of data to its mean is also known as:
- A. the Sharpe ratio.
B. standard error.
C. the coefficient of variation.

Answer: C

The ratio of the standard deviation of a set of data to its mean is known as the coefficient of variation and is a measure to compare relative dispersion between data sets.

22. A portfolio of two assets has the following characteristics:

	Weighting	Expected Annual Return	Expected Annual Standard Deviation
Security A	60%	9.70%	10.80%
Security B	40%	14.80%	19.20%

If the correlation between the two assets is expected be 38%, the annualized standard deviation for the portfolio is *closest to*:

- A. 1.4%
- B. 7.3%
- C. 11.8%

Answer: C

$$\begin{aligned}\sigma &= \sqrt{w_A^2 \sigma_A^2 + w_B^2 \sigma_B^2 + 2w_A w_B \sigma_A \sigma_B \rho} \\ &= 60\%^2 (10.8\%^2) + 40\%^2 (19.2\%^2) + 2(60\%)(40\%)(10.8\%)(19.2\%)(38\%) \\ &= 11.8\%\end{aligned}$$

23. Fund manager A claims that it outperforms its relevant benchmark consistently. To test this claim, a sample of 72 monthly excess returns is taken, with the sample producing a mean of 0.92% and a variance of 0.0452%. Using a *t*-test to test this claim, the test statistic is *closest to*:

- A. 3.7
- B. 31.2
- C. 172.7

Answer: A

The mean excess return (sample less benchmark) has already been identified as 0.92%, therefore:

$$\begin{aligned}t &= \frac{\bar{x} - \mu_0}{(s / \sqrt{n})} \\ &= \frac{0.92\%}{(\sqrt{0.0452\%} / \sqrt{72})} \\ &= 3.67\end{aligned}$$

24. Which of the following statements is *most correct*? In technical analysis, the change in polarity principle might refer to:
- A. a price trend changing direction.
 - B. a resistance level becoming a support level.
 - C. a price movement between support and resistance levels.

Answer: B

The change in polarity principle asserts that once the price rises (falls) through the resistance (support) level, this then becomes the new support (resistance) level.

25. A structured bond product is expected to provide investors with a return of 9.5% per year with a 70% probability, or 3.3% per year with a 30% probability. The likelihood of earning 9.5% every year for at least 4 of the next 5 years is *closest to*:
- A. 36.0%
 - B. 49.0%
 - C. 52.8%

Answer: C

The annual return follows a binomial distribution with five trials. Thus:

$$P(X = x) = {}_n C_x \times p^{(x)} \times p^{(n-x)}$$

$$\begin{aligned} P(X > 4) &= P(X = 4) + P(X = 5) \\ &= {}_5 C_4 \times 70\%^4 \times 30\%^1 + {}_5 C_5 \times 70\%^5 \times 30\%^0 \\ &= 52.82\% \end{aligned}$$

26. The following loan is to be repaid with equal monthly repayments over the next 10 years:

Loan amount	\$20,000
Interest rate	15.0% p.a.
Payment type	Monthly, in arrears

The monthly repayment for this loan is *closest to*:

- A. \$191.67
- B. \$276.67
- C. \$322.67

Answer: C

$$N = 120 \text{ (12 months} \times 10 \text{ years)}$$

$$I/Y = 0.0125 \text{ (15\% p.a./12 months)}$$

$$PV = 20,000$$

$$FV = 0$$

$$PMT = \$322.670$$

27. The Delta X Fund has purchased the following equal lots of 2,000 shares over the past month:

Date	Number of Shares	Share Price
1 March	2,000	26.4
5 March	2,000	23.1
8 March	2,000	24.7
20 March	2,000	28.7
26 March	2,000	27.2

The harmonic mean price for the purchase of the shares is *closest to*:

- A. \$25.87
- B. \$26.02
- C. \$26.29

Answer: A

$$\begin{aligned}
 X_H &= \frac{N}{\sum 1/x_i} \\
 &= \frac{5}{1/26.4 + 1/23.1 + 1/24.7 + 1/28.7 + 1/27.2} \\
 &= \$25.872
 \end{aligned}$$

28. The Golden Diversified Fund is invested in the following asset classes:

Asset Class	Weight	Expected Annual Return	Expected Annual Standard Deviation
A	15%	9.7%	10.8%
B	26%	14.8%	19.2%
C	43%	7.2%	8.1%
D	9%	5.5%	4.2%
E	7%	8.9%	8.9%

The expected annual return of the portfolio is *closest to*:

- A. 8.92%
- B. 9.22%
- C. 9.52%

Answer: C

$$\begin{aligned}
 E(R) &= \sum_{i=1}^n w_i \times r_i \\
 &= 15\% \times 9.7\% + 26\% \times 14.8\% + 43\% \times 7.2\% + 9\% \times 5.5\% + 7\% \times 8.9\% \\
 &= 9.517\%
 \end{aligned}$$

29. Which of the following statements is *least correct*? The lognormal distribution is:
- A. positively skewed.
 - B. is unbounded at its lower end.
 - C. frequently used to model asset price distributions.

Answer: B

The lognormal distribution is generally bounded at its lower end at 0 and has a positive skew.

30. Barry Figgins, CFA, is comparing the following projects for his firm:
- Project 1 has a negative NPV.
 - Project 2 has a positive NPV.
 - Project 3 has a positive NPV and an IRR lower than Project 2.

Given all these projects have the conventional cashflows and the same hurdle rate, which of the following statements is *least correct*?

- A. The IRR for Project 1 is negative.
- B. Project 2's IRR is greater than the hurdle rate.
- C. Proceeding with Project 3 would be expected to increase the value of the firm.

Answer: A

This statement is least correct in that a negative NPV does not mean that the project has a negative IRR. A negative NPV means that the project's IRR is lower than the hurdle rate, which means that it could very well still be positive.

31. Which of the following statements is *most correct*? A discrete random variable can only take:
- A. a countable number of values.
 - B. a finite number of integer values.
 - C. a finite number of positive values.

Answer: A

A discrete random variable can only be assigned a finite number of values, being whole numbers or countable divisions thereof.

32. A certain passive strategy randomly selects five stocks every month from the largest 15 companies on the local stock exchange. The first stock chosen receives the largest allocation of investments with the last chosen receiving the least. Given that the order of selection is important, how many different portfolios are possible each month?
- A. 3,003
 - B. 360,360
 - C. 759,375

Answer: B

As rank is important in the selection, the enumeration is a permutation:

$$\begin{aligned}\text{Number of portfolios} &= {}_{20}P_5 \\ &= 20!/(20 - 5)! \\ &= 360,360\end{aligned}$$

Questions 33–44 Economics

33. Which of the following statements is *most correct*? A market is *likely* to exhibit perfect competition when:

- A. sellers have market-pricing power.
- B. each firm is perceived to produce goods or services with unique characteristics.
- C. the share of each firm's minimum efficient scale is small relative to market demand.

Answer: C

In perfect competition there are likely to be many firms producing the same product. This perfect competition generally arises where a firm's minimum efficient scale (i.e., the production point where long-run average total cost is minimized) is at a quantity that is small enough relative to overall demand so as to warrant the participation of a large number of firms in the market.

34. Which of the following statements is *least correct*? A limitation of the Consumer Price Index (CPI) as a measure of inflation is:

- A. its failure to adequately account for changes in product quality.
- B. its bias toward newer products, which are likely to be more expensive.
- C. that it tends to overestimate inflation where substitutes exist for goods experiencing price rises.

Answer: B

This statement is incorrect as CPI measures are likely to fail to account for newer products. Furthermore, owing to technological advancements, newer products may have lower production costs and may be cheaper than older products.

35. A negative cross-price elasticity between two goods indicates that they are *likely* to be:

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

Answer: B

A negative cross-price elasticity between goods indicates that as the price of one good increases (decreases) the demand for the other good decreases (increases). This occurs when the products are complementary. The cross-price elasticity between substitution goods is positive.

36. Which of the following is *least likely* to be a limitation of monetary policy?
- A. Policy transmission through the economy may be unsuccessful where the central banks lack credibility.
 - B. Monetary policy mechanisms cannot easily control the willingness of banks to lend and create credit.
 - C. A liquidity trap situation may form in which banks refuse to pass on interest rate changes to borrowers and savers.

Answer: C

A liquidity trap situation occurs when individuals refuse to borrow money regardless of falling interest rates, or banks are unwilling to make loans based on additional deposits. It is not a situation where interest rates alone are not transmitted.

37. Which of the following statements is *least correct*? A government's fiscal deficit can be funded by:
- A. a trade surplus.
 - B. inflows of foreign savings.
 - C. savings from the private sector.

Answer: A

Overall,

$$\begin{aligned}(G - S) &= (S - I) - (X - M) \\ &= (S - I) + (M - X)\end{aligned}$$

Thus, a government deficit ($G - S$) is financed by a combination of private sector savings ($S - I$) and the inflows of foreign savings when imports exceed exports ($M - X$).

38. Country X has its own currency, \$X, which is pegged to a basket of major currencies. The central bank of Country X holds foreign currency reserves to cover the entire monetary base of the country and it provides short-term liquidity to the monetary system when necessary. However, it cannot act as a lender of last resort. Country X has *most likely* adopted which kind of currency regime?
- A. Fixed parity system
 - B. Managed float system
 - C. Currency board system

Answer: C

Country X has adopted a currency board system that has tight controls around how the peg to the basket of foreign currencies is managed. This includes mandating the level of foreign reserves in line with trade and capital flows and not allowing the central bank to act as the lender of last resort.

39. The concrete industry in Country J has six suppliers with the following market structure:

Concrete Supplier	Market Share (%)
1	39
2	26
3	13
4	12
5	7
6	3

To better compete with Supplier 1, Supplier 2 intends to merge with Supplier 3. Following the merger, the Herfindahl-Hirschman Index (HHI) of the three largest firms is *closest to*:

- A. 0.32
- B. 0.78
- C. 0.90

Answer: A

HHI_N is calculated by adding up the squares of the market shares of the largest *N* companies in an industry. Therefore, following the merger:

$$\begin{aligned}\text{HHI}_3 &= (0.39)^2 + (0.26 + 0.13)^2 + (0.12)^2 \\ &= 0.3186\end{aligned}$$

40. Which of the following statements is *most correct*? A leftward shift in the aggregate demand curve may be caused by:
- A. an increase in taxes.
 - B. a decrease in the exchange rate.
 - C. an increase in business confidence.

Answer: A

This statement is correct. An increase in taxes is likely to lead to lower consumption and investment and shift the aggregate demand curve to the left, reducing aggregate demand.

41. Which of the following criticisms of the Austrian School of Thought is *least accurate*?
- A. The Austrian school does not offer a theory on business cycles.
 - B. The theory attributes economic booms and busts solely to government intervention.
 - C. In times of economic stress, history has shown that economies might not self-adjust back to equilibrium.

Answer: A

This statement is incorrect as the Austrian School of Thought does offer insight into business cycles, explicitly identifying government intervention as their cause.

42. Which of the following statements is *most appropriate* regarding fiscal tools available to a government?
- A. Direct taxes can be adjusted very quickly.
 - B. Capital spending has a bigger impact on spending than income tax cuts and is quick to implement.
 - C. Tax cuts to the wealthy are likely to have a smaller impact on spending than transfer increases to the poor.

Answer: C

This statement is correct. As the marginal propensity to consume is likely to increase as wealth decreases, transfers to the poor should have a greater impact on aggregate spending than tax cuts to the wealthy.

43. Which of the following statements is *least correct*?
- A. Gross domestic product (GDP) excludes goods produced by citizens outside of the country.
 - B. Gross national product (GNP) includes services produced by foreigners within the country.
 - C. Gross domestic product (GDP) is generally preferred by analysts over gross national product (GNP).

Answer: B

This statement is incorrect as GNP measures the market value of all final goods and services supplied by citizens of a country. Thus, it excludes services produced by foreigners when they are in the country.

44. Vernon Wallace, CFA, is based in Singapore and is looking to buy CAD in order to settle a transaction with a Canadian supplier. The following rates are offered by Bank A and Bank B:

Currency Pair	Bank A	Bank B
USD-CAD	1.2076	1.2107
USD-SGP	1.3166	1.3195

If Wallace can only use separate banks for each currency pair, the cross-rate that Wallace should transact at is *closest to*:

- A. 1.0875
- B. 1.0899
- C. 1.0927

Answer: A

The CAD-SGP is calculated by dividing the USD-SGP rate by the USD-CAD rate. As Wallace is buying CAD and selling SGP he would want the lowest CAD-SGP rate possible. To achieve this (and as he can use separate banks for each leg of the cross), he should use the lowest USD-SGP rate (Bank A) and the highest USD-CAD rate (Bank B). Therefore:

$$\begin{aligned}\text{CAD-SGP} &= 1.3166/1.2107 \\ &= 1.08747\end{aligned}$$

Questions 45–68 Financial Reporting and Analysis

45. Which of the following is *not* a mandatory financial statement under International Financial Reporting Standards (IFRS)?

- A. Income statement
- B. Statement of cash flows
- C. Statement of changes in equity

Answer: A

The four mandatory financial statements under IFRS are: Statement of financial position, Statement of comprehensive income, Statement of changes in equity, Statement of cash flows. The statement of comprehensive income is usually separated into an income statement and a statement of other comprehensive income.

46. Which of the following is *most accurate*? Financial assets that are measured at cost or amortized cost include:
- (i) loans
 - (ii) derivatives
 - (iii) unlisted instruments
 - (iv) held-to-maturity investments

- A. (i) and (ii) only
- B. (iii) and (iv) only
- C. (i), (iii), and (iv) only

Answer: C

This is correct. Loans to debtors, which generally have contracted repayment schedules are measured at amortized cost on the balance sheet. Unlisted instruments, which might not have available market prices, are generally valued at cost. Held-to-maturity securities, which are generally debt securities that are to be held until maturity are measured at amortized cost. However, this statement is incorrect, as loans to debtors, which generally have contracted repayment schedules, are measured at amortized cost on the balance sheet. However, derivatives, in which market values might be obtained, are generally measured at fair value.

47. Georgia Snow, CFA, is conducting research into GenCom LLC, a large company in the telecommunications industry. In so doing, she compares the level of days receivables across similar-sized companies in the industry across a number of years. Snow is *most likely* undertaking which kind of company analysis?
- A. Trend analysis
 - B. Common-size analysis
 - C. Cross-sectional analysis

Answer: C

In comparing a specific metric across a group of companies over a period of time, Snow is undertaking a cross-sectional analysis.

48. Carrywell LLC, a luggage producer based in Dayton, Ohio, is preparing its annual financial reports under US GAAP. There is concern that an older assembly line might need to be repaired and the following information is produced:

• Cost	= \$1,400,000
• Accumulated depreciation	= \$ 920,000
• Estimated net sale value	= \$ 460,000
• Expected future net cash flow	= \$ 55,000 p.a.
• Life of equipment	= 9 years
• Salvage value	= \$ 0

Based on this information, the impairment loss to be recognized by Carrywell is *closest to*:

- A. \$0
- B. \$20,000
- C. \$30,000

Answer: A

Under US GAAP, the first step is to test for impairment by comparing the undiscounted expected cash flows to the carrying amount. The undiscounted cash flow equals \$495,000 ($\$55,000 \times 9$), whereas the carrying amount equals \$480,000 ($\$1,400,000 - \$920,000$). As the carrying amount is greater than the recoverable amount, there is no impairment of the asset to be recognized.

49. Victory Construction LLC leases a crane that would likely be in use for another 15 years. Under which of the following circumstances might the lease *most likely* be classified as an operating lease under US GAAP?
- A. The lease term is 5 years.
 - B. A bargain purchase option exists.
 - C. The lessor gains ownership of the asset at the end of the lease.

Answer: A

Under US GAAP a lease would be classified as a capital lease if the length of the lease was longer than 75% of the asset's useful economic life. As the lease term for the crane is 33% of its useful life, this would not force Victory Construction to record the lease as a capital lease, and hence it might be classified as an operating lease.

50. Which of the following strategies might be used if a company wanted to reduce the level of revenues it recognizes in the current period?

- A. Increasing its allowance for sales returns
- B. Reclassifying inventory as “sold but held”
- C. Setting shipping terms as “FOB destination”

Answer: C

This is correct, as setting shipping terms as “FOB destination” is likely to delay revenue recognition and reduce revenues for the current period.

51. Which of the following statements regarding types of audit opinions is *least correct*?

- A. An unqualified audit opinion states that the financial statements of the subject company have been presented fairly.
- B. An adverse audit opinion states that the financial position of the subject company is either unsustainable or insolvent.
- C. A disclaimer of opinion is issued when the auditor is not able to issue an opinion on the financial statements of the subject company.

Answer: B

This statement is incorrect as the auditor does not give an opinion on the state of the company’s financial health, only its compliance with accounting standards in preparing its financial reports.

52. Bell Engines, a UK-based manufacturer has recently concluded the following transactions:

- Issued GBP 30 million in new bonds
- Purchased new factory for GBP 20 million

These transactions might *best* be described as:

- A. financing activities only.
- B. operating and investing activities, respectively.
- C. financing and investing activities, respectively.

Answer: C

The issuing of new debt would be considered a financing activity (they have borrowed money to finance the business). Furthermore, the purchase of the new factory is an investing activity for Bell Engines (they have invested in a new noncurrent asset).

53. Constraints in meeting fundamental and supplementary qualitative characteristics of financial report are *least likely* to include:

- A. cost-benefit constraints.
- B. conflicts between characteristics.
- C. indifference of the users of financial information.

Answer: C

In general, users of information are very concerned about the quality and usability of financial information.

54. In regard to nonrecurring items, which of the following statements is *most accurate*? Income and expense items that are unusual in nature, but that are likely to reoccur:

- A. should be ignored when considering forecasts.
- B. should be recorded as a separate line item under IFRS.
- C. should be recorded as a separate line item under US GAAP.

Answer: B

This statement is correct as under IFRS, companies are required to separate out income and expense items that are either unusual or infrequent (or both).

55. Mizuho Machines has the following balance sheet items:

	¥ Millions
Cash and cash equivalents	23
Accounts receivables	38
Accounts payables	30
Inventories	39
Short-term debt	12
Long-term debt	86
Equipment	140

Based on this information, Mizuho Machines' quick ratio is *closest to*:

- A. 0.55
- B. 1.45
- C. 1.88

Answer: B

$$\begin{aligned}\text{Quick ratio} &= \frac{\text{Cash} + \text{marketable securities} + \text{accounts receivables}}{\text{Current liabilities}} \\ &= (23 + 38)/(30 + 12) \\ &= 1.452\end{aligned}$$

56. In regard to the Statement of Cash Flows, which of the following statements is *most correct*?
Dividends received are classified as:
- A. investing cash flows under both IFRS and US GAAP.
 - B. operating or financing cash flows under IFRS and financing cashflows under US GAAP.
 - C. operating or investing cash flows under IFRS and operating cashflows under US GAAP.

Answer: C

Dividends are received by a company when a subsidiary, minority holding, or other company it has ownership in, distributes dividends to shareholders. Such cash flows are treated as operating cash flows by both IFRS and US GAAP, but can also be recognized as an investing cash flow under IFRS.

57. In the most recent year, Becker Superstores LLC produced net income of \$356,000 and earnings before interest and tax (EBIT) of \$582,000. It had an EBIT margin of 12.7%, an asset turnover of 0.94 times, and leverage of 3.20. Based on this information, Becker Superstores' return on assets is *closest to*:
- A. 7.3%
 - B. 19.5%
 - C. 23.4%

Answer: A

$$\begin{aligned}
 \text{ROA} &= \frac{\text{Net income}}{\text{Assets}} \\
 &= \frac{\text{Net income}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Revenue}} \times \frac{\text{Revenue}}{\text{Assets}} \\
 &= (356,000/582,000) \times 12.7\% \times 0.94 \\
 &= 7.30\%
 \end{aligned}$$

58. Charter Bien Asia (CBA) has accounted for inventories and sales over the past quarter as follows:

Month	Units Purchased	Purchase Price	Units Sold	Sale Price
1	180	\$54	200	\$90
2	240	\$50	160	\$105
3	120	\$58	210	\$85

If there were 120 units of inventory at the start of the quarter that was valued at \$6,000, the gross profit for the quarter under the weighted average cost method is *closest to*:

- A. \$22,470
- B. \$22,700
- C. \$23,190

Answer: B

$$\begin{aligned}\text{Ending inventory (units)} &= \text{Starting} + \text{purchases} - \text{sales} \\ &= 120 + (180 + 240 + 120) - (200 + 160 + 210) \\ &= 90 \text{ units}\end{aligned}$$

$$\begin{aligned}\text{Ending inventory cost (per unit)} &= \frac{\sum \text{Cost of units available for sale}}{\sum \text{Units available for sale}} \\ &= ([\$6000] + [180 \times \$54] + [240 \times \$50] + [120 \times \$58]) / \\ &\quad (120 + 180 + 240 + 120) \\ &= \$52.545\end{aligned}$$

$$\text{Ending inventory (\$)} = 90 \times \$52.545 = \$4,729.091$$

$$\begin{aligned}\text{Cost of goods sold} &= \text{Starting inventory} + \text{Purchases} - \text{Ending inventory} \\ &= \$6000 + [180 \times \$54] + [240 \times \$50] + [120 \times \$58] - \$4,729.091 \\ &= \$29,950.91\end{aligned}$$

$$\begin{aligned}\text{Sales} &= [200 \times \$90] + [160 \times \$105] + [210 \times \$85] \\ &= \$52,650\end{aligned}$$

$$\begin{aligned}\text{Gross profit} &= \text{Sales} - \text{Cost of goods sold} \\ &= \$52,650 - \$29,950.91 \\ &= \$22,699.09\end{aligned}$$

59. Pure Health Diagnostics (PHD) has recently acquired a new MRI machine from a similar business by exchanging with them two X-ray systems that are no longer in use. It costs PHD EUR 2,000 to ship and install the secondhand MRI machine to make it ready for use. The cost of the X-ray systems was EUR 120,000 each and one has accumulated depreciation of EUR 20,000 and the other has accumulated depreciation of EUR 15,000. If the fair value of the secondhand MRI machine is EUR 204,000, which of the following statements is *most correct*?

- A. PHD's net assets will decrease.
- B. PHD will recognize a gain on the income statement.
- C. PHD will not recognize any gain or loss on the income statement.

Answer: B

The combined carrying amount of the X-ray machines is EUR 205,000 (120,000 + 120,000 – 20,000 – 15,000). The total cost of the MRI machine is EUR 206,000 (204,000 + 2,000). Therefore, the net assets of PHD will increase by EUR 1,000 (206,000 – 205,000). This is balanced by an increase in equity of EUR 1,000 through recognizing a gain on the income statement of (EUR 1,000), which is seen as capital gain on the disposal of the X-ray machines.

60. Keamba Dockyards has purchased \$240,000 worth of solar panels for their storage yards. The solar panels are thought to have useful life of 10 years, after which they will be sold for \$80,000. The corporate tax rate in the country is 25% and the government is incentivizing such industrial scale purchases by allowing companies to expense the entire cost of renewable energy assets immediately. If Keamba Dockyards uses straight-line depreciation for such assets, and in relation to the solar panel asset, which of the following statements is *least correct*?
- A. Keamba Dockyard's deferred tax liability at the end of 10 years will be \$20,000.
 - B. Keamba Dockyard's deferred tax liability in the first year will increase by \$56,000.
 - C. Keamba Dockyard's deferred tax liability in the second year will decrease by \$56,000.

Answer: C

Under the straight-line method, the depreciation of the solar panels would be \$16,000 per year $(240,000 - 80,000)/10$. However, in Year 1, the effective amount of depreciation expensed on the tax return is \$240,000. Thus, there is an increase in the deferred tax liability of \$56,000 $(25\% \times [240,000 - 16,000])$. Each subsequent year, no depreciation is expensed on the tax return, so the deferred tax liability will decrease by \$4,000 each year $(25\% \times [240,000 - 16,000])$.

61. Phoenix Water issues \$4 million par worth of 3-year bonds at a market rate of 8.5% p.a. The interest expense from the bond for the company in Year 3 is *closest to*:
- A. \$266,189
 - B. \$289,456
 - C. \$313,364

Answer: C

Year	Beginning Liability	Interest Expense	Change in Liability	Closing Liability
1	3,131,632.39	266,188.75	266,188.75	3,397,821.15
2	3,397,821.15	288,814.80	288,814.80	3,686,635.94
3	3,686,635.94	313,364.06	313,364.06	4,000,000.00

62. Which of the following is *least likely* to be a benefit of conservatism in regard to applying accounting standards?
- A. Protection for regulators.
 - B. Reduction in potential litigation.
 - C. Reduction in total income tax expense over time.

Answer: C

Over time, biased practices should be eliminated (as estimates become actual information). Though conservatism is likely to reduce earnings (and hence tax payable) in the short-term, this is likely to increase tax payable in the long-term. This delaying of tax payments is not likely to reduce total income tax expense over time, though it should reduce the discounted value of total taxes over time.

63. Company L's total equity on the balance sheet at the end of the year is \$3,200,000. Retained earnings at the start of the year was \$1,750,000 and the net profit for the year \$400,000. If the company retains 20% of earnings each year, the total amount of contributed capital for the company is *closest to*:

- A. \$1,113,000
- B. \$1,370,000
- C. \$1,450,000

Answer: B

Earnings retained for the year equal \$80,000 ($\$400,000 \times 20\%$). Therefore, ending retained earnings are \$1,830,000. Contributed capital must therefore be \$1,370,000 ($\$3,200,000 - \$1,830,000$).

64. Company P's net profit for the year is \$38.5 million and it has the following shares outstanding:

- Ordinary shares
 - 2,125,000 weighted average shares outstanding
 - Dividend payout ratio of 75%
- Preference shares
 - 52,000 preference shares outstanding
 - Dividend of \$45 per share
 - Convertible into ordinary shares at a ratio of 20:1

Based on this information, the diluted earnings per share (EPS) for the year for Company P is *closest to*:

- A. 9.1
- B. 12.2
- C. 17.0

Answer: B

$$\begin{aligned}\text{Diluted EPS} &= \frac{\text{Earnings}}{\text{Ordinary shares outstanding} + \text{Converted preference shares}} \\ &= \frac{38,500,000}{2,125,000 + (52,000 \times 20)} \\ &= 12.16\end{aligned}$$

65. If using the direct method, which of the following items is *most likely* to appear in the cash flows from operating activities section of the Statement of Cash Flows?
- A. Depreciation
 - B. Cash paid for interest
 - C. Decrease in tax payable

Answer: B

This is correct, as cash paid for interest is an actual cash outflow. Under the direct method, operating cash flows and all income statement items that are reported on an accrual basis are all converted to a cash basis. Thus, only actual cash inflows and outflows will appear on the Statement of Cash Flows under this method.

66. MKF Designer House has recently had to writedown the value of its handbag inventory due to low sales and poor market conditions. As a result of the write-down, which of the following financial ratios for MKF is *most likely* to improve?
- A. Current ratio
 - B. Asset turnover
 - C. Gross profit margin

Answer: B

In writing-down inventory, MKF's cost of goods sold will increase, gross and net profit will decrease, and current and total assets will also decrease. Thus, asset turnover will increase (improve) as sales (numerator) remain the same, while assets (denominator) decrease.

67. Which of the following statements is *most correct*? The cost of an intangible asset with an indefinite life is:
- A. amortized over its useful life.
 - B. expensed in the year of purchase.
 - C. tested at least annually for impairment.

Answer: C

This statement is correct. An intangible with an indefinite life might include goodwill purchased as part of a business combination or a client list. Such assets cannot be amortized, as the useful life is not known, but must be tested for impairment at least annually.

68. Which of the following is *not* one of the "4 Cs" of credit analysis?
- A. Capital
 - B. Capacity
 - C. Covenants

Answer: A

The "4 Cs" of credit analysis are character (quality of management), capacity (ability to fulfill obligations), collateral (assets backing the debt), and covenants (limitations and restrictions on the company).

Questions 69–77 Corporate Finance

69. Company D sells only one product and in the most recent quarter made sales of 15,000 units at \$260 each. The total variable costs for the quarter were \$2,625,000 and total fixed costs were \$560,000. Furthermore, total financial costs for the quarter were \$317,000 and the corporate tax rate was 40%. Based on this information, Company D's degree of operating leverage is *closest to*:

- A. 1.78
- B. 1.80
- C. 3.20

Answer: A

$$\begin{aligned}\text{DOL} &= \frac{Q \times (P - V)}{Q \times (P - V) - FC} \\ &= \frac{(15,000 \times 260) - 2,625,000}{(15,000 \times 260) - 2,625,000 - 560,000} \\ &= 1.783\end{aligned}$$

70. Which of the following stakeholder groups is *least likely* to have operational influence of a company?
- A. Creditors
 - B. Managers
 - C. Regulators

Answer: A

Creditors lend money to a company in exchange for a return of interest and principal. They are likely to require some limitations and restrictions on capital via debt covenants, but they are unlikely to have any influence over the operations of the borrower.

71. Kelly Brokers (KB) is looking to raise GBP 480 million in new capital to finance a new joint venture. If KB has a target debt-to-equity ratio of 60% for the project, the value of equity in the new capital raising would be *closest to*:
- A. GBP 192 million
 - B. GBP 288 million
 - C. GBP 300 million

Answer: C

$$\begin{aligned}w_D &= \frac{D/E}{1 + D/E} \\&= 0.6/1.6 \\&= 37.5\%\end{aligned}$$

$$\begin{aligned}w_E &= 1 - w_D \\&= 62.5\%\end{aligned}$$

Therefore, the value of equity to be raised is GBP 300 million ($62.5\% \times 480$ million)

72. Galaxy Hardware has average accounts payable for the year of \$34,000, which corresponds to supplier purchases of \$480,000 for the year. If the number of days receivables for the year was 52.7 and the number of days of inventory was 27.6, the cash conversion cycle for Galaxy Hardware was *closest to*:

- A. 54.4 days
- B. 80.3 days
- C. 106.2 days

Answer: A

$$\begin{aligned}\text{Number of days payable} &= \frac{\text{Accounts payable}}{\text{Purchases} / 365} \\&= \frac{34,000}{480,000 / 365} \\&= 25.85\end{aligned}$$

$$\begin{aligned}\text{Cash conversion cycle} &= \text{Number of days of receivable} + \text{Number of days of inventory} - \text{Number of days of payables} \\&= 52.7 + 27.6 - 25.85 \\&= 54.45 \text{ days}\end{aligned}$$

73. Which of the following is *least likely* to be considered a nonmarket factor affecting stakeholder relationships and corporate governance?
- A. Media
 - B. The legal environment
 - C. Competition and takeover

Answer: C

This is incorrect as competition and takeover is a market factor influencing stakeholder relationships and corporate governance. If a company is underperforming, employees are likely to be affected and directors may be voted out. If a company is seen as good value due to an underperforming share price, this may increase the likelihood of a takeover by another company.

74. Following the basic principles of capital budgeting, which of the following items is *most likely* to be included in the cash flow analysis of a project?
- A. Sunk costs
 - B. Opportunity costs
 - C. Before-tax cash flows

Answer: B

Opportunity costs, such as cannibalized sales, are incremental cash flows that should be included in the project's cash flow analysis. They generally represent the way externalities of a project affect the wider business.

75. Jamestown Telecommunications (JT), based in the island nation of South Sensia, is in the process of establishing the country's first broadband network. JT has a debt-to-equity ratio of 0.90 and a marginal rate of tax 15%. A nearby broadband provider, MegaZone (MZ), has an equity beta of 1.20, with a debt-to-equity ratio of 1.40 and a marginal rate of tax 25%. Based on this information, the equity beta for JT's broadband project is *closest to*:
- A. 0.59
 - B. 1.03
 - C. 1.20

Answer: B

$$\begin{aligned}\beta_{\text{Asset,MZ}} &= \frac{\beta_{\text{Equity}}}{1 + (1-t)\frac{D}{E}} \\ &= 1.20 / (1 + 0.75 \times 1.40) \\ &= 0.585 \\ \beta_{\text{Equity,JT}} &= \beta_{\text{Asset}} \times \left(1 + (1-t)\frac{D}{E} \right) \\ &= 0.585 \times (1 + 0.85 \times 0.90) \\ &= 1.033\end{aligned}$$

76. Company Y sells one product and has the following expected sales and costs information for the following year:

Sale price	\$1.80 per unit
Contribution margin	\$0.36 per unit
Fixed sales costs	\$42,000
Fixed nonsales costs	\$66,000

Based on this information, the breakeven level of revenues is *closest to*:

- A. \$300,000
- B. \$432,000
- C. \$540,000

Answer: C

$$\begin{aligned}\text{B/E (units)} &= \frac{\text{Fixed costs}}{\text{Contribution margin}} \\ &= (42,000 + 66,000)/(0.36) \\ &= 300,000 \text{ units}\end{aligned}$$

$$\begin{aligned}\text{B/E (\$)} &= 300,000 \times 1.80 \\ &= \$540,000\end{aligned}$$

77. PentaHex Solutions (PS) decides to issue \$3 million in commercial paper at 7.5% for one month. The dealer's commission on the issue is 0.3% and it has a backup line of credit cost of 0.4%. The cost of the commercial paper in % p.a. is *closest to*:

- A. 8.20%
- B. 8.25%
- C. 8.31%

Answer: B

$$\begin{aligned}\text{Cost} &= \frac{\text{Interest} + \text{Commission} + \text{Backup cost}}{\text{Loan} - \text{Interest}} \\ &= \frac{(7.5\% / 12 + 0.3\% / 12 + 0.4\% / 12)}{(1 - 7.5\% / 12)} \times 12 \\ &= 8.252\% \text{ p.a.}\end{aligned}$$

Questions 78–85 Portfolio Management and Wealth Planning

78. The annual change in Country V's level of GDP and currency (\$V) against a basket of trade-weighted currencies is given below.

Year	ΔGDP	$\Delta\$$	$\text{GDP} - \overline{\text{GDP}}$	$\$V - \overline{\$V}$
1	4.70%	−2.50%	1.40%	−3.72%
2	3.60%	8.70%	0.30%	7.48%
3	−1.30%	4.30%	−4.60%	3.08%
4	6.40%	−8.60%	3.10%	−9.82%
5	3.10%	4.20%	−0.20%	2.98%

Given this information, the sample covariance between the change in GDP and the change in \$V is *closest to*:

- A. −61.85%
- B. −0.12%
- C. 1.95%

Answer: B

$$\text{COV}_{\text{GDP},\$V} = \frac{\sum (\text{GDP} - \overline{\text{GDP}})(\$V - \overline{\$V})}{n - 1}$$

Year	$(\text{GDP} - \overline{\text{GDP}})(\$V - \overline{\$V})$
1	−0.05208%
2	0.02244%
3	−0.14168%
4	−0.30442%
5	−0.00596%
Σ	−0.48170%

Therefore, sample covariance equals −0.120% (−0.48170%/[5 − 1]).

79. Which of the following is *least likely* to be a constraint for an investment trust that has been established for an infant for the strict use of buying their first home?
- A. Liquidity
 - B. Tax concerns
 - C. Unique circumstances

Answer: A

This is correct. It is unlikely that the infant will be drawing funds from the trust for a lengthy period of time and hence the trust might not have any liquidity constraints whatsoever.

80. Which of the following statements is *least correct*? Bond index construction can be more difficult than equity index construction because:
- A. there are more equity issues.
 - B. the bond price discovery process is less effective.
 - C. specific bonds are likely to move between different indexes.

Answer: A

This is incorrect as the universe and types of bonds is much broader than that of equities. Furthermore, specific bonds mature and are replaced constantly.

81. Which of the following statements is *most correct*? Exchange-traded funds (ETFs) differ from index mutual funds as:
- A. ETFs are more tax-effective.
 - B. mutual funds have lower fees.
 - C. mutual funds pay out all dividends received.

Answer: A

This is correct. ETFs are generally considered to have a tax advantage over index mutual funds, as the latter is generally required to pass on capital gains tax as gains are realized through trading.

82. Good risk governance practices in an organization should:
- (i) focus on enterprise risk management.
 - (ii) provide for the appointment of a chief risk officer.
 - (iii) provide for a risk management committee.
 - (iv) give clear guidance to management.
- A. Only (i), (ii), and (iv) are correct.
 - B. Only (ii), (iii), and (iv) are correct.
 - C. (i), (ii), (iii), and (iv) are all correct.

Answer: A

This is correct. Good risk governance should focus on the business as a whole (enterprise risk management), and should provide for governance structures, such as the appointment of a CRO and a risk forum of some kind. A good risk governance framework will also give clear guidance to management, while at the same time leaving another flexibility in the execution of business strategy.

83. Ingrid Jolley, CFA, has put together a constrained efficient frontier (no short sales) of five risky assets based on expected returns, volatility, and correlations of the risky assets. Asset E has the highest expected return and standard deviation of returns of 13.5% p.a. and 16.2% p.a. However, Jolley wishes to put together a portfolio with an expected return greater than 13.5% p.a. but with an expected volatility of no more than 13.5% p.a. This objective might *best* be achieved by:

- A. borrowing and investing in Asset E.
- B. including a long position in the risk-free asset.
- C. borrowing and investing in a portfolio of the risk assets.

Answer: C

This statement is correct. As Asset E is the highest returning asset, it would sit on the right-hand extreme of a constrained efficient frontier. The only way to achieve a portfolio that is above the efficient frontier is to combine the optimal risky portfolio with the risk-free asset; in this case, borrowing the risk-free asset and leveraging into the optimal risky portfolio.

84. Company X, Company Y, and Company Z have the following expected return characteristics:

	Expected Return (p.a.)	Variance (p.a.)	Correlation with Market
X	13.60%	2.27%	0.52
Y	7.90%	1.28%	0.68
Z	9.40%	1.41%	0.65

If the market has a variance of 1.54%, the company with the highest market beta is:

- A. Company X.
- B. Company Y.
- C. Company Z.

Answer: A

$$\beta_i = \frac{\rho_{i,m} \sigma_i}{\sigma_m}$$

Remembering that standard deviation is the square root of the variance, the market beta for each company is:

Company	Beta
X	0.631
Y	0.620
Z	0.622

Company X has the highest market beta at 0.631.

85. Which of the following markets is *most likely* to exhibit semi-strong form efficiency?
- A. Stock market in a country with no laws against insider trading
 - B. Corporate bond market where all issuers are required to have a credit rating
 - C. Commodity futures market where most trading is based on technical analysis

Answer: B

This is correct. A bond market where issuers are required to have a credit rating would likely lead to prices based on public information. This is a semi-strong form efficient market.

Questions 86–97 Equity Investments

86. Regarding current industry classification systems, which of the following statements is *most accurate*? Industry Classification Benchmark (ICB):

- A. classifies companies based on their primary sources of revenues.
- B. classifies industries according to their principal business activity.
- C. classifies industries on the basis of goods and/or services produced.

Answer: A

This is correct. ICB classifies companies into industry groupings that are based on what is produced.

87. Power Build Constructions (PCB) has just declared an annual dividend of EUR 4.86 per share, with dividends expected to grow at 3.9% p.a. indefinitely. PCB has a beta of 1.3 and the risk-free rate is currently 2.3%. If the required rate of return for investors in PCB shares is 11.2% p.a., the intrinsic value of PCB per share is *closest to*:

- A. EUR 56.74
- B. EUR 66.58
- C. EUR 69.17

Answer: C

Using the Gordon (constant) growth dividend discount model:

$$V = \frac{Div(1+g)}{R-g}$$

$$\begin{aligned} V_{PCB} &= \frac{4.86(1+3.9\%)}{11.2\% - 3.9\%} \\ &= 69.172 \end{aligned}$$

88. Which of the following is *not* a common type of publicly traded preference share?

- A. Noncumulative
- B. Nonredeemable
- C. Nonparticipating

Answer: B

This is not a common type of preference share.

89. Which of the following statements is *most accurate*? Market share stability:

- A. decreases as barriers to entry increase.
- B. decreases as industry competition decreases.
- C. decreases as frequency of new products into the market increase.

Answer: C

This is correct. New products are likely to lead to significant variation in market shares of existing firms.

90. An investor is considering the purchase of stock in Company H and expects the following dividends at the end of each of the next 3 years:

Year 1	\$10.50 per share
Year 2	\$11.00 per share
Year 3	\$11.50 per share

He expects to sell the stock for \$306 per share in 3 years' time and he requires a required rate of return of 12% p.a. to invest in the company. If Company H's shares are currently trading at \$259, the investor will *most likely* consider the stock to be:

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

Answer: A

The intrinsic value of Company H's shares for the investor can be calculated by discounting the expected cash flows:

$$V_0 = \frac{10.5}{(1+12\%)^1} + \frac{11}{(1+12\%)^2} + \frac{11.5}{(1+12\%)^3} + \frac{306}{(1+12\%)^3}$$
$$= \$244.134 \text{ per share}$$

Hence, the investor is likely to consider the company to be overvalued.

91. The following financial information relates to Company Q:

Net assets	\$53,400,000
Debt	\$19,700,000
Common stock (\$)	\$10,800,000
Common stock outstanding	10,000,000
Preference shares (\$)	\$2,500,000
Preference shares outstanding	50,000

If the current share price is \$11.65 per share, Company Q's price to book value is *closest* to:

- A. 2.4
- B. 2.5
- C. 4.0

Answer: B

$$\begin{aligned}\text{Company Q's book value} &= \text{Net assets} - \text{Preference shares} \\ &= \$53,400,000 - \$2,500,000 \\ &= \$50,900,000\end{aligned}$$

Therefore, book value per share equals \$4.713 (\$50,900,000/10,800,000)

Therefore,

$$\begin{aligned}\text{P/BV}_Q &= \$11.65/\$4.713 \\ &= 2.47\end{aligned}$$

92. Max Spiller, CFA, is the portfolio manager for a large private equity firm based in Vancouver, Canada. Most of Spiller's transactions involve investing in public companies at significant discounts and gaining significant influence over the business operations. Spiller and his firm are *most likely* to attract which type of private equity investor?
- A. Leveraged buyout fund
 - B. Management buyout fund
 - C. Private investment in public equity fund

Answer: C

This is correct. A PIPE investor is a private equity investor that invests in a public company in need of capital quickly and who is willing to cede a large portion of ownership at a discount to market value.

93. Which of the following is *not* one of Porter's "five forces" framework?
- A. Intensity of rivalry
 - B. Macroeconomic influences
 - C. Bargaining power of suppliers

Answer: B

Porter's "five forces" are:

1. Threat of substitute
2. Bargaining power of customers
3. Bargaining power of suppliers
4. Threat of new entrants
5. Intensity of rivalry

94. May Johansson, CFA, is considering an investment in Best Sell Technologies LLC (BST), an online retailer based in San Diego, California. BST has recently started to pay dividends with a payout ratio of 30%. The company is expected to grow rapidly over the next 5 years before earnings are expected to moderate. If Johansson intends to hold shares in BST indefinitely, which of the following share valuation models would be *most appropriate*?

- A. Two-stage dividend discount model
- B. Gordon (constant) growth dividend discount model
- C. Multiple-year holding period dividend discount model

Answer: A

This is correct. For companies with temporary supernormal growth (first stage), followed by normal growth (second stage), a two-stage discount model is appropriate.

95. Consider the following companies:

- Company G, a gold mining company with known reserves
- Company H, a hotelier that has grown predominantly through acquiring smaller hotel chains
- Company I, an internet provider that is currently being liquidated

For which of these companies would an asset-based valuation be *least appropriate*?

- A. Company G
- B. Company H
- C. Company I

Answer: B

Asset-based valuation is *most appropriate* for companies where assets and liabilities can be reliably valued and where there is a low level of intangible assets. A company that has acquired many other companies is likely to have a high amount of goodwill (both acquired and internally generated) and hence would not be appropriate for an asset-based valuation.

96. Company Z has just paid their annual dividend and its shares are trading on a P/E ratio of 17.7. Next year's dividend is expected to be \$16.89 per share, which is expected to grow at 3.4% indefinitely. If the current share price is \$245.25, the market required rate of return for the stock is *closest to*:

- A. 10.1%
- B. 10.3%
- C. 10.5%

Answer: B

Rearranging the Gordon growth DDM and making the cost of equity (ke) the subject:

$$\begin{aligned} ke &= \frac{D_1}{P} + g \\ &= (16.89/245.25) + 3.4\% \\ &= 10.29\% \end{aligned}$$

97. The EV/EBITDA metric is a common input of which type of valuation model?

- A. Multiplier model
- B. Present value model
- C. Asset-based valuation model

Answer: A

EV/EBITDA multiples (enterprise value on earnings before interest, tax, depreciation, and amortization) are commonly used in multiplier models.

Questions 98–109 Fixed Income

98. Company R has just issued a new 3-year bond, which pays an annual 6% coupon with par value of \$100 per bond. If it is priced at yield of 7.8% p.a, the bond's Macauley duration is *closest to*:
- A. 2.8
 - B. 3.0
 - C. 3.4

Answer: A

The Macauley duration can be calculated by summing the period-weights for each period's cash flow. To calculate the weights of each cash flow, the present value of each cash flow is divided by the total present value of cash flows (bond price).

Period	CF	PV CF	PV Weight	Period × Weight
1	6	5.5659	0.0584	0.0584
2	6	5.1631	0.0542	0.1083
3	106	84.6154	0.8875	2.6624
	Price	95.3444	MD	2.8291

99. Which of the following statements is *most correct*? Sovereign bonds:
- A. are backed by the sovereign's banking industry.
 - B. can be issued only in the sovereign's domestic currency.
 - C. are issued in different forms including floating-rate and inflation-linked.

Answer: C

This statement is correct. Sovereigns can issue different types of bonds including fixed, floating, and inflation-linked bonds.

100. Mark Bael, CFA, calculates a spread of the yield on an international corporate issuer over its Government's bond yield by using individual spot rates to discount each of the bond's expected cash flows. Bael is *most likely* calculating:
- A. a G-spread.
 - B. a Z-spread.
 - C. an I-spread.

Answer: B

Bael is looking at the constant yield spread over the relevant government bond spot curve, which is the Z-spread.

101. Which of the following is *least likely* to be included in a bond indenture?

- A. Collaterals
- B. Issue price
- C. Credit enhancements

Answer: B

The issue price is generally discovered in the primary market and not set by the issuer. Thus, the issue price is not likely to be included in the bond indenture.

102. The government of Santaria has recently issued 7-year bonds that pay a semi-annual coupon of 10% p.a. The par value of the bonds is \$S 100 and they have a maturity value of \$S 120 each. If the market discount rate for the bonds at issue is 11.5% p.a., the issue price of the bonds is *closest to*:

- A. \$S 92.920
- B. \$S 102.063
- C. \$S 111.503

Answer: B

FV	-120
PMT	-5
N	14
I/Y	0.0575
CPT	PV
PV	102.0629

103. Bond D, which pays a quarterly coupon of \$24 per bond, will mature at its par value of \$1,000 in 4 years' time. If the current price is \$1,087 per bond, the effective annual yield on the bond is *closest to*:

- A. 7.1%
- B. 7.3%
- C. 9.6%

Answer: B

PV	1,087
FV	-1,000
PMT	-24
N	16
CPT	I/Y
I/Y	1.771%

Therefore, effective annual yield (EAR) is 7.274% ($[1 + 1.771\%]^4 - 1$).

104. Regarding asset-backed securities (ABS) made up of a portfolio of loans, which of the following statements is *most correct*? The issuer of the ABS:
- A. buys the loans.
 - B. services the loans.
 - C. originates the loans.

Answer: A

This is correct. The issuer of an ABS, which is generally a special purpose vehicle (SPV), buys the loans from the loan seller/originator and issues ABSs.

105. Which of the following statements is *most correct*? An investor's realized rate of return on a corporate bond that is expected to be held to maturity and not expected to default will equal the bond's yield to maturity if:
- A. interest rates remain stable.
 - B. the bond is bought at par value.
 - C. the bond is a zero-coupon bond.

Answer: C

The main issue with using the yield to maturity (YTM) as a proxy for realized value is that YTM assumes coupons are reinvested at the YTM rate. A zero-coupon bond has no coupons, hence, no reinvestment risk.

106. Makken Hellmut (MH) is a large Austrian manufacturer who is looking at issuing bonds to expand its operations in Europe and the UK. To do so, MH issues bonds denominated in GBP in both the Eurobond market and the UK domestic bond market. These bonds would *best* be described as:
- A. global bonds.
 - B. foreign bonds.
 - C. euro sterling bonds.

Answer: A

This is correct. A bond that is simultaneously issued in the Eurobond market and a domestic bond market is known as a global bond.

107. Country R issues a series of inflation-linked bonds that do not pay a coupon, but instead pay an annual amount to bond holders that represents both payment of interest and repayment of principal. This type of bond is *best* specified as a(n):
- A. capital-indexed bond.
 - B. indexed-annuity bond.
 - C. zero-coupon-indexed bond.

Answer: B

Country R has issued a bond that pays both interest and principal, which is an indexed-annuity bond.

108. Company JKL issues a 5% coupon, 10-year callable bond, which has a single call date at the end of year 5. The issue price of the bond is \$978.25 and it has a par value of \$1,000. If the call price in % terms is 106.550, the call premium at the year-5 call date is *closest to*:
- A. \$42.22
 - B. \$65.50
 - C. \$106.55

Answer: B

The call price in \$ terms is \$1,065.50 ($\$1,000 \times 106.550\%$). Hence the call premium is the amount above the par value, which is \$65.50 ($\$1,065.50 - \$1,000.00$).

109. Which of the following statements regarding repurchase agreements is *most correct*?
- A. Only the seller faces counterparty credit risk.
 - B. Only the buyer faces counterparty credit risk.
 - C. Repo rates increase as the level of credit risk in the collateral increases.

Answer: C

This statement is correct. The rate at which a repo buyer would be willing to lend to the seller would increase (decrease) as the quality of the collateral decreases (increases).

Questions 110–115 Derivatives

110. Colleen O’Farrell, CFA, sells 4,000 equity index futures contracts at a price of EUR 224 per contract. She is required to provide an initial margin of EUR 20 per contract and meet margin calls when her margin balance falls below the maintenance margin level of EUR 12 per contract. In the event of a margin call, the exchange requires additional margin to be contributed up to the maintenance margin level. The price of the contract over the first, second, and third days is as follows:

Day	Beginning Price	Closing Price
1	224	234
2	234	248
3	248	230

Based on this information, the balance in O’Farrell’s margin account at the end of Day 3 is *closest to*:

- A. EUR 56,000
- B. EUR 104,000
- C. EUR 120,000

Answer: C

At the end of Day 1, the futures price has gone up by EUR 10, which means that O’Farrell’s margin account will have dropped to EUR 10 ($20 - 10$). This is below the maintenance level and so O’Farrell will have to contribute an extra EUR 2 per contract into her margin account to bring her margin level back up to EUR 12. At the end of Day 2, the futures price has increased another EUR 14, which means that her margin account has fallen below EUR 12 once more. She will need to contribute a further EUR 14 in order to meet her margin call. At the end of Day 3, the futures price has fallen by EUR 18 and thus her margin balance will increase from EUR 12 to EUR 30. Her margin balance at the end of Day 3 is therefore EUR 120,000 ($4,000 \text{ contracts} \times \text{EUR } 30$).

111. Which of the following statements is *least correct*? A credit default swap is a:

- A. credit derivative.
- B. contingent claim.
- C. forward commitment.

Answer: C

This statement is incorrect. A credit default swap is a credit derivative in which payment from the protection seller to the protection buyer is contingent on default of the underlying credit security. There is no legal obligation for the protection seller to make the future payment if no default occurs and hence it is not a forward commitment.

112. Which of the following is *least likely* to be the reason for an arbitrage opportunity to remain unexploited?
- A. Significant transaction costs
 - B. Difficulty in entering short positions
 - C. Ethical objections to taking advantage of mispricings

Answer: C

This is not likely to be a reason for an arbitrage opportunity to go unexploited, as many would see such transactions as helping to bring an inefficient market toward the equilibrium/fair price.

113. Satoshi Takada, CFA, takes a long position in a 9-month equity forward contract with a forward price of JPY 1684.20 per share. After four months, the share price has increased to JPY 2087.54 and the annual risk-free rate is currently 1.44%. Based on this information the value of the forward contract to Takada is *closest to*:
- A. JPY 0.00
 - B. JPY 413.34
 - C. JPY 433.23

Answer: B

$$\begin{aligned}
 V_t(0,T) &= S_t - [F(0,T)/(1+r)^{T-t}] \\
 &= 2087.54 - 1684.20/(1 + 1.44\%)^{(9-4)/12} \\
 &= \text{JPY } 413.343
 \end{aligned}$$

114. Company XYZ has a \$40 million, 3-year debt on which it pays a fixed rate of interest at 7.6% p.a. As it is expecting rates to drop significantly over the coming few years it enters into a swap contract with a fixed leg of 4.0% p.a. and a floating leg at 90-day LIBOR + 1.8% p.a. The notional value of the swap contract is \$40,000,000 and it is based on a 360-day year. If LIBOR on Day 360 is 1.3% p.a., which of the following statements is *least correct*? The 90-day LIBOR rate on Day 360 corresponds with a swap payment:
- A. of \$690,000.
 - B. made on Day 450.
 - C. to Company XYZ.

Answer: A

Company XYZ is trying to hedge their fixed-rate paying exposure and so will be the fixed-rate receiver/floating-rate payer in this swap contract. The Day 360 Libor rate is used to calculate the swap payment required 90 days later on Day 450. As the fixed rate of 4.0% is less than the floating rate of 3.1% p.a., the fixed payer will pay the swap payment on this date and thus, Company XYZ will receive the swap payment as the fixed-rate receiver. The swap payment amount is the differential between the fixed and floating rates as follows:

$$\text{Net fixed-rate payment}_{360} = [4.0\% - (1.3\% + 1.8\%)](90/360) \times \$40,000,000 = \$90,000$$

115. An investor is considering purchasing 1-year call options in dallanium, which is currently trading at \$566.20 per oz. The price of dallanium after one year will be either up by 20% or down by 10% and the only available call option has a strike price of \$600 per oz. If the risk-free rate is 3.2% p.a., the value of the call option is *closest to*:

- A. \$0.00
- B. \$33.87
- C. \$79.44

Answer: B

Using a one-period binomial model:

$$u = 120\%, d = 90\%$$

$$S^+ = uS_0 = \$679.44$$

$$S^- = dS_0 = \$509.58$$

Therefore,

$$C^+ = \max(\$679.44 - \$600, 0) = \$79.44$$

$$C^- = \max(\$509.58 - \$600, 0) = \$0$$

$$\begin{aligned}\pi &= \frac{1 + r - d}{u - d} \\ &= (1 + 3.2\% - 90\%)/(120\% - 90\%) \\ &= 0.44\end{aligned}$$

Therefore,

$$\begin{aligned}C_0 &= [\$79.44 \times 0.44 + \$0 \times (1 - 0.44)]/(1 + 3.2\%) \\ &= \$33.870\end{aligned}$$

Questions 116–120 Alternative Investments

116. Which of the following statements is *least correct*? In addition to management fees, a leveraged buyout (LBO) firm may also charge:

- A. incentive fees.
- B. underwriting fees.
- C. a fee if the deal falls through.

Answer: B

This is incorrect as underwriting fees are generally paid to investment banks in issuing new securities, not by an LBO firm that is taking a company private.

117. Missy Cohen, CFA, is a portfolio manager for a small hedge fund based in Phoenix, Arizona. Using internally developed data sets and models, Cohen looks to invest in the securities of companies that are engaged in restructuring activities. The type of hedge fund strategy employed by Cohen is *best* described as:

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

Answer: B

This is correct. Cohen is specifically focused on companies going through certain “events” in order to generate returns.

118. Which of the following is *not* a common characteristic of alternative investments?

- A. Large investment size
- B. Limited historical return data
- C. Broad manager specialization

Answer: C

Alternative investments are generally taken advantage of by managers with unique and specialized knowledge and skills.

119. Which of the following is *not* a common risk measurement tool employed by managers of illiquid assets?

- A. Sortino ratio
- B. Value at risk
- C. Systematic risk

Answer: C

Systematic risk is a measure of the risk inherent in a market and would not be appropriate for nonmarket securities, such as illiquid assets.

120. Joel Kelly, CFA, is the portfolio manager for the SureWall Direct Property Fund and is currently reviewing several properties owned by the fund. The largest property in the fund is a three-story security facility near Lisbon, Portugal, which is leased by a large technology company to house data servers and records. The property is unique in that most other technology companies in Europe own their server centers. Which of the following valuation approaches would be *least appropriate* for Kelly to use in valuing this property?

- A. Replacement cost
- B. Comparable sales
- C. Discounted cash flow

Answer: B

The property is unique in that it is set up for a particular purpose and there is not likely to be too many property transactions in the region of such a property. As such, the comparable sales approach would be inappropriate.

Mock Exam 6 – Afternoon Session – Solutions

Questions 1–18 Ethical and Professional Standards

1. The research department at an investment management firm has drafted a report initiating coverage with a strong buy recommendation on a biotech company. Jessica Sampalo, an investment advisor at the firm, emails her largest clients with news about the recommendation to gauge their interest. The firm has no provision to charge higher fees for different levels of client service, but Sampalo places an order for the one client who indicates interest immediately after the report is officially disseminated. Sampalo has *most likely* violated the CFA Institute's Code and Standards by:
 - A. not purchasing stock for all clients.
 - B. only communicating with large clients.
 - C. not having a reasonable basis for the purchase order.

Answer: B

Sampalo has violated Standard III(B) Fair Dealing by allowing more time for the larger client to react and then placing an immediate order upon distribution of the report. She has not treated all clients fairly in disseminating information about the stock. The standard allows personal calls and higher levels of service for clients who pay higher fees if all clients are informed of the services and allowed to participate. However, the standard does not allow providing information in a report until properly disseminated to all clients. Note that this standard does not require *equal* notification because an advisor cannot possibly inform all clients simultaneously.

2. Which of the following statements is *least correct*?
 - A. Ethical conduct balances self-interest with how that behavior affects others.
 - B. Ethical principles include honesty, fairness, self-fulfillment, and respect for others
 - C. Unethical behavior can result in the loss of a job, reputational damage, fines, or a jail sentence.

Answer: B

This statement is incorrect as ethical principles does not include self-fulfillment.

3. Ezekiel Diempe, CFA, works as an investment consultant for a large investment bank in Paris, France. Over the past few years, Diempe has been volunteering as a treasurer for a local community group, and due to the rapid growth in one of their programs, his volunteer work for the group is likely to take up a significant part of his time. Which of the following statements is *most correct* regarding Diempe's compliance with CFA standards?
 - A. He should disclose his volunteer activities to his employer.
 - B. He does not need to disclose his volunteer activities as he does not receive compensation.
 - C. He does not need to disclose his volunteer activities as they are not in conflict with his role as an investment consultant.

Answer: A

This is correct. To be compliant with Standard IV(A) Duty to Employers, Diempe must not deprive his employer of the advantage of their skills or abilities. Taking on a significant volunteer role may impede Diempe's ability to meet this standard and he should disclose the outside activity to his employer and seek their approval.

4. Jamaal Greene, CFA, is an associate trader for Big House Investments (BHI). BHI has a referral arrangement with Armytage Annuities (AA) who pay BHI a referral fee for each client referred to an AA advisor. Greene refers a number of clients to AA and is compensated by BHI with a share of the referral fee. Greene only refers clients who have a need for an annuity-style product and discloses all the likely fees payable to AA. Which of the following statements is *most correct*? Greene has:
- A. violated the Code and Standards by receiving referral fees.
 - B. violated the Code and Standards by not disclosing referral fees.
 - C. not violated the Code and Standards as he has disclosed all the fees likely to be paid by the client.

Answer: B

This is correct. According to Standard VI(C) Referral Fees, members may receive compensation for referring a client to another party. They do, however, need to disclose referral fee arrangements to the client.

5. Which of the following statements regarding the GIPS standards is *least accurate*? GIPS verification:
- A. ensures the accuracy of performance presentations.
 - B. helps to improve internal processes and procedures.
 - C. may increase the level of consistency and quality of performance reports.

Answer: A

This is not correct. GIPS verification is intended to provide greater confidence in firm and industry performance reporting; however, the verification process does not ensure the accuracy of any specific composite presentation.

6. Ivan Kelly has just walked out of the CFA Level III exam and posts the following on his LinkedIn page:
- "Just finished my last (hopefully) CFA exam. It was super difficult and my hand is tired from all the writing, but I think I have done enough to pass."*
- A. Kelly has not violated CFA Standards.
 - B. Kelly has violated CFA Standards by commenting on the difficulty of the exam.
 - C. Kelly has violated CFA Standards by implying that he has passed the exam.

Answer: A

This is correct. CFA Institute program rules prohibit the disclosure of confidential information regarding CFA exams. Kelly has not disclosed anything that would be considered confidential and has only expressed an opinion.

7. Which of the following statements regarding GIPS compliance is *least correct*? To be compliant with the GIPS standards, a firm must:
- A. have at least one composite verified for compliance each year.
 - B. include all actual, discretionary, fee-paying portfolios in at least one composite.
 - C. make a reasonable effort to provide a compliant presentation to all prospective clients.

Answer: A

This is incorrect. The GIPS standards recommends that all firms be verified; however, this is not a requirement of GIPS compliance.

8. Jason Peters, CFA, is an investment advisor for a large broker based in London. The firm has received an allocation for the initial public offering (IPO) in Jet Atmosphere Travel (JAT). As the float is heavily oversubscribed most clients have had their requested allocations reduced considerably and he has allocated only the minimum share allotment to his own family's various accounts. Which of the following statements is *most correct*?
- A. Peters has complied with the CFA standards.
 - B. Peters has not complied with the CFA standards as he should not have reduced client allocations.
 - C. Peters has not complied with the CFA standards as he should not have allocated shares to his family's accounts.

Answer: C

This is correct. Peters has violated Standard VI(B) Priority of Transactions by participating in the oversubscribed IPO. Peters should have only participated in the IPO if all client requests for allocations had been able to be filled.

9. Vito Gracos, CFA, is an investment advisor for a large practice in Denver, Colorado. He has recently prepared an investment plan for a new client, which includes a unique strategy to manage the client's large holding of stock and options received as part of her executive remuneration package. The strategy requires a complicated option pricing model, which he develops with his colleagues, and comes with risks that are quite different from those found in a usual investment plan. Due to the success of the strategy, the client has referred Gracos to the rest of the executive

team, which leads to Gracos leaving his firm to start his own practice. Which of the following statements is *least correct*? To comply with the CFA standards Gracos should:

- A. maintain records of all new clients for at least seven years.
- B. maintain appropriate information regarding the client's unique circumstances.
- C. take with him the supporting records created as part of the client's investment plan.

Answer: C

This is incorrect. The supporting records of the client are the property of his firm and must be reproduced by Peters in starting his own practice.

10. Which of the following statements is *most correct*? According to the CFA standards, members must:

- A. avoid presenting opinions to clients and prospective clients.
- B. disclose to clients and prospective clients all limitations and risks associated with their investment services.
- C. disclose to clients and prospective clients the format and principles of the investment process they will use.

Answer: C

This is correct. According to Standard V(B) Communication with Clients and Prospective Clients, members must disclose the basic format and principles of the investment process they use to provide investment advice and construct portfolios.

11. Regarding the GIPS standards, which of the following statements is *most correct*?

- A. Firms must calculate money-weighted rates of return.
- B. Returns from cash must be included in all return calculations.
- C. Firms can use only estimated trading fees when they cannot be segregated from a bundled fee.

Answer: B

This is correct. Returns from cash and cash equivalents held in portfolios must be included in the calculation of portfolio returns.

12. Patty Van Buren, CFA, is an investment advisor in her own small practice in Birmingham, UK. She maintains a private blog for clients on the practice website, in which she provides insight into the important topics relating to the markets and the investment landscape. The blog has a comments section that can be seen only by clients and she receives regular correspondence from clients on

the blog regarding personal situations. She often responds to these comments and queries directly via a phone call or email. Van Buren is *most likely* in violation of CFA standards as:

- A. she is not keeping client information private.
- B. she should not be responding to client comments.
- C. the blog is not an appropriate method of providing relevant insights.

Answer: A

Van Buren has most likely violated CFA Standard III(E) Preservation of Confidentiality by encouraging clients to post personal information on an open forum. Van Buren should advise clients that the blog site is not an appropriate place to communicate confidential information.

13. Xue Bin, CFA, is a research analyst for a Swiss-based hedge fund. The fund specializes in distressed securities and requires Bin to meet with directors and executives all over the world, usually over a meal or drinks. She is successful in fulfilling her role, but often finds herself heavily inebriated after a day of meetings. This has given her a reputation in the firm for missing many days of work owing to the effects of excessive drinking. However, her research reports are among the best in the business and lead to many successful transactions. Which of the following is *most correct*?

- A. Bin has violated CFA standards by drinking excessively.
- B. Bin has violated CFA standards by drinking alcohol during business meetings.
- C. Bin has not violated CFA standards as her work product is not affected by her drinking.

Answer: A

This is correct. Bin has violated Standard I(D) Misconduct by committing an act that reflects poorly on her professional reputation.

14. Which of the following statements is *most correct*? Members can use material nonpublic information when providing investment recommendations:

- A. under no circumstances.
- B. only where local law permits.
- C. when applying the mosaic theory.

Answer: A

This is correct. As per CFA Standard II(A) Material Nonpublic Information, members who possess material nonpublic information must not act or cause others to act on the information.

15. Which of the following must be presented in a GIPS compliant presentation?

- A. The number of portfolios in each composite.
- B. A measure of skewness of individual portfolio returns.
- C. Composite returns that are both net-of-fees and gross-of-fees.

Answer: A

This is correct. The number of portfolios in the composite must be presented as of each annual period end.

16. Daniel Cauley, CFA, is a portfolio manager for an investment firm in Los Angeles, California. He currently has a large holding in an auto parts manufacturer and has just received a report from one of their brokers, whose research department has downgraded the stock to a “sell.” Cauley is upset with the report, as his holding in the stock suffers a significant loss just prior to the end of the month, triggered by the broker’s report. As a result, Cauley decides not to use the broker for any future trades. Which of the following is *most accurate*?
- A. Cauley has violated the CFA standards by ceasing to use the broker.
 - B. Cauley has not violated CFA standards as the broker caused a loss for his clients.
 - C. Cauley has not violated CFA standards as he should use brokerage services that are in the best interests of his clients.

Answer: A

This is correct. As per Standard I(B) Independence and Objectivity, it is the responsibility of members to achieve and maintain the independence and objectivity of investment recommendations. Cauley has placed undue influence on the broker, which might result in biased recommendations.

17. Which of the following statements is *least correct*? Market manipulation includes:
- A. creating negative rumors in an effort to push down prices.
 - B. maintaining a large buy order below the bid price in order to push up bid prices.
 - C. the dissemination of information that could have a significant impact on a company’s share price.

Answer: C

This is incorrect as only the spreading of false or misleading information would constitute market manipulation.

18. Which of the following statements is *most correct*? To claim compliance with the GIPS standards, a firm’s advertisement must disclose:
- A. any conflicts of interest.
 - B. the definition of the firm.
 - C. how a prospective client can obtain information regarding the GIPS standards.

Answer: B

This is correct, as the GIPS Advertising Guidelines require firms to disclose the definition of the firm.

Questions 19–32 Quantitative Methods

19. In order to test the claim that the returns of a mutual fund have the same volatility as its benchmark (as measured by the variance of the returns), which of the following test statistics would be *most appropriate* to calculate?

A. t -statistic
B. F -statistic
C. Chi-square statistic

Answer: B

Assuming the returns of the mutual fund and the benchmark are normally distributed, the F -test can be used to test for the equality of their variances.

20. A local economist states that the odds for a property market fall in the next year are 1 to 3. Based on these odds, the expected probability of a property market fall is *closest to*:

A. 25%
B. 33%
C. 75%

Answer: A

$$\begin{aligned} P(E) &= \frac{a}{a+b} \\ &= 1/(1+3) \\ &= 25\% \end{aligned}$$

21. An investor purchases preference shares in a company for \$97.20 per share, which are to pay an annual coupon of \$5.50 into perpetuity. The required return of the investor to hold the shares is *closest to*:

A. 5.34%
B. 5.50%
C. 5.66%

Answer: C

$$\begin{aligned} E(R) &= \frac{Div}{Price} \\ &= 5.50/97.20 \\ &= 5.658\% \end{aligned}$$

22. A company has the opportunity to invest in one of the following projects:

- Project A, with an NPV of −\$20.6 million and an IRR of 7.9%
- Project B with an NPV of −\$14.8 million and an IRR of 10.6%

Which of the following statements is *most correct*? The company should invest in:

- A. Project A.
- B. Project B.
- C. Neither project.

Answer: C

This is correct, as the NPVs of both projects are negative. This implies that both projects will not produce enough returns to compensate the company for taking on the risks of the projects (i.e., the IRR is less than the rate of required return).

23. The following funds have the following probabilities of beating their respective benchmarks in any given month:

Fund X	68%
Fund Y	54%
Fund Z	85%

One of these funds is chosen at random and it is found to have beaten its benchmark for the month. The probability that Fund X was chosen is *closest to*:

- A. 32.9%
- B. 33.3%
- C. 33.7%

Answer: A

$$\begin{aligned}P(X) &= P(Y) = P(Z) = 33.3\% \\P(X \cap B) &= P(X/B) \times P(X) \\&= 68\% \times 33.3\% = 22.7\%\end{aligned}$$

Likewise,

$$\begin{aligned}P(Y \cap B) &= 54\% \times 33.3\% = 18.0\% \\P(Z \cap B) &= 85\% \times 33.3\% = 28.3\% \\P(B) &= P(X \cap B) + P(Y \cap B) + P(Z \cap B) \\&= 22.7\% + 18.0\% + 28.3\% = 69.0\%\end{aligned}$$

$$\begin{aligned}P(X/B) &= \frac{P(X \cap B)}{P(B)} \\&= 22.7\% / 69.0\% \\&= 32.85\%\end{aligned}$$

24. Which of the following statements is *most correct*? A difference between Monte Carlo simulation and historical simulation is:
- A. that historical simulation does not facilitate “what if” analysis.
 - B. that Monte Carlo simulation does not provide cause-and-effect relationship information.
 - C. that Monte Carlo simulation assumes that the distribution of a random variable depends on past trends.

Answer: A

This is correct. Monte Carlo simulation can be used for “what if” analysis whereas historical simulation cannot.

25. Which of the following statements regarding stratified random sampling is *least correct*?
- A. Random sampling is applied to each subgroup based on their relative sizes.
 - B. Collective exhaustiveness in stratification requires that all the subgroups together contain the whole population.
 - C. Mutually exclusivity in stratification requires that each member of the population be assigned to the one subgroup.

Answer: B

This is incorrect as the principle of creating a collectively exhaustive group of stratum requires that no population element be excluded from the sampling process.

26. A sample of the returns of Corporate Bond A and Corporate Bond B is conducted and yields the following information:

	Monthly Return	Monthly Standard Deviation
Bond A	0.38%	0.32%
Bond B	0.41%	0.37%

The sample size for both bonds was 60, and a test is to be conducted to investigate whether the mean return of the bonds is the same. If the population variances of the bonds’ returns are assumed to be equal, the *t*-statistic for the associated *t*-test is *closest to*:

- A. -0.67
- B. -0.55
- C. -0.48

Answer: C

As the population variances are assumed to be equal, we will use the pooled variance (s_p^2) in our t -test calculation:

$$\begin{aligned}
 s_p^2 &= \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \\
 &= \frac{(60 - 1)0.32\%^2 + (60 - 1)0.37\%^2}{60 + 60 - 2} \\
 &= 0.000011965 \\
 t &= \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s_p^2 / n_1 + s_p^2 / n_2}} \\
 &= \frac{0.38\% - 0.41\%}{\sqrt{0.000011965 / 60 + 0.000011965 / 60}} \\
 &= -0.475
 \end{aligned}$$

27. Which of the following statements is *most correct*? Key tenets of Elliott Wave Theory include:

- A. grand super cycles, which take place over centuries.
- B. impulse waves, which, in a bull market, are sets of two up waves and one down wave.
- C. corrective waves, which, in a bear market, are sets of three down waves and two up waves.

Answer: A

This is correct. In order of duration length, Elliott proposed grand super cycles, super cycles, cycles, and subcycles.

28. Mary Sumner, CFA, has a client who wants to retire in 20 years' time with \$4 million in future savings. Her client has just paid off their home mortgage and currently has no savings. Sumner expects that her client will earn a quarterly rate of 6.5% p.a. on accumulated savings and she wants to save an equal amount each quarter going forward. If the client contributes to her savings account at the end of each quarter, the equal quarterly payments required to achieve her savings goal is *closest to*:

- A. \$24,704
- B. \$25,756
- C. \$26,798

Answer: A

FV 4,000,000
 PV 0
 N 80 (20 years' time 4 quarters)
 I/Y 1.625% (6.5% p.a. divided by 4 quarters)
 CPT PMT
 PMT = 24,703.99

29. A T-bill, with 60 days (2 months) left to maturity, is purchased at a money market yield of 2.95%. The bond equivalent yield of the bill is *closest to*:
- A. 1.48%
 - B. 2.96%
 - C. 8.85%

Answer: B

$$\begin{aligned}\text{HPY} &= \text{RMM} \times (t/360) \\ &= 2.95\% \times (60/360) \\ &= 0.492\%\end{aligned}$$

$$\begin{aligned}\text{BEY} &= 2 \times [(1 + \text{HPY})^{180/t} - 1] \\ &= 2 \times [(1.0492)^3 - 1] \\ &= 2.965\%\end{aligned}$$

30. Which of the following statements is *least correct*?
- A. The normal distribution is mesokurtic.
 - B. Leptokurtic distributions have excess kurtosis that is less than 3.
 - C. Leptokurtic distributions have fatter tails than the normal distribution.

Answer: B

This is least correct, as leptokurtic distributions have excess kurtosis of less than 0 (they have kurtosis of less than 3).

31. Simone Laker, CFA, constructs a chart to show the daily movement of the price of a stock over time. The chart clearly shows the highs and lows of each day and uses a shaded box to show days where the share price declined. Laker is *most likely* using a:
- A. bar chart.
 - B. candlestick chart.
 - C. point and figure chart.

Answer: B

This is correct. A candlestick chart does show highs and lows, and the change in price over the day using boxes (candlestick body).

32. A sample of 51 quarters of sales data for a company has revealed a sample mean of quarterly revenue growth of 1.65% and a standard deviation of 2.89%.

	Two-Tailed <i>t</i> -Test Values		
Df	0.1	0.05	0.01
49	1.677	2.010	2.680
50	1.676	2.009	2.678
51	1.675	2.008	2.676

The lower bound of the 95% confidence interval for the quarterly revenue growth is *closest to*:

- A. 0.81%
- B. 0.84%
- C. 1.54%

Answer: B

$$\begin{aligned}
 CI_L &= \bar{x} - t_{\alpha/2, n-1} \times \frac{s}{\sqrt{n}} \\
 &= 1.65\% - 2.009 \times 2.89\% / (51^{1/2}) \\
 &= 0.837\%
 \end{aligned}$$

Questions 33–44 Economics

33. Which of the following indicators would *best* be considered a lagging indicator?

- A. Stock index
- B. Inventory-to-sales ratio
- C. Industrial production index

Answer: B

This is correct. Inventories tend to accumulate as sales drop off and become depleted as activity increases, hence the ratio lags economic conditions.

34. Which of the following functions is a central bank *least likely* to perform?

- A. Managing gold reserves
- B. Conducting monetary policy
- C. Issuing government bills and bonds

Answer: C

This is correct. Treasury securities are generally issued by a government's treasury or finance department.

35. Which of the following statements about trade models is *most accurate*. The Ricardian Model:

- A. is also referred to as the factor proportions theory.
- B. places technological differences as the key source of comparative advantage.
- C. assumes that both capital and labor are variable factors of production.

Answer: B

This is correct. The Ricardian model assumes that labor is the only variable factor of production and that labor productivity is a function of technological levels.

36. Rob Booth, CFA, subscribes to the quantity theory of money. If the central bank were to increase the money supply, Booth would *most likely* expect which of the following outcomes?

- A. An increase in product prices
- B. A decrease in the velocity of money
- C. An increase in the quantity of products purchased.

Answer: A

This is correct. Under the quantity theory of money, an increase in the money supply is expected to reduce purchasing power via the increase in product prices.

37. Mason Jenkins, CFA, was made redundant 7 months ago and is currently working part-time as a window cleaner as he searches for a new full-time position. Which of the following categories *best* describes Jenkins' situation?
- A. Underemployed
 - B. Long-term unemployed
 - C. Frictionally unemployed

Answer: A

This is correct. Jenkins likely has qualifications to perform a higher-paying job and would be considered underemployed.

38. Which of the following statements about monopolistic firms is *least correct*?
- A. Monopolies can earn a markup above the marginal cost.
 - B. A monopolistic firm's output is high relative to that of a purely competitive firm.
 - C. Profit is maximized at the output level where marginal revenue equals marginal costs.

Answer: B

This is incorrect. The profit maximizing level of output for a monopoly is generally below that of a firm in perfect competition.

39. Interest rates in Country JKL are currently higher than those in Country MNO. Which of the following statements about their respective currencies is *most correct*?
- A. The currency for Country MNO will appreciate against the currency for Country JKL.
 - B. The currency for Country JKL will trade at a forward discount against the currency for Country MNO.
 - C. The exchange rate for the currency for Country JKL against the currency for Country MNO will trade at a rate above parity.

Answer: B

This is correct. The currency for a country with higher interest rates will trade a forward discount to the currencies of countries with lower interest rates.

40. The demand equation for laptops (QD_L) is as follows:

$$QD_L = 390.8 - 0.25P_L + 0.15I - 0.05P_S$$

The price of laptops (P_L) is currently 710, and the price of software (P_S) is 142. The income level is 52 (\$52,000 p.a.). Given this information, the price elasticity of demand of laptops is *closest to*:

- A. -0.95
- B. -0.88
- C. -0.83

Answer: C

$$\begin{aligned} QD_L &= 390.8 - 0.25 \times 710 + 0.15 \times 52 - 0.05 \times 142 \\ &= 214 \\ E_L &= -0.25(710/214) \\ &= -0.829 \end{aligned}$$

41. Which of the following statements is *least correct*? To ensure consistency in the method used to calculate GDP, only:
- A. the value of final goods and services is included.
 - B. goods and services that are priced in the local currency are included.
 - C. goods and services produced during the measurement period are included.

Answer: B

This is incorrect as goods and services priced in foreign currencies can still be included in GDP calculations.

42. Which of the following statements is *most correct*? The kinked demand curve model:
- A. explains why stable prices have been seen in monopolistic markets.
 - B. assumes that if a firm increases its price, competitors will follow suit.
 - C. assumes that if a firm decreases its price, competitors will follow suit.

Answer: C

This is correct. Under the kinked demand curve model, when a firm in an oligopoly decreases its price, competitor firms are likely to also decrease prices.

43. Country J has recently entered an economic slump and the central bank is looking to stimulate the economy by decreasing short-term interest rates. Which of the following actions by the Country J central bank would be *most likely*?
- A. Buy long-term bonds.
 - B. Sell short-term treasuries.
 - C. Decrease bank reserve requirements.

Answer: C

This is correct, as decreasing bank reserve requirements would likely lead to an increase in a decrease in short-term interest rates.

44. Country Q places a tariff on smartphones in the hope of spurring growth in domestic smartphone production. Which of the following outcomes is *most likely* to occur because of this decision?
- A. Trade deficit will increase.
 - B. Producer surplus will decrease.
 - C. Consumer surplus will decrease.

Answer: C

This is correct. Tariffs push up the prices of products and lead to a decrease in consumer surplus.

Questions 45–68 Financial Reporting and Analysis

45. Which of the following statements is *most correct*? The statement of changes in owners' equity:
- A. forms part of the statement of financial position.
 - B. provides a link between the income statement and the balance sheet.
 - C. reports the interrelationship between equity, assets, and liabilities.

Answer: B

This is correct, as the statement of changes in owners' equity pulls net profit information from the income statement and provides the balance sheet with equity item information.

46. Which of the following supplementary information is *least likely* to be included in the financial notes and supplementary information section of a financial report?
- A. Segment financials
 - B. Accounting policies
 - C. Key business strategies

Answer: C

The financial report is primarily concerned with accurately detailing the performance of a company. Corporate strategy is likely to appear prior to the financial statements in the management discussion and analysis section and not as supplementary information.

47. Canary Homewares LLC has prepared its annual financial reports and submitted them to an independent auditor for review. The auditor finds that the reports have been presented fairly, but notes some issues with the way certain accounting standards have been (or not been) followed. The auditor has *most likely* issued which kind of opinion in regard to Canary Homewares' financial reports?
- A. Adverse opinion
 - B. Qualified opinion
 - C. Disclaimer of opinion

Answer: B

This is correct. A qualified opinion is reached when the auditor believes that the financial reports have been presented fairly, but do contain exceptions to the accounting standards.

48. Which of the following statements is *least accurate* regarding the analysis of a company's financial statements. Prior to collecting data, the analyst should:
- A. establish time and resources required.
 - B. make appropriate adjustments to the financial information.
 - C. communicate with clients or supervisors on the requirements of the analysis.

Answer: B

This is incorrect. Adjustments to a company's financial data comes after the data is collected and before it is analyzed.

49. Which of the following statements is *least correct*? A business activity that would be classified as an operating activity for a clothing retailer is:
- A. the incurring of income tax.
 - B. the sale of old cash registers.
 - C. the purchase of a new line of shoes.

Answer: B

The purchase and sale of long-term assets is considered an investing activity.

50. Accumulated depreciation would *most likely* appear in which section of the balance sheet?
- A. Other expenses
 - B. Current liabilities
 - C. Noncurrent assets

Answer: C

Accumulated depreciation is a contra asset, which generally comes after property, plant, and equipment (PP&E) in the noncurrent assets section to provide a net PP&E amount (carrying amount).

51. Keller Engines has produced \$79.1 million in revenues for the year, while incurring \$80.6 million. Its retained earnings at the start of the year was \$58.8 million and its balance sheet at the end of the year had the following amounts (in \$ millions):

Current assets	24.6
Noncurrent assets	107.3
Current liabilities	18.0
Noncurrent liabilities	52.1
Contributed capital	10.7

Based on this information, the dividend declared by Keller Engines for the year is *closest to*:

- A. \$0
- B. \$3.2 million
- C. \$6.2 million

Answer: C

$$\begin{aligned}\text{Dividends declared} &= \text{Liabilities} + \text{Contributed capital} + \text{Beginning retained earnings} + \text{Revenue} \\ &\quad - \text{Expenses} - \text{Assets} \\ &= 18.0 + 52.1 + 10.7 + 79.1 - 80.6 - 24.6 - 107.3 \\ &= 6.2\end{aligned}$$

52. Jamie's Metalworks is a small business in Ireland. During the month of January, the business has the following activity:

Date	Activity	Amount (EUR)
01-Jan	Purchase and receive new inventory on credit	20,000
02-Jan	Pay utilities	1,500
04-Jan	Make sale on credit	2,800
08-Jan	Receive cash from client	1,200
14-Jan	Purchase new computer with cash	1,900
16-Jan	Make cash sale	1,600
20-Jan	Pay supplier	5,000
27-Jan	Pay rent	1,200
31-Jan	Pay tax	800

Based on this information, which of the following statements is *least correct* regarding changes to Jamie's Metalworks' accounts during the month of January?

- A. Cash will decrease by EUR 7,600.
- B. Accounts receivable will not change.
- C. Accounts payable will increase by EUR 15,000.

Answer: B

This is not correct. The change in accounts receivables is EUR 1,600 (2,800 – 1,200).

53. Which of the following accrual accounts would *most likely* be categorized as a liability?
- A. Prepaid rent
 - B. Accrued revenue
 - C. Unearned revenue

Answer: C

Unearned revenue arises when a company receives payment for a good or service that has yet to be provided. This would be considered a liability.

54. Company DEF currently owns shares in 3 listed companies. When they produce their annual financial reports, the end-of-year share price of these companies is reflected on Company DEF's balance sheet. This is an example of:
- A. an accrual adjustment.
 - B. a valuation adjustment.
 - C. an asset being reported at historical cost.

Answer: B

This is correct. Assets that are required to be reported at market values will need to have valuation adjustments from the previous balance sheet close.

55. Regarding accounting systems, which of the following statements is *most correct*. The general ledger:
- A. sorts transactions into accounts.
 - B. is a chronological record of business transactions.
 - C. includes adjustments to accruals and prepayments that had not been considered as part of the initial trial balance.

Answer: A

This is correct. The general ledger sorts all the entries posted to transaction journals to their respective accounts.

56. Which of the following statements is *most accurate*? The organization with the authority to establish accounting standards for US listed companies is the:
- A. Securities and Exchange Commission (SEC).
 - B. Financial Accounting Standards Board (FASB).
 - C. International Accounting Standards Board (IASB).

Answer: A

This is correct because although the SEC recognizes the standards set by FASB as authoritative, the SEC retains ultimate control over US corporate regulations.

57. Briar Furniture and Fittings (BFF) is currently part way through filling a long-term contract to renovate an office building. The completion percentage of the project cannot be measured reliably and BFF is currently preparing its annual financials. Assuming the company follows IFRS, which of the following revenue and expense recognition methods would be *most appropriate*? BFF should:
- A. only recognize costs until the project is completed.
 - B. not recognize any profits until the project is completed.
 - C. not recognize any revenues or expenses until the project is completed.

Answer: B

This is correct. Under IFRS, in such cases, revenues can be recognized, but only up to the level of expenses incurred to date. This means that surplus revenues (profit) will not be recognized until the end of the project.

58. Company ABC has 400,000 shares outstanding at the start of the year (1 January) and buys back 10% of shares after 6 months (1 July). On 1 September, the company splits the shares in the company with a 5-for-2 share split, and a month later (1 October) distributes a 5% stock dividend to shareholders. Assuming no other share activity by Company ABC, the weighted average number of shares outstanding for the year is *closest to*:

- A. 651,250
- B. 945,000
- C. 997,500

Answer: C

Applying the stock split and stock dividend to the original number of shares and the share buyback gives the following amount of outstanding shares:

1 January: 1,050,000 held for the full year ($400,000 \times 5/2 \times [1 + 5\%]$)

1 July: -52,500 held for half the year ($-10\% \times 400,000 \times 5/2 \times [1 + 5\%]$)

Weighted average number of shares outstanding = $1,050,000 \times (12/12) - 52,500 \times (6/12) = 997,500$

59. Which of the following statements is *least correct*?

- A. Accounting goodwill is amortized annually.
- B. Economic goodwill is not reflected on the balance sheet.
- C. Accounting goodwill is the price paid for a business less the value of its net assets.

Answer: A

This is incorrect. Goodwill is not amortized, but is tested annually for impairment.

60. Which of the following is *not* a common component of owners' equity?

- A. Treasury shares
- B. Subsidiary interests
- C. Accumulated other comprehensive income

Answer: B

This is correct. Subsidiary financials are included in the company's balance sheet and income statement.

61. Aguera International categorizes the following cash flows as operating cash flows:

- Interest paid on outstanding bonds
- Dividends received from share portfolio
- Dividends paid to shareholders

Based on this information, Aguera International is *most likely* following which accounting standard?

- A. IFRS only
- B. US GAAP only
- C. Either IFRS or US GAAP

Answer: A

This is correct. All these items can be included under operating cash flows under IFRS. However, dividends paid must be categorized as a financing cash flow under US GAAP.

62. Which of the following is *least likely* to be a limitation of ratio analysis?

- A. Conflicting ratio signals
- B. Available range of accounting methods
- C. Requirement for information outside of financial statements

Answer: C

Though a good analyst will go beyond the financial report in their analysis of a company, the financial statements generally have all the information required to compute the common financial ratios.

63. Which of the following inventory valuation methods will *most likely* value cost of goods sold (COGS) in an economically accurate fashion?

- A. Last in, first out (LIFO)
- B. First in, first out (FIFO)
- C. Weighted average cost (AVCO)

Answer: A

LIFO values COGS based on recent prices. This best reflects their replacement cost and is the most economically accurate method.

64. Under US GAAP, research and development costs may be capitalized:

- A. never.
- B. once there is an intention to use or sell a feasible product.
- C. for software development, once technological feasibility has been established.

Answer: C

This is correct. US GAAP does require that certain costs relating to software development be capitalized.

65. MyCloud Airlines (MCA) is preparing its financial reports and is reviewing its measurement of deferred tax items. If MCA follows IFRS, which of the following tax rates and laws would be *most appropriate* for MCA to use?

- A. Estimated tax rates and laws.
- B. Only currently enacted tax rates and laws.
- C. At least substantively enacted tax rates and laws.

Answer: C

This is correct, as under IFRS companies should use enacted or substantively enacted tax rates and tax laws.

66. Company XYZ operates a defined benefit pension plan for its employees, which was recorded as a net pension asset at the start of the year. Primarily due to actuarial changes throughout the year, the plan has since moved to become a net pension liability by the end of the year. Using IFRS, which of the following accounting items is *least likely* to appear in the annual financial reports?

- A. Actuarial loss
- B. Net interest expense
- C. Employee service cost

Answer: B

Net interest is calculated by multiplying the plan's surplus or deficit at the start of the period by the relevant discount rate. As the plan was in surplus at the start of the year, this would mean that net interest income will appear in the income statement.

67. Directors at Portville Laboratories are expecting a large increase in revenue the following year as a result of the expiry of a competitor's drug patent. As such, they decide to delay the annual business conference and several R&D projects so that these expenses will fall into the following year's reporting. This is known as:

- A. real earnings management.
- B. noncompliant accounting.
- C. accounting earnings management.

Answer: A

This is correct, as Portville Laboratories are engaging in real earnings management by taking a real action to influence the level of normal earnings.

68. Which of the following strategies would *most likely* be used to decrease profits for tax purposes in the current period?
- A. Channel stuffing
 - B. Switching from AVCO to FIFO
 - C. Decreasing the useful life of assets

Answer: C

This is correct, as decreasing the useful life of assets would lead to a higher amount of depreciation being expensed each period.

Questions 69–76 Corporate Finance

69. Which of the following groups would *least likely* be considered to be a primary stakeholder of a local car mechanic business?
- A. National union for mechanics
 - B. Local environmental organization
 - C. Business banking team that looks after cash and overdraft facilities of the mechanic

Answer: B

Though the mechanic may need to take into account the interest of local community groups, it would be unlikely that an environmental organization would have much conflict with the interests of the business.

70. Which of the following statements regarding environmental, social, governance (ESG) considerations is *most correct*? Positive screening:
- A. is used to exclude certain investments or sectors with poor ESG characteristics.
 - B. is used to include certain investments or sectors with good ESG characteristics.
 - C. uses ESG factors, along with traditional analysis, to find investment opportunities.

Answer: B

This is correct. Positive screening approaches focus on including investments with favorable ESG aspects.

71. Manfred White, CFA, is analyzing a prospective project by calculating its discounted payback period. Which of the following statements is *least correct*? A drawback of using this type of evaluation approach is that it:
- A. does not provide a measure of project profitability.
 - B. ignores cash flows that occur after payback period.
 - C. does not take into account the time value of money.

Answer: C

This is incorrect as the discounted payback period does discount future cashflows to take into account the time value of money.

72. PharmaSun Technologies (PST) is a large producer of household vitamins and supplements. Its shares trade at the local stock exchange and are currently priced at EUR 26.90. It recently paid its annual dividend of EUR 1.22 per share and this is expected to grow into perpetuity at 3.1% p.a. It also has preference shares that are currently trading at EUR 98.30, which also recently paid its annual dividend of EUR 6.50 per preference share. It finances its debt through bank loans and recently renegotiated its loans at a rate of 4.2% above the risk-free rate. Overall, PST's capital structure consists of 30% in loans, 20% in preference shares, and 50% in ordinary shares. If the

risk-free rate is 2.4% p.a. and PST's effective tax rate is 25%, the weighted average cost of capital (WACC) for PST is *closest to*:

- A. 5.1%
- B. 6.7%
- C. 7.2%

Answer: B

$$\begin{aligned}k_d &= (r_f + \text{premium})(1 - \text{tax}) \\&= (2.4\% + 4.2\%)(1 - 25\%) \\&= 4.950\%\end{aligned}$$

$$\begin{aligned}k_{ps} &= \frac{\text{Div}_{ps}}{\text{Price}_{ps}} \\&= 6.50/98.30 \\&= 6.612\%\end{aligned}$$

$$\begin{aligned}k_e &= \frac{\text{Div}_e(1 + g)}{\text{Price}_e} + g \\&= [1.22 \times (1 + 3.1\%)/26.9] + 3.1\% \\&= 7.776\%\end{aligned}$$

$$\begin{aligned}\text{WACC} &= w_d \times k_d + w_{ps} \times k_{ps} + w_e \times k_e \\&= 30\% \times 4.950\% + 20\% \times 6.612\% + 50\% \times 7.776\% \\&= 6.695\%\end{aligned}$$

73. Which of the following statements is *most correct*? The degree of operating leverage is:

- A. affected by a company's cost structure.
- B. the sensitivity of net income to changes in operating income.
- C. the sensitivity of operating income to changes in sales margins.

Answer: A

This is correct, as the degree of operating leverage is influenced by the relative level of variable and fixed costs.

74. Which of the following statements regarding sources of liquidity is *least accurate*. A major drag on liquidity might be:

- A. tight credit.
- B. obsolete inventory.
- C. extension of terms on payables.

Answer: C

This is incorrect as more favorable terms from suppliers is likely to increase liquidity levels.

75. Banks and Sons Productions (BSP) manufacture fabrics for the interiors of passenger vehicles. They provide most of their goods on credit terms to their customers and they are concerned that a recent economic downturn may be affecting the payment of outstanding invoices. Their accounts receivables (A/R) aging schedule is currently as follows:

A/R Category	Average Days Receivable	A/R Outstanding (\$000's)
Early	18	225.4
Normal	37	312.6
Delayed	81	68.9
Default	119	33.2

Based on this information, BSP's current weighted average collection period is *closest to*:

- A. 39 days
- B. 48 days
- C. 64 days

Answer: A

A/R Category	Average Days Receivable	A/R Outstanding (\$000's)	Weighted Outstanding	Weighted Days
Early	18	225.4	35.2%	6.34
Normal	37	312.6	48.8%	18.07
Delayed	81	68.9	10.8%	8.72
Default	119	33.2	5.2%	6.17
TOTAL		640.1		39.30

76. The sovereign yield spread for Country UVW is currently 5.3% and the yield on 10-year US treasuries is 3.2%. The annualized standard deviation of Country UVW's stock market is 19.1%, which is much higher than the annualized standard deviation of Country UVW's 10-year USD sovereign bonds of 7.6%. If the expected return on Country UVW's stock market is 13.2%, their country risk premium is *closest to*:

- A. 5.3%
- B. 13.3%
- C. 26.5%

Answer: B

$$\begin{aligned}
 \text{CRP} &= \text{Sov. yield spread} \times (\text{Equity } \sigma / \text{Bond } \sigma) \\
 &= 5.3\% \times 19.1\% / 7.6\% \\
 &= 13.32\%
 \end{aligned}$$

Questions 77–85 Portfolio Management and Wealth Planning

77. Which of the following statements is *least accurate*?

- A. The time horizon for life insurance companies is longer than the time horizon for banks.
- B. The liquidity needs of banks are lower than the liquidity needs of defined-benefit pension plans.
- C. The risk tolerance for foundations is higher than the risk tolerance for property insurance companies.

Answer: B

This is incorrect as the liquidity needs of banks are generally high due to at-call deposits, while the liquidity needs for pension plans can be quite low (depending on the age of the workforce).

78. Which of the following statements is *least correct*? A separately managed account (SMA):

- A. takes into account the specific tax needs of the investor.
- B. provides investors with units in a pooled investment vehicle.
- C. generally requires a higher minimum investment than mutual funds.

Answer: B

This is incorrect. An SMA provides investors with direct ownership over the securities managed by the fund manager.

79. Which of the following statements regarding risk management in an organization is *least correct*? The board is responsible for:

- A. setting the firm's risk tolerance.
- B. monitoring the firm's risk levels.
- C. guiding the firm's risk budgeting.

Answer: B

This is incorrect as the monitoring of risk generally forms part of the risk management framework that is executed by the firm's managers.

80. Barry Winters, CFA, is a derivatives trader for an investment house in New York and will be closing out a currency swap by sending EUR 200 million to the swap counterparty. Winters realizes that European markets are closed for a long weekend and that the repayment of the USD leg will be delayed, and he is concerned that if he sends the EUR notional amount now, there is a risk that the counterparty will default prior to being able to make their closing swap payment. Which of the following risks is Winters *most likely* exposed to?

- A. Default risk
- B. Settlement risk
- C. Counterparty risk

Answer: B

This is correct, as the failure of a counterparty to keep their side of a transaction due to timing issues is known as settlement risk.

81. Felix Moon, CFA, purchased a stock for \$128.44 per share (after costs) and receives the following dividends at the end of each year:

- Year 1 \$5.65
- Year 2 \$4.90
- Year 3 \$6.20

Just following the Year 3 dividend, he sells the stock for \$165.32 per share (after costs). The money-weighted rate of return Moon has earned from the stock is *closest to*:

- A. 12.3%
- B. 12.5%
- C. 12.8%

Answer: C

$$CF_0 = -128.22$$

$$CF_1 = 5.65$$

$$CF_2 = 4.9$$

$$CF_3 = 6.2 + 165.32 = 171.52$$

IRR CPT

$$IRR = 12.78\%$$

82. Investor Y has a risk aversion coefficient of 2 and has the option of investing in one of the following portfolios:

Portfolio	Expected Return	Expected Variance
A	8.50%	1.10%
B	14.2%	2.80%
C	11.60%	1.60%

Which of these portfolios is Investor Y *most likely* to choose?

- A. Portfolio A
- B. Portfolio B
- C. Portfolio C

Answer: B

$$U_{i,Y} = E(R_i) - A_Y \sigma^2$$

$$U_A = 8.50\% - 2 \times 1.10\% \\ = 0.063$$

$$U_B = 14.20\% - 2 \times 2.80\% \\ = 0.086$$

$$U_C = 11.60\% - 2 \times 1.60\% \\ = 0.084$$

Therefore, Investor Y will choose Portfolio B, as it will provide her with the most utility.

83. Which of the following statements regarding the efficient frontier is *least accurate*?

- A. The single optimal portfolio on the efficient frontier has the highest Sharpe ratio.
- B. An optimal investor portfolio occurs at the point of tangency between the capital market line and the investor's indifference curve.
- C. Investors can move from the single optimal portfolio to an optimal investor portfolio by moving to other portfolios along the efficient frontier.

Answer: C

This is incorrect. To move to other optimal portfolios, an investor should move to portfolios along the capital market line, which is a proportion of the single optimal portfolio and the risk-free asset.

84. Information regarding Portfolio D and the market are as follows:

- Risk-free rate 2.6%
- Market premium 5.5%
- Market standard deviation 10.8%
- Portfolio D expected return 11.8%
- Portfolio D standard deviation 12.9%

If Portfolio D has a correlation with the market of 0.87, which of the following statements is *least correct*?

- A. Portfolio D's Sharpe ratio is 0.7.
- B. Portfolio D's Treynor ratio is 8.9%.
- C. Portfolio D's Jensen's alpha is 2.2%.

Answer: C

This is incorrect.

$$\begin{aligned}\beta_P &= \rho \frac{\sigma_P}{\sigma_M} \\ &= 0.87 \times 12.9\% / 10.8\% \\ &= 1.04 \\ \alpha_P &= R_P - (R_f + \beta_P(R_M - R_F)) \\ &= 11.8\% - (2.6\% + 1.04 \times 5.5\%) \\ &= 3.48\%\end{aligned}$$

85. Karen Underwood, CFA, is a financial advisor at a large bank in the UK. She is meeting with a new client and is currently discussing her investment needs and objectives. Underwood uncovers that her client has an above-average willingness to take on investment risk, but that her circumstances are more conducive to a below-average level of risk. Which of the following actions is *most appropriate* for Underwood to take?
- A. Recommend a lower risk portfolio to the client.
 - B. Recommend a higher risk portfolio to the client.
 - C. Explain to the client the conflict between her willingness and ability to take on investment risk.

Answer: A

In the circumstance in which a client's ability to take on investment risk is below average, but their willingness to take on investment risk is above average, the client is likely to need a less risky investment strategy.

Questions 86–97 Equity Investments

86. Which of the following statements is *most accurate*? A primary dealer:

- A. trades with the central bank.
- B. provides brokerage services to fulfill large orders.
- C. arranges the offering of securities on primary markets.

Answer: A

This is correct. Primary dealers are used by the central bank in conducting monetary policy.

87. Jane Roswell, CFA, works on the dealing desk of a large broker. She receives an order to sell shares and places a sell order at a price below the best offer and above the bid. Which of the following statements is *most correct*? Roswell's order:

- A. is behind the market.
- B. has made a new market.
- C. will at least be partially executed immediately.

Answer: B

This is correct. A sell order placed below the best offer and above the best bid is said to make market.

88. The TimeWell UK Equity ETF offers investors a passive exposure to companies listed on the London Stock Exchange. The proportion of each share's weight in the ETF is based on the relative size of each company's book value. Which weighting method will the TimeWell UK Equity ETF *most likely* follow?

- A. Equal weighting
- B. Fundamental weighting
- C. Float-adjusted market-capitalization weighting

Answer: B

This is correct. A fundamental weighted index uses measures such as book value, cash flow, and revenues to determine weights.

89. Which of the following stock market indices was originally formulated by Dow Jones & Co and uses a modified price weighting approach?

- A. TOPIX
- B. Nikkei Stock Average
- C. HFRX Global Hedge Fund Index

Answer: B

This is correct. The Nikkei was developed by Dow Jones and uses a weighting approach based on stock prices.

90. Wilhelm Bulmer, CFA, notices that the value of his client's portfolios tends to generate more returns on Fridays and less so on Mondays. This anomaly is commonly referred to as the:
- A. value effect.
 - B. Friday effect.
 - C. weekend effect.

Answer: C

This is correct. The calendar anomaly relating to high returns on Fridays followed by low returns on Mondays is commonly known as the weekend effect.

91. Company ABC has three classes of ordinary shares on issue as follows:
- Class A shares: no voting rights
 - Class B shares: statutory voting rights
 - Class C shares: cumulative voting rights

Which class of shares would *best* offer minority shareholders better representation on the board?

- A. Class A
- B. Class B
- C. Class C

Answer: C

This is correct. Cumulative voting gives shareholders one vote per board director being elected for each share they own.

92. BigSilk Textiles is a large producer of luxury linen and luggage for households and has historically enjoyed fast growth and a low level of market competition. However, growth is now slowing and competition both domestically and internationally has grown considerably causing their return on capital to fall considerably. Which of the following stages would *best* describe the current position of BigSilk's industry in the industry life-cycle model?
- A. Mature
 - B. Decline
 - C. Shakeout

Answer: C

This is correct. The shakeout phase follows a period of industry growth and corresponds with slowing growth, intense competition, and declining profitability.

93. Company OOO has recently sold off one of its poorer performing businesses to another firm. Due to synergistic benefits, they received a price well above the intrinsic value of the business segment and they have decided to return cash to shareholders by way of a share repurchase. Which of the following is *least likely* to be seen as a benefit of this type of corporate action to Company OOO's directors and shareholders?
- A. Tax effectiveness, as capital gains and dividends are taxed at the same low rate.
 - B. Distribution flexibility, as the share repurchase does not raise expectations about ongoing dividend levels.
 - C. Increase in shareholder value, as directors believe that the company's shares are currently undervalued.

Answer: A

This is incorrect. Tax effectiveness from share repurchases is achieved where capital gains are taxed at lower rates than dividends.

94. Harrietta Fleece, CFA, is a portfolio manager for the GMZ Global Value Fund. A key filter for the fund is a company's P/E ratio and the fund only invests in companies with a leading justified P/E ratio of less than 12.0. She has identified two companies that would be a good inclusion in the fund and has prepared the following information on the companies:

	Company A	Company B
Retention rate	27%	36%
Expected return (p.a.)	9.70%	10.60%
Expected growth (p.a.)	3.50%	5.10%

If Fleece can invest in only one company and makes her decision based on leading justified P/E ratios, the company that Fleece will select is *most likely* to be:

- A. Company A
- B. Company B
- C. Neither Company A nor Company B

Answer: B

$$\text{Justified P/E} = \frac{\text{Payout rate}}{E(R) - g}$$

$$\begin{aligned} \text{Justified P/E}_A &= (1 - 27\%)/(9.7\% - 3.5\%) \\ &= 11.77 \end{aligned}$$

$$\begin{aligned} \text{Justified P/E}_B &= (1 - 36\%)/(10.6\% - 5.1\%) \\ &= 11.64 \end{aligned}$$

Company B's leading justified P/E is the lowest and below the filter of 12.0. Hence, Fleece will select Company B.

95. McDaniels is a fast-growing dessert chain located on the US West Coast. It is not currently paying dividends but is expecting to start paying dividends over the next few years as follows:
- Initial dividend of \$2.50 per share at the end of Year 3
 - Dividend of \$3.00 at the end of Year 4 and \$4.00 at the end of Year 5
 - Dividends to grow at a rate of 5% p.a. at the end of each year following Year 5

If investors require a return of 15% p.a. to invest in McDaniels, its share price is *closest to*:

- A. \$25.2
- B. \$26.2
- C. \$27.2

Answer: B

$$P = \sum_{i=0}^n \frac{CF_i}{(1 + R_i)}$$

$$= \frac{2.50}{(1.15)^3} + \frac{3.00}{(1.15)^4} + \frac{4.00}{(1.15)^5} + \frac{4(1.05) / (0.15 - 0.05)}{(1.15)^5} = 26.23$$

96. Which of the following statements is *least accurate*? The EV/EBITDA multiple might be appropriate when:
- A. a company is currently experiencing losses.
 - B. the debt of companies is not publicly traded.
 - C. companies in an industry tend to have a wide range of capital structures.

Answer: B

This is incorrect because to calculate the equity value from the enterprise value calculated using EBITDA multiples, the value of debt needs to be calculated reliably. This is difficult when the debt of the company is not publicly traded.

97. Which of the following factors is *not* a common external influence on a company or industry?
- A. Population growth
 - B. Economies of scale
 - C. Technological advancements

Answer: B

This is an internal competitive force.

Questions 98–109 Fixed Income

98. Which of the following statements is *most accurate*? A currency option bond:
- A. makes coupon payments in one currency and the principal payment in another.
 - B. gives bondholders a choice of two currencies regarding coupon and principal payments.
 - C. provides bondholders with coupon and principal payments in multiple currencies at the prevailing currencies rate of interest.

Answer: B

This is correct. A currency option bond provides bondholders with the option to receive coupon and principal payments in one out of two currencies.

99. Which of the following tax treatments is *least likely* regarding bonds?
- A. Tax exemption of certain bonds
 - B. Annual interest income tax payable on zero-coupon bonds
 - C. Capital loss claim in the year of purchase for bonds bought at a premium

Answer: C

This is not correct as capital losses are usually only claimable once sold or at maturity. Some jurisdictions allow for an annual amortization cost to offset other income for the year for securities purchased at a premium.

100. Hazel Reid, CFA, is searching for a corporate bond for a client to add to their portfolio. All of the bonds on offer have embedded call options for the issuer. Which of the following types of bonds would *most likely* protect the interests of Reid's client in a rising interest rate environment?
- A. Step-up coupon bond
 - B. Deferred coupon bond
 - C. Payment-in-kind coupon bond

Answer: A

This is correct. In a rising interest rate environment, an issuer is unlikely to call in the bonds and hence investors are locked into lower rates. A step-up feature allows bondholders to benefit from higher coupons should the issuer not call/mature the bond.

101. All else being equal, which of the following bonds would be the *least* expensive for a bondholder?
- A. Callable bond with a make-whole provision
 - B. Putable bond with multiple sellback opportunities
 - C. Callable bond with an initial call protection period

Answer: C

A callable bond with an initial call protection period does restrict issuers from exercising the embedded call option early on, but not after the protection period has ended. Such a bond would be offered at a fair discount when compared with an option-free equivalent.

102. Which of the following statements regarding floating rate notes is *least correct*? The reference rate for a floating rate note:

- A. resets periodically.
- B. is based on the issuer's creditworthiness.
- C. usually depends on the place of issue and currency.

Answer: B

This is incorrect and refers to the note's spread above the reference rate.

103. Intelligent Money Group (IMG) issues \$150 million in debt to investors. The return on the 5-year bond is linked to the 5-year government bond yield and the return on the S&P 500. The type of debt security issued by IMG would *best* be described as a:

- A. structured note.
- B. convertible bond.
- C. floating rate note.

Answer: A

This is correct. A structured note is issued by a financial institution by combining a bond with a derivative overlay, which is to provide the noteholder with a different risk/return profile.

104. Bunny Apparel is raising capital by issuing \$150 million in 12-year bonds to investors. They have set the annual coupon rate at 7.5% and are pleased to find the bond issue raises \$162.47 million. Based on this information, the yield required by investors in the bonds at issue is *closest to*:

- A. 4.8%
- B. 6.0%
- C. 6.5%

Answer: C

$$N = 12$$

$$PV = 162.47$$

$$PMT = -11.25 (\$150 \times 7.5\%)$$

$$FV = -150$$

$$\text{CPT I/Y}$$

$$I/Y = 6.48\%$$

105. A 6-year bond that pays an annual coupon at 6.2% with a face value of \$100 per bond is currently trading at \$104.768. It is 143 days since the last coupon was paid and the bond's yield to maturity is 5.11% p.a. Following the 30/360 day-count convention, the bond's current flat price is *closest to*:
- A. \$101.0
 B. \$102.3
 C. \$107.2

Answer: B

$$\begin{aligned}\text{Accrued interest (AI)} &= t/T \times \text{Coupon} \\ &= 143/360 \times \$6.20 \\ &= \$2.463\end{aligned}$$

$$\begin{aligned}\text{Flat price} &= \text{Full price} - \text{AI} \\ &= \$104.768 - \$2.463 \\ &= \$102.305\end{aligned}$$

106. The spot rates for the shorter-term government bonds are as follows:

1 year 4.2% p.a.
 2 year 5.1% p.a.
 3 year 5.9% p.a.

Given this information, the 3-year par rate is *closest to*:

- A. 5.4%
 B. 5.6%
 C. 5.8%

Answer: C

The 3-year par rate is found by finding the coupon (PMT) rate that makes the current price equal to par (\$100):

$$100 = \frac{PMT}{(1+R_1)^1} + \frac{PMT}{(1+R_2)^2} + \dots + \frac{PMT + 100}{(1+R_n)^n}$$

Rearranging to solve for par rate (PMT/100):

$$\begin{aligned}\text{PAR}_3 &= \frac{(1+4.2\%)^1(1+5.1\%)^2(1+5.9\%)^3 - (1+4.2\%)^1(1+5.1\%)^2}{(1+4.2\%)^1(1+5.1\%)^2 + (1+4.2\%)^1(1+5.9\%)^3 + (1+5.1\%)^2(1+5.9\%)^3} \\ &= 5.84\%\end{aligned}$$

107. A 7-year corporate bond, with an annual coupon of \$7.50, is currently trading at \$103.269 and will mature at 105% above par. The corresponding 7-year government bond is trading at \$107.338 and pays a 6% annual coupon. The G-spread of the corporate bond is *closest to*:
- A. 150 points
 - B. 271 points
 - C. 392 points

Answer: B

Corporate bond IRR:

$N = 7$
 $PV = 103.269$
 $FV = -105$
 $PMT = 7.5$
CPT I/Y
 $I/Y = 7.454\%$

Government bond IRR:

$N = 7$
 $PV = 107.388$
 $FV = -100$
 $PMT = 6.0$
CPT I/Y
 $I/Y = 4.744\%$

Therefore, the corporate bond G-spread is 271.0 points (745.4 pts – 474.4 pts)

108. Which of the following statements regarding mortgage backed securities is *least accurate*?
Extension risk:
- A. occurs when interest rates rise.
 - B. leads to a greater amount of capital invested in lower yielding mortgages.
 - C. is characterized by price compression at low interest rates and negative convexity.

Answer: C

This is incorrect and relates instead to contraction risk.

109. Which of the following statements is *most correct*? When the investment horizon of a bond is less than the Macauley duration of the bond:
- A. the duration gap is positive.
 - B. coupon reinvestment dominates market price risk.
 - C. the investor is concerned about interest rates falling.

Answer: A

This is correct, as duration gap is equal to the Macauley duration minus the investment horizon.

Questions 110–115 Derivatives

110. In comparison to underlying spot markets, derivative markets tend to:

- A. be less liquid.
- B. entail higher transaction costs.
- C. offer easier access to leverage and short positions.

Answer: C

This is correct. Derivative markets do allow market participants access to leveraged and short exposures.

111. 90-day LIBOR is currently 1.88%, 180-day LIBOR is 2.05%, and 270-day LIBOR is 2.10%. The forward rate that a borrower would use to hedge a 180-day loan due to start in 90 days is *closest to*:

- A. 1.99%
- B. 2.06%
- C. 2.20%

Answer: C

The FRA will effectively go long the 270-day rate and short the 90-day rate:

$$R_{180} = \frac{[1 + 2.10\%(270/360)]}{[1 + 1.88\%(90/360)]} - 1$$
$$= 1.100\%$$

$$\text{FRA} = 1.100\% \times (360/(270-90))$$
$$= 2.200\%$$

112. BWC Chemicals is the fixed-rate payer on a plain-vanilla interest rate swap. Since swap commencement, interest rates have fallen considerably. Which of the following statements is *most accurate*?

- A. The swap will be an asset for BWC.
- B. The swap fixed rate will have fallen.
- C. The present value of floating-rate payments will be lower than the present-value of fixed-rate payments.

Answer: C

This is correct. The fixed-rate payments will remain the same, while the floating-rate payments fall with interest rates.

113. The price for an underlying security is currently \$5.20. A put option with an exercise price of \$5.28 has a premium of \$0.08. The put option is currently trading:
- A. in-the-money.
 - B. at-the-money.
 - C. out-of-the-money.

Answer: A

The put's exercise price is above the underlying spot price, resulting in positive exercise value according to the formula $p_T = \text{Max}(0, X - S_T)$. Thus, the option is in the money.

114. Which of the following statements is *most accurate*? The lowest value of a European put option is the greater of:
- A. the premium or the present value of the exercise price less the premium.
 - B. zero and the underlying spot price plus the present value of the exercise price.
 - C. zero and the present value of the exercise price less the underlying spot price.

Answer: C

This is correct, as a European put option's minimum value is the greater of zero and the present value of the exercise price less the current price of the underlying.

115. Early exercise of an American option immediately before a dividend would *most likely* be warranted:
- A. for a stock call option.
 - B. when carry costs are significant.
 - C. for a put option well in-the-money.

Answer: A

This is correct. Generally, it is disadvantageous to exercise an American option early. However, there may be a benefit to exercise early a call option on a stock just prior to it going ex-dividend.

Questions 116–120 Alternative Investments

116. Karen Yang, CFA, is an investment advisor to a family office. She is currently looking to add a nontraditional exposure to the family office portfolio with the following characteristics:

- low correlation with equity markets and business cycle
- moderate level of liquidity

Which of the following investments would be *most appropriate* for Yang to consider?

- A. hedge fund
- B. art collection
- C. private equity

Answer: A

This is correct, as hedge fund strategies can have low correlation with markets and economic conditions, while also providing a reasonable amount of liquidity.

117. Which of the following would *not* be considered an equity hedge strategy?

- A. market neutral
- B. distressed securities
- C. quantitative directional

Answer: B

Distressed security strategies revolve around the debt and equity financing of companies facing difficulties and is an event-driven strategy.

118. Angelique Asset Advisors (AAA) are private equity managers based in Brussels, Belgium. One of their investments, a biotech firm specializing in wearable diagnostic tools, has done extremely well and AAA is now looking to exit the company. If equity markets are buoyant and interest rates are relatively high, which of the following exit strategies would be *most appropriate* for AAA to consider?

- A. Trade sale
- B. Liquidation
- C. Recapitalization

Answer: A

This is a viable option for AAA to consider and involves finding a strategic buyer such as a larger tech firm.

119. A proposed university investment is an example of which type of infrastructure asset?

- A. Brownfield, local infrastructure asset
- B. Greenfield, social infrastructure asset
- C. International, economic infrastructure asset

Answer: B

This is correct, as the project is a new asset, focused on the social objective of education.

120. Which of the following statements is *least accurate*? Compared to listed equity, alternative assets can have a greater level of:

- A. agency cost.
- B. liquidity risk.
- C. systematic risk.

Answer: C

This is incorrect as alternative assets tend to have a relatively low exposure to capital markets.

WILEY

CFA® Mock Exam Answer Key

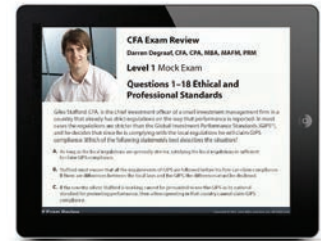
Congratulations on completing Wiley's CFA® Mock Exam!

Candidates who take one or more CFA mock exams can exponentially increase their chances of passing.

To check your answers and obtain full solutions to this mock, visit www.efficientlearning.com/cfa/mock-exam



Level I Mock Exam Review Seminar - Free



9am - 11am ET / 2pm - 4pm BT on Saturday November 24, 2018

To help you make the most of your Mock Exam experience with Wiley, we are offering to walk through how to answer 20 of the most typical and toughest questions on this mock exam in an online webcast. This live online class will be highly interactive with plenty of Q&A.

Delivered by a top CFA instructor who has helped thousands of candidates to pass the CFA exam, the 20 questions will be voted for by you!

**Vote for your questions and register
to join the live webcast at:**

www.efficientlearning.com/cfa/mock-exam-review-webcast

Voting closes Tuesday November 20, 2018.

Can't attend live? We will also record the class so you will be able to watch it later on demand.

Best wishes for your studies.

WILEY

Smarter Test Prep



The secret is out.
Wiley's materials are a better way to prep.

"Your study guides, lectures and practice questions are really helping me grasp these difficult concepts better. Thanks!"- Amy, San Francisco

"I've been a long time user of your products and think they are the best prep materials available." - Dylan, Canada

"your Eleventh Hour is amazing... your mock exams also closely replicate the exams." - Rehaaz, Canada

"greatly appreciate your study guide which make me pass the exam with all topics above 70%... really much more better than other study guide provider." - Chee, Singapore

www.efficientlearning.com/cfa

CFA Institute does not endorse, promote, or warrant the accuracy or quality of the products and services offered by Wiley Efficient Learning. CFA Institute, CFA® and Chartered Financial Analyst® are registered trademarks owned by CFA Institute.



WILEY