

Mock Exam 1 Session 1 - Answers

Question 1

Streamfield University utilizes outsourced investment management, including firms such as Orion Capital Management and Shufelt Investors, for its substantial endowment portfolio. To evaluate the quarterly returns and overall performance of these individual investment managers, Streamfield partners with Axiom Performance Consultants. Axiom Performance Consultants would be considered a(n):

- A) agent.
- B) principal.
- C) custodian.
- D) **stakeholder.** ✓

Explanation

A stakeholder is an outside party that provides a specialized value-added service. The principal is the asset owner, and external asset managers act as agents. A custodian is the holder of record of the assets.

LO 1.1.1

Question 2

In her paper on the investment industry, college student Marissa Gonzales makes the following statements:

Statement 1: "Capital allocation is the transfer of surplus funds from savers to entities that require funds for implementing investment ideas."

Statement 2: "Stewardship is the oversight of investment funds to ensure they are properly managed."

Which of Gonzales's statements is correct?

- A) Statement 1 only. ✓**
- B) Statement 2 only.
- C) Both Statement 1 and Statement 2.
- D) Neither Statement 1 nor Statement 2.

Explanation

Statement 1 correctly describes capital allocation. Stewardship, however, focuses on enhancing societal wealth and well-being and is broader than mere oversight of investment funds, so Statement 2 is not correct.

LO 1.1.2

Question 3

Environmental advocates have been pressuring Zion Chemical Corp.'s management to adopt a stronger focus on sustainability. In response, Chief Financial Officer Marion Wilkes has begun investigating the best approach, concluding that Zion should concentrate on the triple bottom line concept. Given this new focus, what are the three key areas Wilkes needs to address?

- A) Transparency, integrity, and accountability.
- B) Environmental, social, and governance issues.
- C) Net income, debt reduction, and share buybacks.
- D) Financial returns, social effects, and environmental impact. ✓**

Explanation

The triple bottom line concept refers to corporations considering their economic (financial) contributions alongside environmental and social effects.

LO 1.1.2

Question 4

William Zahn, an investment officer for the McAllister family office, faces a generational divide regarding sustainable investments. The younger generation is eager to integrate them into the family portfolio, while the older generation fears a negative impact on performance. Zahn clarifies that the investment industry widely believes investors can achieve both profit-driven goals and positive social and environmental outcomes. This concept is known as:

- A) Impartiality.
- B) Sustainability.
- C) **Social license principle.** ✓
- D) The triple bottom line.

Explanation

Zahn is describing the Social License principle, which reflects society's implied consent for investors to pursue profit while also contributing positively to social and environmental outcomes. The triple bottom line refers to how corporations consider economic, environmental, and social effects from their business activities. Sustainability refers more broadly to long-term societal well-being. Impartiality refers to not favoring one client or beneficiary over another.

LO 1.1.3

Question 5

Due to recent high employee turnover at Tall Hills Asset Management, the management team meets to address the company's culture. Employee exit interviews have cited a lack of communication and no clear direction from executives as reasons for departure. Harrison Vance, CEO of Tall Hills, makes the following statement at the start of the meeting:

"We need to establish a new culture here at Tall Hills with upper management serving as the role models for the rest of the company. Our professional behavior at the executive level will set the tone for the culture of the group."

Which of the following is not a key way to impact the culture at Tall Hills?

- A) Having monthly staff meetings to discuss current events at the firm.
- B) Revising the compensation structure at the firm to benefit top performers. ✓**
- C) Having every manager sit down with their direct reports to establish yearly expectations.
- D) Creating a regular employee poll to determine the most important issues to the employees.

Explanation

The three main ways culture is shaped are: setting clear expectations, focusing on what is most important to the group, and maintaining effective communication. One-on-one expectation setting, regular staff meetings, and employee polls all directly support these elements. Changes to compensation, however, are not in themselves a primary cultural driver and were not cited as a concern in the exit interviews.

LO 1.1.3

Question 6

For the past five years, David Swanson has been a client of investment advisor Michael Simmons. Simmons is highly accessible, providing regular market updates and always being available for meetings and phone calls. However, despite multiple adjustments to the portfolio, Simmons's investment performance has consistently lagged behind the established benchmark. Which of the following fundamental components of Swanson's trust has Simmons violated?

- A) Credibility.** ✓
- B) Competence.
- C) Professionalism.
- D) Communication.

Explanation

Three key elements required for a client's trust are credibility, communication, and professionalism. Simmons has maintained regular communication and appears to act professionally, but a persistent pattern of underperformance over a five-year period undermines his credibility in Swanson's eyes.

LO 1.1.4

Question 7

Carhart Brothers Investment Bank, led by Jacob Carhart, has a long-standing reputation in investment banking. Mr. Carhart places great importance on the quality of his employees and the value they deliver to clients. He consistently emphasizes the "value creation equation" in management meetings, which all employees are expected to apply. Which of the following elements is not part of this value creation equation?

- A) Purpose.
- B) Assurance.
- C) Performance.** ✓
- D) Professionalism.

Explanation

The value creation equation includes purpose (fiduciary duty, vision), professionalism (values, ethics, competency), and assurance (trust, reputation). Performance, while important, is not explicitly included as one of the components of this particular equation.

(LO 1.2.2)

Question 8

Gabriel Costa, an investment advisor, is aware that a new investment product his firm is offering is too complicated for most of his clients to understand. Despite this, the firm stands to earn substantial fees from placing these investments. Costa's supervisor is pressuring him to recommend the investment to his clients, regardless of their level of investment sophistication. Considering these circumstances, which of the CAIA Ethical Principles would Costa not be violating if he were to recommend this investment?

- A) Partnership.
- B) Collaboration. ✓**
- C) Client-First Mindset.
- D) High Standards of Conduct.

Explanation

Collaboration refers to investment professionals working together—internal and external firms—to benefit from peer review, diverse perspectives, and differing viewpoints. Recommending a complex, unsuitable product under pressure would clearly violate a client-first mindset (client interests above all), partnership (knowing and serving client needs to build mutual trust), and high standards of conduct (transparency, integrity, and accountability), but it does not directly conflict with the principle of collaboration.

(LO 1.2.3)

Question 9

Mason Blackwell, a successful young entrepreneur, became a client of investment advisor Jane Estrada one year ago. Blackwell favors the latest high-risk investment trends but reacts poorly to losses in his account. Estrada has repeatedly explained that high-risk investments inherently carry the possibility of losses. She has also presented various charts and articles demonstrating how a more diversified portfolio could mitigate market volatility. However, Blackwell remains committed to maintaining high-risk investments. Considering the partnership principle, what course of action should Estrada most logically pursue next?

- A) Ask another member of her firm to co-manage the account with her.
- B) Send daily market updates to Blackwell and discuss possible courses of action.
- C) Slowly diversify the portfolio into less risky investments without telling Blackwell.
- D) **Disengage with Blackwell, stating that his investment approach does not align with her ethical standards.** ✓

Explanation

If, despite repeated conversations and education, the client's approach does not align with the advisor's professional and ethical standards, it may be necessary to disengage to avoid violating those standards. Daily market updates would not be practical, and bringing in another member of the firm would not resolve the fundamental misalignment. Gradually changing the portfolio without Blackwell's knowledge would clearly violate the partnership principle.

(LO 1.2.3)

Question 10

In a review of their compliance manual, it was discovered that Mountain State Pension Fund did not address the topic of political contributions. SEC regulations place limits on political contributions from investors working with pension funds. This regulation was a direct result of the ethical violations discovered at:

- A) Bear Stearns.
- B) New York State Common Retirement Fund. ✓**
- C) New York State Teachers Retirement Fund.
- D) California Public Employees Retirement System (CalPERS).

Explanation

The SEC placed limits on political contributions from investors working with pension funds following the "pay-to-play" scandal involving the New York State Common Retirement Fund.

(LO 1.2.4)

Question 11

Within the category of real assets, on what types of investments or income sources would infrastructure investments have claims?

- A) Land held by municipalities.
- B) Income from real assets controlled by the public sector. ✓**
- C) Public land including timber held on the land.
- D) Tangible and intangible real assets.

Explanation

Infrastructure investments are actual claims on income from various real assets that are either held or controlled within the public sector. Examples would be toll roads, airports, or other real assets.

(LO 2.1.1)

Question 12

Mary Coolidge, CAIA, is analyzing returns and how to properly evaluate them. What is the goal of an investment program with a relative return standard?

- A) Generate returns that are evaluated relative to the risk-free interest rate.
- B) Generate superior returns through identification of inefficient pricing relationships.
- C) Generate returns that are appropriate for a client's risk tolerance.
- D) **Generate returns that move with a particular market, with the goal to consistently outperform that market. ✓**

Explanation

With a relative return standard, returns are evaluated relative to a specific benchmark.

(LO 2.1.6)

Question 13

Regarding alternative investment fund structures, a common characteristic specific to drawdown funds is that:

- A) the fund lifespan is indefinite at inception.
- B) new shares are issued when capital is added.
- C) **each investor commits a certain amount of capital. ✓**
- D) incentive fees are limited due to the high-water mark.

Explanation

A characteristic of drawdown funds is that each investor commits a certain amount of capital. The other statements are common characteristics of open-end funds.

(LO 2.2.2)

Question 14

Martin Hess is analyzing the partnership agreement of a venture capital limited partnership. Which of the following covenants found by Hess would be categorized as a covenant regarding fund management?

- A) The general partner must not sell its interest in the partnership to a third party.
- B) The partnership may not invest more than \$20 million in any single portfolio company. ✓**
- C) The general partner may not privately invest in any portfolio company held by the partnership.
- D) The partnership must only pursue investments in companies within the biotechnology industry.

Explanation

A typical covenant regarding fund management is a restriction on the size of an investment in any one firm. This position limit serves as a risk limit and encourages some level of diversification. Another typical covenant regarding fund management is a restriction or limit on the use of debt. Additional covenants regarding fund management generally include guidelines on the payout of profits and restrictions on making investments with other venture funds controlled by the venture capitalist.

(LO 2.2.4)

Question 15

Hedge fund incentive fees, when structured properly, can align the interests of investors and hedge fund managers. Which of the following best describes when the two parties' interests can be aligned in a cost-effective manner with marginal benefits greater than marginal costs?

- A) Perverse incentive.
- B) Optimal contracting. ✓**
- C) Managerial co-investing.
- D) Option view of incentive fees.

Explanation

Optimal contracting is the goal between investors and managers. Managerial co-investing can provide this enhanced alignment of manager and investor interests. Managerial co-investing is when there is an agreement between fund managers and fund investors that specifies that the managers will invest their own money in the fund.

(LO 2.2.7)

Question 16

An investment of \$100.00 grew to \$105.13 in one year. The interest rate on the investment was continuously compounded. The continuously compounded rate is closest to:

- A) 5.13%.
- B) **5.00%. ✓**
- C) 4.88%.
- D) 5.26%.

Explanation

The simple rate of return equals 5.13%. The continuously compounded rate equals $\ln(1.0513) = 5\%$.

(LO 2.3.1)

Question 17

Which of the following best characterizes a return distribution that has less kurtosis than a normal distribution?

- A) **Platykurtic. ✓**
- B) Mesokurtic.
- C) Leptokurtic.

Explanation

A platykurtic distribution is thin-tailed and has less kurtosis than the normal distribution.

(LO 2.4.2)

Question 18

Chrissy DeWitt is an equity analyst who uses discounted cash flow analysis to find undervalued securities. She does not believe in using graphs and charts to value securities. Which of the following statements best reflect DeWitt's implied view of market efficiency?

- A) The market is semistrong form efficient, but not weak form efficient.
- B) The market is both weak form efficient and semistrong form efficient.
- C) **The market is not semistrong form efficient, but may be weak form efficient. ✓**
- D) The market is neither weak form efficient, nor semistrong form efficient.

Explanation

By using discounted cash flow analysis, DeWitt believes that fundamental analysis could yield superior risk-adjusted returns. This violates the semistrong form efficiency. However, she does not believe that graphs and charts, which are forms of technical analysis, can yield superior risk-adjusted returns. This implies that the market may be weak form efficient.

(LO 2.5.1)

Question 19

What is the interest rate (i.e., yield) for a zero-coupon bond with a face value of \$1,000, a current price of \$716.79, and eight years remaining until maturity? Assume annual compounding.

- A) **4.25%. ✓**
- B) 4.40%.
- C) 4.65%.
- D) 4.05%.

Explanation

The interest rate is calculated as:

$$r \frac{1}{8} = 4.25\% = 0.425 = \left\{ \left[\frac{\$716.79}{\$1000.00} \right]^{\frac{-1}{8(1)}} - 1 \right\} \times 1$$

(LO 2.5.2)

Question 20

Which of the following statements is correct relative to the term structure of implied forward rates?

- A) The term structure of forward rates will plot above the spot rate curve when rates are upward sloping. ✓**
- B)** The term structure of forward rates will plot below the spot rate curve when rates are upward sloping.
- C)** The term structure of forward rates will exactly track the spot rate curve with a slight skew upward when rates are upward sloping.
- D)** The term structure of forward rates will exactly track the spot rate curve with a slight skew downward when rates are upward sloping.

Explanation

The term structure of forward rates is related to but different from the spot rate curve. It will have different slopes than the spot rate curve all along the curve, but its shape will somewhat resemble the spot rate curve. The forward rate curve will be above the spot rate curve if the curve is upward sloping and below the curve if rates are downward sloping.

(LO 2.5.3)

Question 21

Which of the following types of credit models incorporate borrower-specific characteristics, such as corporate structure?

- A) Only structural models. ✓**
- B)** Only reduced-form models.
- C)** Both structural and reduced-form models.
- D)** Neither structural nor reduced-form models.

Explanation

Structural models, such as Merton's model, incorporate firm-specific characteristics including the structuring of cash flows (e.g., corporate structure) and the underlying asset behavior. Reduced-form models do not incorporate firm-specific characteristics but rather infer default through observed market prices of liquid securities.

(LO 2.5.7)

Question 22

An alternative investment analyst has been using a reduced-form credit model to compute an expected credit loss on a loan. The loan is a \$200 million 1-year unsecured loan with a credit spread of 5%. The risk-free rate is 1.5%. What is the exposure at default (EAD) on this particular loan?

- A) \$200 million.
- B) \$210 million.
- C) **\$213 million. ✓**
- D) \$215 million.

Explanation

$$\text{EAD} = \$200 \text{ million} \times (1 + 0.065) = \$213 \text{ million}$$

(LO 2.5.7)

Question 23

Analyst Julio Rivas recently delivered a presentation regarding the capital asset pricing model (CAPM) to the board of directors of a hedge fund. Rivas makes two key statements about the CAPM in relation to alternative investments.

Statement 1: When applying the CAPM to multiple time periods, the distribution of hedge fund returns must be stationary.

Statement 2: When applying the CAPM, it is assumed that all investment decisions are made based on just the mean and the variance of the distribution of hedge fund returns.

Which of the statements, if any, are correct?

- A) **Statement 1 is correct and Statement 2 is correct. ✓**
- B) Statement 1 is correct and Statement 2 is incorrect.
- C) Statement 1 is incorrect and Statement 2 is correct.
- D) Statement 1 is incorrect and Statement 2 is incorrect.

Explanation

The CAPM is a single-period equilibrium model. For the CAPM to apply to multiple time periods, the distribution of returns must be stationary. The CAPM assumes that returns are normally distributed, which, in turn, assumes that investors are only concerned about two parameters of a distribution: mean and variance.

(LO 2.5.8)

Question 24

The method in which regression estimates are derived by minimizing the sum of squared residuals is best known as:

- A) **ordinary least squares (OLS).** ✓
- B) weighted least squares.
- C) homoskedastic regression.
- D) heteroskedastic regression.

Explanation

Ordinary least squares (OLS) is a statistical method that derives estimates that minimize the sum of squared residuals. The residuals are the differences between the dependent variable and the regression estimate of the dependent variable.

(LO 2.5.9)

Question 25

An analyst is concerned that the trading strategy she recently identified has generated a statistically insignificant result and has asked for guidance in assessing the strategy. A result is statistically significant if it is:

- A) **unlikely to have occurred merely by chance, and the p -value is less than the significance level.** ✓
- B) likely to have occurred merely by chance, and the p -value is less than the significance level.
- C) unlikely to have occurred merely by chance, and the p -value is greater than the significance level.
- D) likely to have occurred merely by chance, and the p -value is greater than the significance level.

Explanation

A result is statistically significant if it is unlikely to have happened by chance. The decision rule is to reject the null hypothesis if the p -value is less than the significance level. If the p -value is less than the significance level, then we conclude that the sample estimate is statistically different than the hypothesized value.

(LO 2.5.10)

Question 26

In hypothesis testing, the confidence level equals:

- A) the probability that the alternative hypothesis is correct.
- B) 1 minus the significance level. ✓**
- C) 1 minus the p -value.
- D) the probability that the null hypothesis is correct.

Explanation

The confidence level equals 1 minus the significance level. The significance level equals the probability of a Type I error, which is the probability of rejecting a true null hypothesis.

(LO 2.5.10)

Question 27

With respect to issues in sampling and testing, which of the following is a primary problem with data dredging?

- A) Too few tests are performed.
- B) Too many tests are performed.
- C) Too little confidence is placed on the results.
- D) Too much confidence is placed on the results. ✓**

Explanation

Data dredging refers to the overuse of statistical testing to identify significant relationships with little regard for economic rationale. The main problem with data dredging is the failure to take the number of tests into account when examining the results, which leads to placing too-high confidence on the results. The problem is not so much with the number of tests run, but more with the failure to account for the number of tests run.

(LO 2.5.11)

Question 28

With regard to commodity futures contracts, which of the following statements concerning margin is most accurate?

- A) The initial margin must be posted to a commodity futures account within three days after the first trade.
- B) If a trader accrues gains, positive variation margin will accrue but will be unavailable for withdrawal by the investor.
- C) When futures contracts are rolled over, a trader must place a deposit in his account to bring the equity in his account back to the required level.
- D) **The maintenance margin is the amount of margin that must be maintained in a futures account and is usually set at 75–80% of the initial margin. ✓**

Explanation

Prior to initiating a futures position, a trader makes a small down payment, called the *initial margin*, on the total futures price. As the price of the futures contract fluctuates, the value of a trader's margin account is adjusted to account for any gains and losses. These increases or decreases in the trader's margin account are called the *variation margin*. If the value of a futures position increases, the trader will accrue gains. This positive variation margin adds to the equity in the margin account and can be withdrawn at any time. *Maintenance margin* is the amount of margin that must be maintained in a futures account and is usually set at 75–80% of the initial margin. If negative variation margins reduce the trader's margin below the maintenance margin, the trader will receive a margin call. A *margin call* is a notification by the exchange to the trader that additional funds must be deposited to bring the account equity above the required level.

(LO 2.6.1)

Question 29

Which of the following options strategies would be most appropriate for an investor wishing to protect against a security price decline but benefit from an unlimited security price appreciation?

- A) Long put.
- B) Bull spread.
- C) Covered call.
- D) **Protective put.** ✓

Explanation

A protective put strategy combines a long underlying security ownership with a long put option. The long security allows for unlimited upside potential, and the long put caps the downside loss. None of the other strategies allow for unlimited upside potential.

(LO 2.6.6)

Question 30

Which of the following best defines value at risk (VaR)?

- A) The average loss at a stated level of significance, given abnormal market conditions.
- B) The maximum loss at a stated level of significance, given abnormal market conditions.
- C) The maximum loss from peak to trough over a specified period of time, given normal market conditions.
- D) **The maximum loss over a defined period of time at a stated level of significance, given normal market conditions.** ✓

Explanation

Value at risk (VaR) is defined as the maximum loss over a defined period of time at a stated level of significance, given normal market conditions.

(LO 2.7.1)

Question 31

Consider a \$100 million fund with a zero mean return. The 10-day standard deviation equals 10%. The fund's returns are normally distributed. Using a 95% confidence level, the 10-day parametric value at risk is closest to:

- A) \$5.0 million.
- B) \$9.5 million.
- C) \$10.0 million.
- D) **\$16.5 million. ✓**

Explanation

Using the 95% confidence level and assuming normally distributed returns, the 10-day parametric VaR equals $1.65 \times 10\% \times \$100 \text{ million} = \$16.5 \text{ million}$. The critical value of 1.65 is derived from the normal probability tables, associated with a lower tail of 5%. In other words, if the fund's returns are normally distributed, 5% of the outcomes will equal a \$16.5 million loss or worse.

(LO 2.7.2)

Question 32

Blair Kuhnen, CAIA, is analyzing different measures of risk-adjusted performance and has heard about a particular ratio, the Sortino ratio, which is especially useful in analyzing alternative investments. How would the numerator and denominator be best stated in the Sortino ratio formula?

- A) Numerator contains just the portfolio return. Denominator uses downside standard deviation.
- B) **Numerator subtracts a target return from the portfolio return. Denominator uses target semistandard deviation. ✓**
- C) Numerator is the portfolio's excess return. Denominator is the upside and downside semistandard deviation.
- D) Numerator is the portfolio's average return minus the target rate of return. Denominator is the portfolio's average return less the risk-free rate.

Explanation

The Sortino ratio is especially useful with alternative investments, because of the greater downside risk of these types of investments. It subtracts a target return, rather than the risk-free rate, in the numerator, and uses target semistandard deviation in the denominator.

(LO 2.7.4)

Question 33

A group of former portfolio managers has started a new mutual fund designed to mimic the performance of the Russell 2000. In their first year, the actual performance of the Russell 2000 was 16.1%, and the new fund returned 17.65%. During the same time period, the managers were able to keep the beta of the portfolio at 1.0. The risk-free rate was 1%. What is the new fund's ex post alpha?

- A) 0 basis points.
- B) 55 basis points.
- C) **155 basis points.** ✓
- D) 255 basis points.

Explanation

Although there is no way to determine whether the fund's performance was due to luck or skill, the fund generated an ex post alpha of 155 basis points. The ex ante alpha for the fund was zero.

(LO 2.8.2)