

## **Level I of the CFA® Exam**

Mock Questions with Answers - Mock Exam 2025 #2 - First Session (Ethical and Professional Standards, Quantitative Methods, Economics & Financial Statement Analysis)

Offered by AnalystPrep

Last Updated: Mar 3, 2025

Q.1 In the case of the Cournot model, firms *most likely*:

- A. do cooperate and collude.
- B. compete on output quantities.
- C. compete on product differentiation.

The Cournot model, named after Antoine Augustin Cournot, is a model of industrial organization that describes an industry structure in which competing firms choose a quantity to produce independently and simultaneously. The model assumes that each firm makes the decision that maximizes its profit, given the output decision of the other firm.

The Cournot model is based on the premise that each firm's output decision affects the market price and, therefore, the other firm's profit. This interdependence of decisions creates a strategic interaction between the firms. The model predicts that in equilibrium, each firm's output decision will be a best response to the output decision of the other firm. This means that each firm chooses the quantity that maximizes its profit, given the quantity chosen by the other firm. The equilibrium of the Cournot model is a situation in which each firm is doing the best it can, given what its competitor is doing.

**A is incorrect.** The Cournot model assumes that firms do not cooperate or collude. Instead, each firm makes its output decision independently, taking the output decision of the other firm as given. This assumption is based on the idea that in many industries, firms do not have the opportunity to coordinate their decisions, either because of legal restrictions on collusion or because of the logistical difficulties of coordinating decisions in a competitive environment. Therefore, the Cournot model predicts that firms will compete rather than cooperate.

**C is incorrect.** The Cournot model assumes that all firms produce a homogeneous product. This means that consumers do not differentiate between the products of different firms. In other words, a unit of output from one firm is a perfect substitute for a unit of output from another firm. This assumption simplifies the analysis by focusing on competition in quantities, rather than competition in product characteristics. Therefore, the Cournot model does not predict competition on product differentiation.

***CFA Level 1, Topic 1 - Economics, Learning Module 1 - Firm and Market Structures, LOS 1d: explain supply and demand relationships under oligopoly, including the optimal price and output for firms as well as pricing strategy.***

---

Q.2 An oil drilling company plans to invest \$14.3 million in a project expected to generate \$3.7 million per year for the next seven years. If the company's opportunity cost of capital is 8%, then the project's net present value is *closest to*:

- A. 4,343,123
- B. 4,963,569
- C. 5,672,650

The NPV of a project is calculated by subtracting the initial investment from the present value of the future cash inflows, discounted at the opportunity cost of capital. In this case, the initial investment is \$14.3 million, the annual cash inflow is \$3.7 million, the project duration is seven years, and the opportunity cost of capital is 8%.

The formula for NPV is as follows:

$$NPV = -14,300,000 + \frac{3,700,000 \times (1 - (1 + 0.08)^{-7})}{0.08} = 4,963,569$$

This formula can also be expanded as follows:

$$-14,300,000 + 3,700,000 \times (1.08)^{-1} + 3,700,000 \times (1.08)^{-2} + \dots + 3,700,000 \times (1.08)^{-7} = 4,$$

Alternatively, a financial calculator can be used to calculate the NPV. The cash flow at time zero (CFO) is -14.3, the cash inflow for each of the next seven years (C01) is 3.7, and the number of periods (F01) is 7. After inputting the opportunity cost of capital (I) as 8, the NPV can be computed to be 4.963569 million.

**A is incorrect.** The value of 4,343,123 is less than the calculated NPV of the project. This could be the result of a miscalculation or a misunderstanding of the NPV formula. It's important to remember that the NPV formula takes into account both the initial investment and the present value of future cash inflows, discounted at the opportunity cost of capital.

**C is incorrect.** The value of 5,672,650 is greater than the calculated NPV of the project. This could be due to an overestimation of the future cash inflows or an underestimation of the opportunity cost of capital. It's crucial to accurately estimate these values to ensure a correct NPV calculation.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 2 - The Time Value of Money in Finance, LOS 2a: Calculate and interpret the present value (PV) of fixed-income and equity instruments based on expected future cash flows.**

---

Q.3 ABC stock is trading at \$75. Every year, it has a 60% probability of increasing by 1.1 and a 40% probability of decreasing by a factor of  $\frac{1}{10}$ . The probability that the stock will have risen in value after two years is *closest to*:

- A. 36%
- B. 60%
- C. 66%

The question asks for the probability that the stock will have risen in value after two years. The only way this can happen is if the stock increases in value both years. The probability of the stock increasing in value in any given year is 60%. Since the increase in the first year is independent from the increase in the second year, we can multiply these probabilities together to find the overall probability of the stock increasing in value both years. This gives us  $0.6 \times 0.6 = 0.36$  or 36%. This is the probability that the stock will have risen in value after two years, which is closest to option A.

**B is incorrect.** This option suggests that the probability of the stock rising in value after two years is 60%. This is incorrect because 60% is the probability of the stock's value increasing by 1.1 after just one year, not two. The probability of the stock increasing in value two years in a row is less than the probability of it increasing in value in just one year because there are more opportunities for the stock to decrease in value over a two-year period. Therefore, the probability of the stock rising in value after two years is less than 60%, making option B incorrect.

**C is incorrect.** This option suggests that the probability of the stock rising in value after two years is 66%. This is incorrect because it appears to have been calculated by multiplying the probability of an increase in value (60%) by the amount the value increases (1.1). However, this is not a valid method for calculating the probability of an event occurring. The probability of an event occurring is determined by the number of ways the event can occur divided by the total number of possible outcomes. In this case, the only way the stock can rise in value after two years is if it increases in value both years, which has a probability of 36%, not 66%. Therefore, option C is incorrect.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 4 - Probability trees and Conditional Expectations, LOS 4b: Formulate an investment problem as a probability tree and explain the use of conditional expectations in investment applications.**

---

Q.4 Which of the following is *least likely* a reason why a country may want to cooperate with others?

- A. National security.
- B. Economic interest.
- C. Political self-determination.

Political self-determination often leads to a country being less cooperative with others. The concept of political self-determination is rooted in a country's desire to make its own decisions and control its own destiny, without interference from outside forces. This can often lead to a country prioritizing its own interests over cooperative efforts with other nations. For instance, a country may choose to pursue policies that are in its own best interest, even if these policies are not in the best interest of other countries or the global community. This can lead to a lack of cooperation, as the country is more focused on its own self-determination than on working together with other nations.

**A is incorrect.** National security is often a key reason why countries choose to cooperate with each other. By working together, countries can better protect themselves from external threats. This can include threats such as military attacks, cyber-security threats, and natural disasters. For example, countries may share intelligence information to prevent terrorist attacks, or they may work together to respond to natural disasters.

**B is incorrect.** Economic interest is another major reason why countries choose to cooperate. Through cooperation, countries can secure essential resources, promote trade, and create a more level playing field for their companies and industries. For instance, countries may enter into trade agreements to reduce tariffs and promote free trade. They may also work together to regulate multinational corporations and prevent unfair business practices.

***CFA Level 1, Topic 1 - Economics, Learning Module 5 - Introduction to Geopolitics, LOS 5a: Describe geopolitics from a cooperation versus competition perspective.***

---

Q.5 Which of the following statements are accurate?

- I. The rates quoted by most commercial banks are nominal interest rates.
  - II. Nominal interest rates are the sum of real interest rates and expected inflation.
- 
- A. I only.
  - B. II only.
  - C. Both I & II.

Statement I states that the rates quoted by most commercial banks are nominal interest rates. This is indeed accurate. Nominal interest rates are the rates that are publicly quoted by banks and other financial institutions. These rates are not adjusted for inflation, and therefore represent the total amount of interest that will be paid. This is the rate that most people refer to when discussing interest rates, and it is the rate that banks advertise when they are trying to attract depositors or borrowers. Therefore, it is correct to say that the rates quoted by most commercial banks are nominal interest rates.

Statement II states that nominal interest rates are the sum of real interest rates and expected inflation. This is also accurate. The Fisher equation, which is a concept in financial economics, states that the nominal interest rate is the sum of the real interest rate and the expected inflation rate. The real interest rate is the rate of interest an investor expects to receive after allowing for inflation. Expected inflation is the rate at which the general level of prices for goods and services is rising. Therefore, the nominal interest rate, which is the rate before adjusting for inflation, is indeed the sum of the real interest rate and the expected inflation rate.

***CFA Level 1, Topic 1 - Quantitative Methods, learning Module 1 - Rates and return, LOS 1a: interpret interest rates as required rates of return, discount rates, or opportunity costs and explain an interest rate as the sum of a real risk-free rate and premiums that compensate investors for bearing distinct types of risk.***

---

Q.6 Andrew Zilemann would like to rent a car for the next four years and wants to know how much money he would need in his account now to cover all the payments. His bank account has an annual interest rate of 6% compounded monthly, and the cost of the rental is \$340 a month. Zilemann would *most likely* need:

- A. \$5,321
- B. \$14,477
- C. . \$18,393

We can use the financial calculator to work out this question as outlined in the steps below.

$$N = 48; \frac{I}{Y} = 0.5; PMT = -340; FV = 0;$$

$$CPT- >; PV = 14,477$$

Note: The minus sign before the PV shows that the value is a present value, not necessarily that the initial amount is negative.

***CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 2 - The Time Value of Money in Finance, LOS 2a: Calculate and interpret the present value (PV) of fixed-income and equity instruments based on expected future cash flows.***

---

Q.7 What will *most likely* happen to the real exchange rate if the nominal exchange rate of Dollar/Euro decreases and the inflation remains the same? The exchange rate will:

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

When the nominal exchange rate of the Dollar/Euro decreases and inflation remains constant, the real exchange rate would most likely decrease. The real exchange rate is a measure that adjusts the nominal exchange rate by the relative prices of a standard set of goods between two countries. It is a more accurate reflection of the purchasing power of one currency relative to another. A decrease in the nominal exchange rate of Dollar/Euro implies that fewer dollars are needed to purchase one Euro, indicating that the dollar's value has increased relative to the Euro, or conversely, the Euro has depreciated relative to the dollar.

Given that inflation remains unchanged, the purchasing power within each economy stays constant. However, the change in the nominal exchange rate alters the relative cost of goods and services between the two economies. Specifically, goods and services in the Eurozone become cheaper for consumers paying in dollars. This shift would lead to a decrease in the real exchange rate, reflecting an adjustment for the change in purchasing power parity between the two currencies. The real exchange rate effectively decreases because the same amount of goods and services in the Eurozone can now be bought with fewer dollars than before the nominal exchange rate decreased.

**B is incorrect.** An increase in the real exchange rate would imply that the purchasing power of the dollar relative to the Euro has decreased, which contradicts the scenario where the nominal exchange rate of Dollar/Euro decreases while inflation remains constant. The decrease in the nominal exchange rate without a change in inflation rates indicates an increase in the value of the dollar relative to the Euro, leading to a decrease in the real exchange rate, not an increase.

**C is incorrect.** This option suggests that the exchange rate would remain unchanged. However, the real exchange rate is sensitive to changes in the nominal exchange rate when inflation rates are held constant. The real exchange rate adjusts to reflect changes in purchasing power parity caused by fluctuations in the nominal exchange rate. Therefore, if the nominal exchange rate of Dollar/Euro decreases and inflation remains the same, the real exchange rate would decrease to reflect the increased purchasing power of the dollar relative to the Euro, not remain unchanged.

**CFA Level I, Topic 1, Economics, Learning Module 7: Capital Flows and the FX Market, LOS 7a: Describe the foreign exchange market, including its functions and participants, distinguish between nominal and real exchange rates, and calculate and interpret the percentage change in a currency relative to another currency.**

---

Q.8 A quantitative analyst has calculated the mean holding period return (HPR) of 1% for 110 European corporate bonds with a standard deviation of 2%. If the analyst wants to test at a 5% level of significance that the mean HPR on European corporate bonds is different from zero, then the test statistic is *closest to*:

- A. 0.50
- B. 5.24
- C. 55.0

The test statistic is calculated using the formula: Test Statistic = (Sample mean - Hypothesized value) / (Standard deviation / sqrt(Sample size)). In this case, the sample mean is 1%, the hypothesized value is 0, the standard deviation is 2%, and the sample size is 110. Substituting these values into the formula, we get: Test Statistic = (1% - 0) / (2% / sqrt(110)) = 5.24

**A is incorrect.** The value of 0.50 suggests that the square root of the sample size has been omitted in the calculation of the test statistic. The formula for the test statistic includes the square root of the sample size in the denominator. This is because the standard deviation is divided by the square root of the sample size to standardize the sample mean and make it comparable to the hypothesized value. By omitting the square root of the sample size, the test statistic is significantly underestimated, leading to a value of 0.50 instead of the correct value of 5.24.

**C is incorrect.** The value of 55.0 suggests that the sample size has been used as it is in the calculation of the test statistic, without taking its square root. The formula for the test statistic requires the square root of the sample size, not the sample size itself. This is because the standard deviation is divided by the square root of the sample size to standardize the sample mean. By using the sample size as it is, the test statistic is significantly overestimated, leading to a value of 55.0 instead of the correct value of 5.24.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 8 - Hypothesis Testing, LOS 8a: Explain hypothesis testing and its components, including statistical significance, Type I and Type II errors, and the power of a test.**

---

Q.9 Which of the following is *least likely* a limitation of Monte Carlo Simulation?

- A. Monte Carlo simulations provide exact figures, not statistical estimates of results.
- B. The complexity of the process may cause errors leading to wrong results that can be potentially misleading.
- C. Monte Carlo simulations are relatively complex and can only be carried out using specially designed software that may be expensive.

Monte Carlo simulations do not provide exact figures, but rather statistical estimates of results. This is a fundamental characteristic of Monte Carlo simulations, which are based on the principle of repeated random sampling to obtain numerical results. The simulations are designed to model the probability of different outcomes in a process that cannot easily be predicted due to the intervention of random variables. Therefore, by their very nature, they provide estimates rather than exact figures. This is not a limitation, but rather an inherent feature of these simulations.

**B is incorrect.** The statement that the complexity of the process may cause errors leading to wrong results that can be potentially misleading is indeed a limitation of Monte Carlo simulations. The complexity of these simulations can lead to errors if not properly managed. This is because the simulations involve a large number of variables and calculations, which increases the likelihood of errors. These errors can then lead to incorrect results, which can be misleading.

**C is incorrect.** The statement that Monte Carlo simulations are relatively complex and can only be carried out using specially designed software that may be expensive is also a limitation of these simulations. The complexity of Monte Carlo simulations requires the use of specially designed software. This software can be expensive, which can be a barrier to the use of these simulations, especially for smaller organizations or individuals.

---

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 6 - Quantitative Methods, LOS 6b: Describe Monte Carlo simulation and explain how it can be used in investment applications.**

---

Q.10 Over five years, portfolio A obtained an average return of 9% with a variance of 0.035. During the same period, portfolio B obtained an average return of 11% with a variance of 0.050. Given that the covariance of the two investments is 0.010, the correlation coefficient between those returns is *closest to*:

- A. 0.239
- B. 4.183
- C. 5.714

Given the covariance of 0.010 between two investments and the variances of 0.035 and 0.050 for portfolios A and B, respectively, the correlation coefficient can be calculated as follows:

The formula for the correlation coefficient is:

$$\text{Correlation coefficient} = \frac{\text{Cov}(A, B)}{\sigma_A \times \sigma_B}$$

Where:

- $\text{Cov}(A, B)$  is the covariance between portfolios A and B,
- $\sigma_A$  is the standard deviation of portfolio A,
- $\sigma_B$  is the standard deviation of portfolio B.

Substituting the given values:

$$\text{Correlation coefficient} = \frac{0.010}{\sqrt{0.035} \times \sqrt{0.050}}$$

First, calculate the standard deviations:

$$\sqrt{0.035} \approx 0.1871 \quad \text{and} \quad \sqrt{0.050} \approx 0.2236$$

Now, calculate the correlation coefficient:

$$\text{Correlation coefficient} = \frac{0.010}{0.1871 \times 0.2236} \approx \frac{0.010}{0.04185} \approx 0.239$$

This calculation shows that the correlation coefficient is closest to 0.239, which corresponds to option A.

**B is incorrect.** The value of 4.183 appears to have been obtained by incorrectly interchanging the formula for the correlation coefficient. The incorrect calculation would be:

$$\frac{\sigma_A \times \sigma_B}{\text{Cov}(A, B)} = \frac{0.1871 \times 0.2236}{0.010} \approx 4.183$$

**C is incorrect.** The value of 5.714 seems to have been obtained by incorrectly using the variances of the two portfolios in place of their standard deviations in the formula for the correlation coefficient. The standard deviation is the square root of the variance, and using the variance instead of the standard deviation in the formula will result in an incorrect value for the correlation coefficient. Therefore, option C is incorrect.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 5 - Portfolio Mathematics, LOS 5a: Calculate and interpret the expected value, variance, standard deviation, covariances, and correlations of portfolio returns.**

---

Q.11 Suppose there is a 65% probability that the Gross Domestic Product (GDP) of Trivia Land will grow this year. If the GDP grows, there is a 75% probability that the GDP will be \$5.5 trillion and a 25% probability that the GDP will be \$5.1 trillion. On the other hand, there is a 35% probability that the GDP will fall, and if it falls, there is a 55% probability that the GDP will be \$4.7 trillion and only a 45% probability that the GDP will be \$4.0 trillion. Using the given assumptions, the unconditional probability that the expected GDP will be \$4.0 trillion is *closest to*:

- A. 15.75%
- B. 35.00%
- C. 45.00%

The question is asking for the unconditional probability that the expected GDP will be \$4.0 trillion. To find this, we need to consider both the probability of the GDP falling and the probability of the GDP being \$4.0 trillion given that it falls. The given information tells us that there is a 35% chance that the GDP will fall and a 45% chance that the GDP will be \$4.0 trillion given that it falls. To find the unconditional probability, we multiply these two probabilities together, which gives us 0.1575 or 15.75%. This is the probability that the GDP will be \$4.0 trillion, regardless of whether it grows or falls.

**B is incorrect.** This option suggests that the unconditional probability of the GDP being \$4.0 trillion is 35%. However, this is the probability of the GDP falling, not the probability of it being \$4.0 trillion. The question asks for the unconditional probability of the GDP being \$4.0 trillion, which requires us to consider both the probability of the GDP falling and the probability of it being \$4.0 trillion given that it falls. Simply taking the probability of the GDP falling as the answer does not take into account the second part of this calculation, leading to an incorrect answer.

**C is incorrect.** This option suggests that the unconditional probability of the GDP being \$4.0 trillion is 45%. However, this is the probability of the GDP being \$4.0 trillion given that it falls, not the unconditional probability. The question asks for the unconditional probability, which requires us to consider both the probability of the GDP falling and the probability of it being \$4.0 trillion given that it falls. Simply taking the conditional probability as the answer does not take into account the first part of this calculation, leading to an incorrect answer.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 4 - Probability Trees and Conditional Expectations, LOS 4b: Formulate an investment problem as a probability tree and explain the use of conditional expectations in investment applications.**

---

Q.12 John works at Delta Bank and has been assigned to review a sample of 300 portfolios. He found that these 300 portfolios have a mean return of 8% and a standard deviation of returns of 17%. The standard error of the sample mean is *closest to*:

- A. 0.06%
- B. 0.46%
- C. 0.98%

The standard error is a statistical term that measures the accuracy with which a sample represents a population. It quantifies the uncertainty in estimating the population mean using the sample mean. In statistics, the standard error is the standard deviation of the sample statistic (most commonly the sample mean).

When the population standard deviation,  $\sigma$ , is known, the standard error of the sample mean can be calculated using the following formula:

$$SE_{\bar{X}} = \frac{\sigma}{\sqrt{n}}$$

Where:

- $\sigma$  is the population standard deviation,
- $n$  is the sample size.

In this case:

- $\sigma = 0.17$  (17% in decimal form),
- $n = 300$ .

Substituting these values into the formula gives:

$$SE_{\bar{X}} = \frac{0.17}{\sqrt{300}} = \frac{0.17}{17.32} = 0.009815$$

When converted to percentage form, the standard error of the sample mean is approximately 0.98%.

This standard error represents the expected variability in the sample mean if we were to repeatedly draw samples of size 300 from the population.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 7 - Estimation and Inference, LOS 7b: Explain the central limit theorem and its importance for the distribution and standard error of the sample mean.**

Q.13 Palanelas stock is currently trading at \$53. In one year, analysts predict that the stock will be trading at \$60. Palanelas will also pay a dividend of \$2 during this period. The expected holding period return on Palanelas stock is *closest to*:

- A. 3.78%
- B. 13.21%
- C. 16.98%

The formula for Holding Period Return (HPR) is:

$$HPR = \frac{[\text{Dividend} + (\text{End Price} - \text{Begin Price})]}{\text{Begin Price}}$$

By substituting the given values into the formula, we get:

$$HPR = \frac{[2 + (60 - 53)]}{53} = 16.98\%$$

This calculation takes into account both the capital gain (or loss) from the change in the stock's price and the income from dividends. The sum of the dividend and the difference between the end price and the begin price is divided by the begin price to get the holding period return. This gives a comprehensive measure of the return on the investment over the holding period.

**A is incorrect.** The option A suggests a return of 3.78%. This would be the result if we incorrectly left out the difference between the beginning and ending price in the calculation of HPR. However, the correct calculation of HPR requires us to add the dividends to the difference obtained after subtracting the beginning price from the end price, and then divide the result by the beginning price. Ignoring the capital gain from the change in the stock's price would lead to an underestimation of the return on the investment.

**B is incorrect.** The option B suggests a return of 13.21%. This would be the result if we incorrectly left out the dividends in the calculation of HPR. However, the correct calculation of HPR requires us to add the dividends to the difference obtained after subtracting the beginning price from the end price, and then divide the result by the beginning price. Ignoring the income from dividends would lead to an underestimation of the return on the investment.

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 1 - Rates and Returns, LOS 1b: Calculate and interpret different approaches to return measurement over time and describe their appropriate uses.**

---

Q.14 In a monopolistically competitive market, the long-run equilibrium will be at prices that are:

- A. set as a monopolist would choose.
- B. determined as the consequence of a kinked demand curve.
- C. similar to the outcome of a perfectly competitive market structure.

In a monopolistically competitive market, firms have some degree of market power due to product differentiation. However, in the long run, the presence of free entry and exit leads to a situation where firms earn zero economic profit. This is similar to the outcome in a perfectly competitive market. The reason for this is that if firms in a monopolistically competitive market are making economic profits, new firms will be attracted to the market due to the absence of significant barriers to entry. These new firms will increase the supply of products that are close substitutes, leading to a decrease in the market price until economic profits are eroded away, and firms are just covering their average costs. This process aligns with the characteristics of a perfectly competitive market, where firms also earn zero economic profit in the long run due to free entry and exit. Hence, option C is the correct answer.

**A is incorrect.** In a pure monopoly, there is only one firm in the market with significant barriers to entry, allowing the monopolist to set prices above marginal costs to maximize profits. However, in monopolistic competition, the presence of many firms and the possibility of entry in response to economic profits prevent any single firm from exerting the level of market power seen in a monopoly. Therefore, while firms in monopolistic competition can have some degree of price-setting power due to product differentiation, they cannot set prices as a monopolist would, especially in the long run when economic profits are zero.

**B is incorrect.** The concept of a kinked demand curve primarily applies to oligopolistic markets, where a few firms dominate, and there is an assumption of interdependence in pricing decisions. The kinked demand curve model suggests that firms in an oligopoly will experience a relatively inelastic demand for price increases (due to fear of losing customers to competitors) and a relatively elastic demand for price decreases (due to the expectation that competitors will match price cuts). This leads to price rigidity in oligopolistic markets. However, this model does not apply to monopolistically competitive markets, where there are many firms, each offering a differentiated product, and the focus is on product differentiation rather than strategic interdependence in pricing.

**CFA Level 1, Topic 1 - Economics, Learning Module 1 - Firms and Market Structure, LOS 1c: Explain supply and demand relationships under monopolistic competition, including the optimal price and output for firms as well as pricing strategy.**

---

Q.15 Relate to the following information:

$$P(A) = (X = 100, Y = 150) = 0.40$$

$$P(B) = (X = 180, Y = 110) = 0.60$$

What is the covariance between X and Y?

- A. -505
- B. -448
- C. -768

Covariance is a statistical measure that indicates the extent to which two random variables change in tandem. It's used to gauge the linear relationship between two variables. The formula for calculating covariance is as follows:

$$\text{Cov}(XY) = E[(X - E(X))(Y - E(Y))]$$

Where  $E(X)$  and  $E(Y)$  are the expected values of X and Y respectively. In this case, we can calculate  $E(X)$  and  $E(Y)$  as follows:

$$E(X) = 0.40 \times 100 + 0.60 \times 180 = 148$$

$$E(Y) = 0.40 \times 150 + 0.60 \times 110 = 126$$

Substituting these values into the covariance formula, we get:

$$\begin{aligned}\text{Cov}(X,Y) &= 0.40 \times (100 - 148) \times (150 - 126) + 0.60 \times (180 - 148) \times (110 - 126) \\ &= -460.80 - 307.20 \\ &= -768\end{aligned}$$

**CFA Level 1, Topic 1 - Quantitative Methods, Learning Module 5 - Portfolio Mathematics, LOS 5a: Calculate and interpret the expected value, variance, standard deviation, covariances, and correlations of portfolio returns.**

---

Q.16 Which of the following is *most likely* a leading economic indicator?

- A. Consumer price index
- B. Average weekly hours worked in manufacturing.
- C. Employment creation in non-agricultural sectors.

The average weekly hours worked in manufacturing provides a glimpse into future economic activity. When firms anticipate an increase in demand, they tend to increase the number of hours worked by their employees. This is a more immediate and flexible response than hiring new employees, which can be a lengthy and costly process. Conversely, if firms expect a decrease in demand, they may reduce the number of hours worked. This can be an early sign of a slowdown in the economy. Therefore, changes in the average weekly hours worked in manufacturing can provide valuable insights into future economic trends.

**A is incorrect.** The Consumer Price Index (CPI) is not a leading economic indicator, but a lagging one. The CPI measures the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. It reflects inflationary or deflationary pressures, but it does so after they have occurred. Therefore, the CPI does not provide an early warning of changes in economic trends, but rather confirms such changes after they have taken place.

**C is incorrect.** Employment creation in non-agricultural sectors is a coincident economic indicator, not a leading one. Coincident indicators change at the same time as the economy or the business cycle. They provide information about the current state of the economy. While important for understanding the current economic situation, they do not offer predictive insights into future economic activity. Therefore, while employment creation in non-agricultural sectors can provide valuable information about the current state of the economy, it does not help predict future economic trends.

**CFA Level 1, Topic 2 - Economics, Learning Module 2 - Understanding Business Cycles, LOS 2c: describe how resource use, consumer and business activity, housing sector activity, and external trade sector activity vary over the business cycle and describe their measurement using economic indicators.**

---

Q.17 Which of the following is *least likely* an objective of fiscal policy?

- A. Liquidity trap.
- B. Controlling inflation.
- C. Increasing industrial or agricultural output.

A liquidity trap is a situation that is typically a consequence of monetary policy, not fiscal policy. It occurs when interest rates are near or at zero, and savings rates are high, making monetary policy ineffective. In such a scenario, consumers prefer to keep their funds in savings rather than purchasing Treasury securities. This is due to the prevailing belief that interest rates will soon rise, which would subsequently decrease bond prices. Fiscal policy, on the other hand, is primarily concerned with government spending and taxation, and does not directly deal with interest rates or savings rates. Therefore, a liquidity trap is not an objective of fiscal policy.

**B is incorrect.** Controlling inflation is indeed an objective of fiscal policy. Fiscal policy can be used as a significant tool to control inflation. When the government increases taxes, the disposable income of individuals decreases. This leads to a decrease in the demand for goods and services, which can help to control inflation. Therefore, the assertion that controlling inflation is not an objective of fiscal policy is incorrect.

**C is incorrect.** Increasing industrial or agricultural output is also an objective of fiscal policy. Fiscal policy can influence certain sectors of the economy in direct or indirect ways. For instance, some policies can have a direct impact on the value of land in the agricultural sector. Additionally, the agricultural sector is very capital-intensive. A well-designed fiscal policy can affect the relative demand and competitiveness of exports for agricultural products. Therefore, fiscal policy can be used to increase the output of certain sectors in the economy, making this option incorrect.

**CFA Level 1, Topic 2 - Economics, Learning Module 3 - fiscal Policy, LOS 3b: Describe roles and objectives of fiscal policy as well as arguments as to whether the size of a national debt relative to GDP matters.**

---

Q.18 Which of the following statements is *most likely* true about the chi-square test of independence?

- A. The null hypothesis states that there is an association between the two categorical variables.
- B. For a contingency table with 3 rows and 4 columns, the degrees of freedom for the test are 6.
- C. The test is used to determine the linear correlation coefficient between two categorical variables.

The chi-square test of independence is a statistical test used to determine if there is a significant association between two categorical variables. The degrees of freedom (df) for this test are calculated using the formula  $(r-1)(c-1)$ , where r represents the number of rows and c represents the number of columns in the contingency table. In this case, with a contingency table of 3 rows and 4 columns, the degrees of freedom would be calculated as  $(3-1)(4-1) = 2*3 = 6$ . This is a fundamental aspect of the chi-square test of independence, as the degrees of freedom are used to determine the critical value of the chi-square distribution, which in turn is used to determine the statistical significance of the observed association.

**A is incorrect.** The null hypothesis for this test actually states that there is no association between the two categorical variables, implying that they are independent of each other. This is a crucial distinction, as the purpose of the test is to challenge this null hypothesis and determine whether there is evidence to suggest that the variables are not independent, but rather, are associated in some way.

**C is incorrect.** The chi-square test of independence does not determine the linear correlation coefficient between two categorical variables, as stated in option C. The linear correlation coefficient is a measure that is applicable for continuous variables, not categorical variables. The chi-square test, on the other hand, is specifically designed for categorical variables and tests for independence between these variables, rather than a linear correlation. This is a key difference between these two statistical measures and their respective applications.

**CFA Level 1, Topic 2 - Quantitative Methods, Learning Module 9 - Parametric and Non-Parametric tests of independence, LOS 9b: Explain tests of independence based on contingency table data.**

---

Q.19 The following table shows the returns of share indexes of the countries A and B.

	Year 1	Year 2	Year 3
Country A	5.2%	9.8%	-1.2%
Country B	3.5%	10.2%	7.6%

The arithmetic mean returns of country A and geometric mean return of country B of the share indexes over the three years in the table below is *closest to*:

- A. 7.1% and 6.46%
- B. 4.6% and 7.06%
- C. 7.1% and 3.93%

The arithmetic mean return of country A and the geometric mean return of country B are 4.6% and 7.06% respectively.

Firstly, let's calculate the arithmetic mean return for country A. The arithmetic mean, often simply called the mean, is the sum of the values of all the observations divided by the number of observations. In this case, the observations are the returns of country A for the three years. The formula for the arithmetic mean is:

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

Substituting the given values into the formula, we get:

$$\bar{X} = \frac{(5.2\% + 9.8\% - 1.2\%)}{3} = \frac{13.8}{3} = 4.6\%$$

So, the arithmetic mean return for country A over the three years is 4.6%.

Next, let's calculate the geometric mean return for country B. The geometric mean is a type of average that is calculated by multiplying all the values together, and then taking the nth root of the product, where n is the number of values. In this case, the values are the returns of country B for the three years. The formula for the geometric mean is:

Substituting the given values into the formula, we get:

So, the geometric mean return for country B over the three years is 7.06%.

**CFA Level 1, Topic 2 - Quantitative Methods, Learning Module 1 - Rates and returns, LOS 1b: Calculate and interpret different approaches to return measurement over time and describe their appropriate uses.**

---

Q.20 Tom Jones, CFA calculates the P/E ratios of the seven stocks that are in his personal portfolio as shown below.

Stock	P/E
Stock 1	12.45
Stock 2	9.80
Stock 3	18.24
Stock 4	16.40
Stock 5	8.60
Stock 6	8.90
Stock 7	11.20

From the table above the harmonic mean is *closest to*?

- A. 11.3636
- B. 11.8029
- C. 12.2271

The harmonic mean is calculated by dividing the total number of observations by the sum of the reciprocals of the observations. In this case, the observations are the P/E ratios of the seven stocks in Tom Jones' portfolio. The reciprocals of the P/E ratios are calculated as 1 divided by the P/E ratio. The sum of these reciprocals is 0.616. Therefore, the harmonic mean is calculated as 7 (the total number of observations) divided by 0.616 (the sum of the reciprocals of the observations), which equals 11.3636. This is the value closest to option A.

**B is incorrect.** The value 11.8029 is not the harmonic mean, but the geometric mean. The geometric mean is calculated by multiplying all the observations together, taking the nth root of the product (where n is the total number of observations), and subtracting 1. In this case, the observations are the P/E ratios of the seven stocks plus 1. The product of these observations is raised to the power of 1/7 (the total number of observations) and 1 is subtracted from the result. This calculation gives a value of 11.8029, which is not the harmonic mean.

**C is incorrect.** The value 12.2271 is not the harmonic mean, but the arithmetic mean. The arithmetic mean is calculated by adding all the observations together and dividing by the total number of observations. In this case, the observations are the P/E ratios of the seven stocks. The sum of these P/E ratios is divided by 7 (the total number of observations), which gives a value of 12.2271. This is not the harmonic mean.

**CFA Level 1, Topic 2 - Quantitative Methods, Learning Module 1 - Rate and Return, LOS 1b: Calculate and interpret different approaches to return measurement over time and describe their appropriate uses.**

---

Q.21 An analyst is studying the relationship between returns for two sectors, steel and cement,

over the past 5 years by using Spearman's rank correlation coefficient. The returns of both sectors are provided below.

Year	Steel Sector Returns	Cement Sector Returns
1	2.5%	3.2%
2	5%	4.5%
3	5.6%	4.2%
4	-3%	-1.7%
5	0.5%	1.1%

The Spearman's rank correlation coefficient is *closest to*:

- A. 0.55
- B. 0.65
- C. 0.90

Create the following table:

Year	Steel Sector Returns (X)	Cement Sector Returns (Y)	Rank of X	Rank of Y	d	$d^2$
1	2.5%	3.2%	3	3	0	0
2	5%	4.5%	2	1	1	1
3	5.6%	4.2%	1	2	-1	1
4	-3%	-1.7%	5	5	0	0
5	0.5%	1.1%	4	4	0	0
					Sum	2

We now use the formula:

$$\begin{aligned}
 r_s &= 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2 - 1)} \\
 &= 1 - \frac{6 \times 2}{5(5^2 - 1)} \\
 &= 1 - \frac{12}{120} \\
 &= 0.90
 \end{aligned}$$

**A is incorrect.** A Spearman's rank correlation coefficient of 0.55 would suggest a moderate positive relationship between the returns of the two sectors. However, the calculation based on the provided data shows a stronger positive relationship, as indicated by a coefficient of 0.90.

**B is incorrect.** While a coefficient of 0.65 indicates a positive relationship, it underestimates the strength of the association between the steel and cement sector returns.

**CFA Level I, Topic 2, Quantitative Methods, Learning Module 9: Parametric and Non-Parametric Tests of Independence, LOS 9a: Explain parametric and non-parametric tests of the hypothesis that the population correlation coefficient equals zero and determine whether the hypothesis is rejected at a given level of significance.**

---

Q.22 Which of the following will *most likely* happen if the central bank reduces its reserve requirements and increases net redemptions (purchases) of Treasury securities?

- A. Interest rates would rise, and bank lending activities would decrease.
- B. Banks would increase lending activities, and the money supply would increase.
- C. Banks would decrease the acceptance of deposits, and the money supply would decrease.

When the central bank reduces the reserve requirements and increases net redemptions (purchases) of Treasury securities, it directly influences the banking sector's ability to lend, and the overall money supply in the economy. Reducing the reserve requirements means that banks are required to hold a smaller fraction of their deposits as reserves. This action frees up more funds for banks to lend out, thereby increasing the lending activities. On the other hand, when the central bank purchases Treasury securities, it injects liquidity into the banking system by increasing the cash reserves of banks. This additional liquidity further enhances the banks' capacity to extend loans. Both these measures are expansionary monetary policies aimed at stimulating economic growth by increasing the money supply and encouraging bank lending.

**A is incorrect.** This option suggests that interest rates would rise, and bank lending activities would decrease as a result of the central bank's actions. However, the opposite is true. By reducing reserve requirements and purchasing Treasury securities, the central bank is effectively increasing the money supply and liquidity in the banking system. This increase in liquidity and available funds for lending typically leads to lower interest rates, as banks have more resources to lend. Lower interest rates, in turn, encourage borrowing and investment, leading to increased lending activities. Therefore, this option misunderstands the impact of the central bank's policies on interest rates and bank lending.

**C is incorrect.** This option posits that banks would decrease the acceptance of deposits, and the money supply would decrease as a result of the central bank's actions. In reality, reducing reserve requirements and purchasing Treasury securities are measures that increase the money supply, not decrease it. These actions make more funds available for banks to lend, which encourages banks to accept more deposits to further increase their lending capacity. The central bank's goal with these actions is to stimulate economic activity by making more funds available for lending, not to restrict the acceptance of deposits or reduce the money supply.

**CFA Level I, Topic 2, Economics, Learning Module 4: Monetary Policy, LOS 4b: Describe tools used to implement monetary policy tools and the monetary transmission mechanism, and explain the relationships between monetary policy and economic growth, inflation, interest, and exchange rates.**

---

Q.23 A look at the financial statements of a business based in Qatar reveals that for the most recent reporting period, revenue stood at \$2 million. It had a total cost amounting to \$2.5 million, comprised of TFC of \$1 million and TVC of \$1.5 million. The reported net loss on the income statement stood at \$500,000, disregarding tax obligations. In prior periods, the business had consistently reported profits on its operations. What decision should the management take regarding operations for the next few months?

- A. Minimize operations to cut total variable costs (TVC).
- B. Shut down operations since the business is already making losses.
- C. Continue operations but attempt to borrow funds for the short term.

Based on the financial statements provided, the firm is able to cover all of its Total Variable Costs (TVC) but can only cover about half of its Total Fixed Costs (TFC). The TFC amounts to \$1 million, and if the business were to decide to shut down operations, its loss would be equal to this amount. However, if the business chooses to continue operating, the net loss would be minimized at \$500,000. This is a significant reduction in losses, making it a more viable option for the business. Furthermore, the business should attempt to secure credit from financiers to navigate the current profitability problems in the short term. Given that the business has previously reported profits, the chances of successfully negotiating such an agreement would be quite high.

**A is incorrect.** This option suggests that the company should minimize operations to cut total variable costs (TVC). However, this is not a viable solution for the business. The financial statements reveal that the business is able to cover all of its TVC. Therefore, minimizing operations would not significantly reduce the business's losses. Furthermore, minimizing operations could potentially lead to a decrease in revenue, which would further exacerbate the business's financial problems.

**B is incorrect.** This option suggests that the business should shut down operations since it is already making losses. However, this would not be a wise decision for the business. If the business were to shut down operations, its loss would be equal to the amount of TFC, which is \$1 million. This is significantly higher than the net loss of \$500,000 that the business would incur if it chose to continue operating. Therefore, shutting down operations would result in greater losses for the business. Furthermore, the business has previously reported profits, indicating that it has the potential to return to profitability.

**CFA Level 1, Topic 2 - Economics, Learning Module 1 - Firms and Market Structure, LOS 1a: Determine and interpret breakeven and shutdown points of production, as well as how economies and diseconomies of scale affect costs under perfect and imperfect competition.**

---

Q.24 Which of the following is *least likely* a reason for a government to impose trade restrictions?

- A. To protect new or infant industries.
- B. To avoid comparative advantage over other countries.
- C. To protect goods that are crucial to a country's defense.

Option B is the correct answer because it is least likely for a government to impose trade restrictions to avoid comparative advantage over other countries. Comparative advantage is a key principle in international trade and a significant reason why many countries engage in it. It refers to the ability of a country to produce a particular good or service at a lower opportunity cost than its trading partners. This advantage gives a country the ability to sell goods and services at a lower price than its competition and realize stronger sales margins. If a country has a comparative advantage in certain goods, it will most likely capitalize on them instead of imposing trade restrictions. Imposing trade restrictions in such a scenario would be counterproductive as it would limit the country's ability to maximize its economic potential and benefit from trade.

**A is incorrect.** The statement that a government imposes trade restrictions to protect new or infant industries is a valid reason for imposing trade restrictions. This is often referred to as the infant industry argument, which states that new industries need protection from international competition until they become mature and stable enough to compete internationally. Without such protection, these industries may fail to develop. Therefore, this is a plausible reason for a government to impose trade restrictions, making option A an incorrect answer to the question.

**C is incorrect.** The statement that trade restrictions are implemented to protect goods that are crucial to a country's defense is also a valid reason for imposing trade restrictions. Certain industries are deemed tactically important for safeguarding national security. Defense industries, for instance, often receive a significant level of protection as they are viewed as crucial to the national interest. The government may impose trade restrictions to ensure that these industries are not exposed to foreign competition that could compromise national security. Therefore, this is a plausible reason for a government to impose trade restrictions, making option C an incorrect answer to the question.

***CFA Level 1, Topic 2 - Economics, Learning Module 6 - International Trade, LOS 6a: Describe the benefits and costs of international trade.***

---

Q.25 What is the third quintile of the following distribution?  
4.1%; 1.8%; 7.2%; 8.6%; 12.1%; 2.5%; 4.3%; 2.3%

- A. 5.40%
- B. 5.46%
- C. 5.75%

The third quintile, also known as the 60th percentile, is the value below which 60% of the data falls. In this case, we are looking for the value that separates the lowest 60% of the data from the highest 40%.

To calculate this, we first need to understand the number of observations in our data set. In this case, we have 8 observations. We then calculate the location of the third quintile, denoted as  $L_y$ , using the formula  $L_y = \frac{y}{100}(n + 1)$ , where  $y$  is the percentile we are looking for (in this case, 60), and  $n$  is the number of observations. Substituting the values, we get  $L_y = \frac{60}{100} \times 9 = 5.4$ .

Now, we need to find the 5th and 6th numbers in our sorted data set, which are 4.3% and 7.2% respectively. The third quintile will lie between these two numbers. We then interpolate to find the exact value of the third quintile using the formula: Interpolated value =  $X_1 + (L_{60} - 5) \times (X_2 - X_1)$ , where  $X_1$  and  $X_2$  are the 5th and 6th numbers respectively, and  $L_{60}$  is the location of the third quintile. Substituting the values, we get the interpolated value as 5.46%.

**A is incorrect.** The value 5.40% might seem close to the correct answer, but it is not accurate. This value is actually the location of the third quintile, not the value of the third quintile itself. The location of the third quintile is used to determine between which two numbers the third quintile lies, but it is not the actual value of the third quintile.

**C is incorrect.** The value 5.75% is higher than the correct answer. This might be the result of a miscalculation or misunderstanding of the concept of quintiles. It is important to remember that the third quintile is the value below which 60% of the data falls, and this value is calculated using the method of interpolation as explained above.

***CFA Level 1, Topic 2 - Quantitative Methods, Learning Module 3 - Statistical Measures of Asset Returns, LOS 3a: Calculate, interpret, and evaluate measures of central tendency and location to address an investment problem.***

---

Q.26 Which of the following is *least likely* a characteristic of a cooperative country?

- A. Arbitrary rule.
- B. Rules standardization.
- C. Harmonization of tariffs.

An arbitrary rule is not typically a characteristic of a cooperative country. In fact, it is more commonly associated with non-cooperative countries. Non-cooperative countries are often characterized by inconsistent rules, restricted movement across borders, limited trade, capital controls, and a lack of technology exchange. These factors can create a challenging environment for international trade and cooperation. In contrast, cooperative countries tend to promote rules that are clear, consistent, and fair, fostering an environment that is conducive to international trade and cooperation.

**B is incorrect.** Rules standardization is indeed a characteristic of a cooperative country. Cooperative countries often strive for rules standardization as it helps to create a predictable and stable environment for international trade. Standardized rules can reduce uncertainty and risk, making it easier for countries to engage in trade and cooperation. This can lead to increased economic activity and growth, benefiting all parties involved.

**C is incorrect.** Harmonization of tariffs is indeed a characteristic of a cooperative country. Tariff harmonization refers to the process of aligning tariffs across countries to promote fair competition and prevent trade distortions. This is often achieved through international trade agreements and negotiations. By harmonizing tariffs, cooperative countries can facilitate trade, promote economic integration, and foster mutual economic growth.

**CFA Level 1, Topic 2 - Economics, Learning Module 5 - Introduction to Geopolitics, LOS 5a: describe geopolitics from a cooperation versus competition perspective**

---

Q.27 If the euro is quoted in US dollar terms as 1.4225 (USD/EUR), and the peso is quoted as 0.079 (USD/MXN), then the cross rate of MXN/EUR must be *closest to*:

- A. 11.21
- B. 25.61
- C. 18.01

TA cross rate is the exchange rate between two currencies computed by using the exchange rates of both currencies with a third currency, usually the US dollar (USD). In this case, we are given the exchange rates of the Euro and the Peso against the US dollar, and we are asked to find the MXN/EUR rate.

The formula to calculate the cross rate is as follows:

$$\text{Cross Rate (MXN/EUR)} = \frac{\text{USD/EUR}}{\text{USD/MXN}}$$

Given the exchange rates are 1.4225 USD/EUR and 0.079 USD/MXN, we can substitute these values into the formula:

$$\text{MXN/EUR} = \frac{1.4225}{0.079} = 18.01$$

**A is incorrect.** The value of 11.21 suggests a misunderstanding of how to correctly apply the formula for calculating cross rates. It might result from an incorrect manipulation of the given exchange rates or a simple miscalculation. The correct process involves dividing the USD/EUR rate by the USD/MXN rate, which does not yield 11.21. Therefore, option A is not the correct answer.

**B is incorrect.** The value of 25.61 significantly overestimates the MXN/EUR cross rate. This could be due to a miscalculation or misunderstanding of the cross rate formula. The correct calculation, as shown above, yields a cross rate of 18.01, not 25.61. Therefore, option B is not the correct answer.

**CFA Level I, Topic 2 - Economics, Learning Module 8: Exchange Rate Calculations, LOS 8a: calculate and interpret currency cross-rates**

---

Q.28 If the real exchange rate of USD/JPY decreases, which of the following is the *most likely* correct?

- A. Japanese exports become cheaper for US clients.
- B. Japanese exports become more expensive for US clients.
- C. US exports become cheaper for Japanese clients.

Recall that

$$\text{Real Exchange Rate} = \text{Nominal Exchange Rate} \times \frac{\text{Price Level in Domestic Country}}{\text{Price Level in Foreign Country}}$$

Where:

- The nominal exchange rate represents USD/JPY (i.e., how many JPY per USD).
- A decrease in RER means that Japanese goods have become relatively more expensive compared to US goods when adjusted for inflation.

Intuitively, when the real exchange rate of USD/JPY decreases, Japanese exports become more expensive for US clients. A lower real exchange rate means that Japanese goods are relatively more expensive compared to US goods after adjusting for price level differences. This makes it costlier for US buyers to purchase goods from Japan.

**A is incorrect.** TThis option suggests that Japanese exports become cheaper for US clients when the real exchange rate of USD/JPY decreases. However, this is not the case. A decrease in the real exchange rate means that Japanese goods have become relatively more expensive for US clients. This is because the purchasing power of the US dollar for Japanese goods has declined when accounting for inflation, making Japanese exports more costly in USD terms.

**C is incorrect.** This option suggests that US exports become cheaper for Japanese clients when the real exchange rate of USD/JPY decreases. However, the opposite is true. A decrease in the real exchange rate means that the relative price of US goods in JPY terms has increased, making US exports more expensive for Japanese clients. This is because Japanese clients now need to spend more yen to buy the same amount of US goods.

**CFA Level 1, Topic 2 - Economics, Learning Module 7- Capital Flows and the FX Market, LOS 7a: describe the foreign exchange market, including its functions and participants, distinguish between nominal and real exchange rates, and calculate and interpret the percentage change in a currency relative to another currency.**

---

Q.29 In which of the following exchange rate strategies can a country *most likely* make an explicit commitment to exchange its domestic currency for a specified foreign currency at a fixed rate?

- A. Target zone.
- B. Fixed peg arrangement.
- C. Currency board arrangement.

In a currency board arrangement, a country commits to exchanging its domestic currency for a specified foreign currency at a predetermined fixed rate. This system is characterized by its strict rules, which require the currency board to maintain sufficient reserves of the foreign currency to back the domestic currency's supply fully. This commitment ensures a stable exchange rate and can help to control inflation by tying the domestic currency's value directly to a presumably more stable and stronger foreign currency. The currency board arrangement is often adopted by countries looking to achieve greater economic stability and build international trust in their domestic currency.

**A is incorrect.** A target zone represents a type of exchange rate regime where a country's currency exchange rate is allowed to fluctuate within a predetermined range or band around a central value or another currency. While this system provides some level of stability by preventing excessive fluctuations in the exchange rate, it does not involve an explicit commitment to exchange the domestic currency for a foreign currency at a fixed rate. Instead, the central bank may intervene to keep the exchange rate within the agreed-upon band, but the rate itself is not fixed and can vary within the target zone.

**B is incorrect.** A fixed peg arrangement involves a country fixing its currency's value to another currency or a basket of currencies. While this system does involve setting a specific exchange rate, it differs from a currency board arrangement in terms of the level of commitment and the mechanism used to maintain the exchange rate. In a fixed peg system, the central bank uses its foreign exchange reserves to buy and sell its currency to maintain the pegged rate. However, unlike a currency board, a fixed peg system does not require the currency to be fully backed by foreign reserves, and the commitment to maintain the fixed rate can be less stringent, allowing for potential adjustments or devaluations of the pegged rate under certain circumstances.

**CFA Level I, Economics, Learning Module 7: Capital Flows and the FX Market, LOS 7b: Describe exchange rate regimes and explain the effects of exchange rates on countries' international trade and capital flows.**

---

Q.30 A European company has recently received a payment of CAD 760,000 (Canadian dollars). The spot rate for CAD/USD is 0.8831, and the spot rate for EUR/USD is 1.2341. The amounts the European company will receive in Euros is *closest*:

- A. 697,370.
- B. 828,724.
- C. 1,062,100.

Firstly, we are given the spot rates for CAD/USD and EUR/USD. The spot rate for CAD/USD is 0.8831, which means that 1 US dollar is equivalent to 0.8831 Canadian dollars. Similarly, the spot rate for EUR/USD is 1.2341, which means that 1 US dollar is equivalent to 1.2341 Euros.

We need to determine how much the European company will receive in Euros for the payment of CAD 760,000. For this, we calculate the cross-rate for EUR/CAD by dividing the EUR/USD rate by the CAD/USD rate. This gives us:

$$\text{EUR/CAD} = \frac{\text{EUR/USD}}{\text{CAD/USD}} = \frac{1.2341}{0.8831} \approx 1.3975$$

This implies that 1 Canadian dollar is equivalent to approximately 1.3975 Euros. Therefore, for CAD 760,000, the European company will receive:

$$760,000 \times 1.3975 \approx \text{EUR } 1,062,100$$

**CFA Level 1, Topic 2 - Economics, Learning Module 8 - Exchange Rate Calculations,  
LOS 8a: Calculate and interpret currency cross-rates**

---

Q.31 In which of the following forms of market structures does a firm make output and pricing decisions based on the anticipated actions of its competitors?

- A. Oligopoly.
- B. Monopoly.
- C. Perfect competition.

In an oligopoly, firms are highly aware of their competitors' potential actions and make output and pricing decisions accordingly. This market structure is characterized by a small number of firms that dominate the market, leading to a high degree of interdependence among them. Each firm understands that its decisions regarding prices and output levels can significantly influence the market environment, prompting reactions from competitors. This strategic interaction is a defining feature of oligopolies, where firms often engage in behaviors such as price matching, product differentiation, and non-price competition to gain a competitive edge. The anticipation of competitors' responses plays a crucial role in decision-making processes, as firms must consider not only their own strategies but also predict how their rivals will react to changes in prices or output levels. This dynamic creates a complex environment where strategic planning and foresight are essential for success. Hence, option A is the correct answer.

**B is incorrect.** A monopoly is a market structure where a single firm dominates the market with no direct competitors. This market structure allows the monopolist to make pricing and output decisions without needing to consider competitors' actions, as it has significant control over the market. The lack of competition in a monopoly means that the firm does not have to anticipate competitors' responses when setting prices or output levels, unlike in an oligopoly.

**C is incorrect.** Perfect competition is a market structure characterized by a large number of small firms, each of which has no control over the market price. Firms in a perfectly competitive market are price takers, meaning they accept the market price as given and adjust their output levels accordingly. There is no room for strategic interaction among firms regarding pricing or output decisions, as no single firm has enough market power to influence market conditions. The decisions of one firm have no significant impact on the overall market or on the actions of competitors, making the anticipation of competitors' actions irrelevant in this context.

***CFA Level 1, Topic 2 - Economics, Learning Module 1 - Firms and Market Structures, LOS 1b: Describe characteristics of perfect competition, monopolistic competition, oligopoly, and pure monopoly.***

---

Q.32 You are given the following exchange rates:

EUR/USD	0.6288
CHF/USD	0.8833
JPY/CHF	120.3211
JPY/CAD	99.0001
GBP/CAD	0.5556

The GBP/EUR exchange rate is *closest to*:

- A. 0.5857
- B. 0.9486
- C. 1.0542

The process involves using all the given exchange rates and eliminating them along the way until we get to EUR/GBP. Then we will get an inverse of EUR/GBP, which will be the GBP/EUR exchange rate. The formula used is:

$$\text{USD/EUR} \times \text{CHF/USD} \times \text{JPY/CHF} \times \text{CAD/JPY} \times \text{GBP/CAD} = \text{GBP/EUR}$$

From the table above, we can derive the following values:

$$\begin{aligned}\text{USD/EUR} &= \frac{1}{0.6288} = 1.5903 \\ \text{CHF/USD} &= 0.8833 \\ \text{JPY/CHF} &= 120.3211 \\ \text{CAD/JPY} &= \frac{1}{99.0001} = 0.010101 \\ \text{GBP/CAD} &= 0.5556\end{aligned}$$

By multiplying these values together, we get:

$$\text{GBP/EUR} = 1.5903 \times 0.8833 \times 120.3211 \times 0.0101 \times 0.5556 = 0.9486$$

**Option A is incorrect.** The value 0.5857 is not the correct GBP/EUR exchange rate. This value is actually the EUR/JPY exchange rate. This is a common mistake as the EUR/JPY exchange rate can be easily confused with the GBP/EUR exchange rate. However, these are two different currency pairs and should not be confused with each other.

**Option C is incorrect.** The value 1.0542 is not the correct GBP/EUR exchange rate. This value is actually the EUR/GBP exchange rate. This is another common mistake as the EUR/GBP exchange rate can be easily confused with the GBP/EUR exchange rate. However, these are two different currency pairs and should not be confused with each other.

**CFA Level 1, Topic 2 - Economics, learning Module 8 - Exchange rate Calculations, LOS 8a: Calculate and interpret currency cross-rates.**

---

Q.33 The main advantage of a permissionless network over a permissioned network is that:

- A. it is open to any user who wishes to execute a transaction.
- B. transactions do not undergo central validation processes.
- C. it consumes less computer power and is easier to create.

In a permissionless network, transactions are validated and recorded through a consensus mechanism, which does not rely on any central authority. This decentralization enhances the security and resilience of the network against control by any single entity and prevents a central point of failure. This is a significant advantage over permissioned networks, where a central authority validates transactions, creating a potential single point of failure and control. The decentralization in permissionless networks also ensures transparency and trust among users, as no single entity has control over the transaction validation process.

**A is incorrect.** Although it is true that a permissionless network is open to any user who wishes to execute a transaction, this is not the main advantage over a permissioned network. The openness of a permissionless network is more about accessibility and inclusivity, allowing anyone to participate without needing authorization. However, this does not fundamentally enhance the operational efficiency or security of the network. In fact, the openness of a permissionless network can sometimes be a disadvantage, as it can make the network more susceptible to malicious activities.

**C is incorrect.** Permissionless networks, especially those using proof-of-work consensus mechanisms like Bitcoin, can consume significant computational power. This is because the process of validating and recording transactions in a decentralized manner requires complex computations. Furthermore, designing and maintaining a decentralized, permissionless network can be more complex and challenging than a permissioned one. This is due to the challenges of achieving consensus among a large number of participants and ensuring security in a decentralized environment. Therefore, a permissionless network is not necessarily easier to create or less resource-intensive than a permissioned network.

---

***CFA Level 1, Topic 2 - Quantitative Methods, Learning Module 11 - Introduction to Big Data Techniques, LOS 11b: Describe big data, artificial intelligence, and machine learning.***

---

Q.34 Which of the following is *least likely* a reason for investors to pay attention to the stage in the credit cycle?

- A. It helps them better anticipate policymakers' actions.
- B. Credit cycles tend to be longer, deeper, and sharper than business cycles.
- C. It helps them assess the extent of business cycle expansions as well as contractions.

Option B is the correct answer because it is the least likely reason for investors to pay attention to the stage in the credit cycle. The statement that credit cycles tend to be longer, deeper, and sharper than business cycles is indeed a characteristic of credit cycles, but it does not directly influence investors' decisions or strategies. This is because the length, depth, and sharpness of a credit cycle do not provide actionable insights for investors. Instead, these characteristics are more relevant for economists and policymakers who study and manage macroeconomic trends and policies.

**A is incorrect.** Policymakers' actions, such as changes in interest rates or fiscal policies, can significantly impact financial markets. By monitoring the credit cycle, investors can anticipate these actions and adjust their investment strategies accordingly. For example, if the credit cycle indicates a potential tightening of credit conditions, investors might anticipate a rise in interest rates and reduce their exposure to interest-rate sensitive assets.

**C is incorrect.** The business cycle, which refers to the fluctuations in economic activity over time, has a significant impact on investment opportunities. During expansions, investment opportunities increase as businesses grow and profits rise. During contractions, investment opportunities decrease as businesses shrink and profits fall. By monitoring the credit cycle, which often precedes the business cycle, investors can anticipate these changes in the business cycle and adjust their investment strategies accordingly.

**CFA Level 1, Topic 2 - Economics, Learning Module 2 - Understanding Business Cycles.  
LOS 2b: Describe credit cycles.**

---

Q.35 What is the *most likely* policy response to a high inflation rate due to supply shocks?

- A. An expansionary monetary policy.
- B. A contractionary monetary policy.
- C. There is no exact policy prescription.

Supply shocks are unexpected events that significantly alter the supply of a product or commodity, leading to sudden changes in its price. These shocks can be either negative, leading to a decreased supply, or positive, leading to an increased supply. However, negative supply shocks are more common and can lead to both recessionary pressures and high inflation, a scenario often referred to as stagflation.

Addressing the dual problems of recession and inflation resulting from a supply shock requires careful consideration of the potential consequences of any policy action. A contractionary monetary policy, aimed at reducing inflation by decreasing the money supply and increasing real interest rates, could exacerbate the recession by further reducing aggregate demand. On the other hand, an expansionary monetary policy, intended to stimulate aggregate demand and mitigate recessionary effects by decreasing interest rates, could fuel inflation even further. This delicate balance makes it clear that there is no one-size-fits-all policy prescription for dealing with the economic challenges posed by supply shocks, underscoring the complexity of monetary policy decisions in such scenarios.

**A is incorrect.** An expansionary monetary policy, which involves increasing the money supply and reducing interest rates to stimulate economic growth, might seem like a reasonable response to the recessionary effects of a supply shock. However, in the context of already high inflation, such a policy could exacerbate inflationary pressures without effectively addressing the underlying supply constraints. This approach risks fueling inflation further without necessarily providing a sustainable solution to the supply-induced economic challenges.

**B is incorrect.** A contractionary monetary policy, characterized by reducing the money supply and increasing interest rates, is typically employed to combat inflation by cooling down an overheated economy. While this approach might help to control inflation to some extent, it does so at the cost of potentially deepening the recession caused by the supply shock. By reducing aggregate demand, a contractionary policy could lead to higher unemployment and lower economic output, worsening the recessionary impact of the supply shock and illustrating the trade-offs involved in policy responses to complex economic situations.

**CFA Level 1, Topic 2 - Economics, Learning Module 4 - Monetary Policy, LOS 4c:** *Describe qualities of effective central banks; contrast their use of inflation, interest rate, and exchange rate targeting in expansionary or contractionary monetary policy; and describe the limitations of monetary policy.*

---

Q.36 From the following return observations, the return that lies at the 25th percentile is *closest to*: [4.4%, 7.3%, 8.1%, 1.9%, 3.3%, 12.1%, 8.8%]

- A. 3.3%
- B. 4.4%
- C. 12.2%

The correct answer is option A, which is 3.3%. This is determined by calculating the 25th percentile of the given data set. The formula used to calculate the percentile is as follows:

$$y^{\text{th}} = (n + 1) \times \frac{y}{100}$$

Where 'n' is the total number of observations and 'y' is the percentile we want to calculate. In this case, we are looking for the 25th percentile, so 'y' is 25. The total number of observations, 'n', is 7 (as there are seven return observations given).

Substituting these values into the formula, we get:

$$y^{25} = (7 + 1) \times \frac{25}{100} = 2$$

This means that the 25th percentile corresponds to the 2nd observation in the data set when arranged in ascending order. The given data set in ascending order is [1.9%, 3.3%, 4.4%, 7.3%, 8.1%, 8.8%, 12.1%]. The 2nd observation in this ordered set is 3.3%, which corresponds to option A.

**B is incorrect.** This option suggests that the 25th percentile is 4.4%. However, 4.4% is the 3rd observation in the ordered data set, not the 2nd. Therefore, it does not represent the 25th percentile according to the formula used.

**C is incorrect.** This option suggests that the 25th percentile is 12.2%. However, 12.2% is not even a part of the given data set. The highest observation in the data set is 12.1%, which is the 7th observation in the ordered set. Therefore, it cannot represent the 25th percentile, which corresponds to the 2nd observation.

**CFA Level 1, Topic 2 - Quantitative Methods, Learning Module 3 - Statistical Measures of Asset Returns, LOS 3a: calculate, interpret, and evaluate measures of central tendency and location to address an investment problem.**

---

Q.37 An analyst gathered the following information about a company.

Cash	\$120,000
Accounts receivable	\$920,000
Inventories	\$1,002,000
Accounts payable	\$720,000
Sales	\$2,934,000
Cost of goods sold	\$2,542,000

The company's cash conversion cycle is *closest to*:

- A. 144 days.
- B. 155 days.
- C. 258 days.

The cash conversion cycle is a key metric that helps us understand the efficiency of a company's working capital management. It is calculated as the sum of the number of days of inventory and the number of days of receivables, minus the number of days of payables. In this case, we are given the necessary information to calculate these components.

Cash conversion cycle = Number of days of inventory + Number of days of receivables - Number of days of payables

Where:

$$\text{Number of days of inventory} = \frac{365 \times \text{Inventory}}{\text{Cost of goods}} = \frac{365 \times 1,002,000}{2,542,000} = 143.87$$

$$\text{Number of days of receivables} = \frac{365 \times \text{Accounts receivable}}{\text{Sales}} = \frac{365 \times 920,000}{2,934,000} = 114.45$$

$$\text{Number of days of payables} = \frac{365 \times \text{Accounts payable}}{\text{Cost of goods sold}} = \frac{365 \times 720,500}{2,542,000} = 103.45$$

$$\Rightarrow \text{Cash conversion cycle} = 143.87 + 114.45 - 103.45 = 154.87$$

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 11 - Financial Analysis Techniques, LOS 11b: Calculate and interpret activity, liquidity, solvency, and profitability ratios.**

---

Q.38 An analyst gathered the following information about Yeezny:

Income tax expense	\$120,000
Change in the deferred tax assets	\$1,500
Change in the deferred tax liabilities	\$5,000

Yeezny's income tax payable is *closest to*:

- A. \$116,500
- B. \$120,000
- C. \$123,500

The correct answer is option C, which states that Yeezny's income tax payable is \$123,500. This is calculated using the formula:

$$\text{Income Tax Payable} = \text{Income Tax Expense} - \text{Change in Deferred Tax Assets} + \text{Change in Deferred Tax Liabilities}$$

In this case, the Income Tax Expense is given as \$120,000, the Change in Deferred Tax Liabilities is \$5,000, and the Change in Deferred Tax Assets is \$1,500. Substituting these values into the formula gives us:

$$\text{Income Tax Payable} = 120,000 - 1,500 + 5,000 = 123,500$$

Therefore, the Income Tax Payable is \$123,500.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 9 - Analysis of Income Taxes, LOS 9a: Contrast accounting profit, taxable income, taxes payable, and income tax expense and temporary versus permanent differences between accounting profit and taxable income.**

---

Q.39 A firm reported the following:

Net Income	\$2,000,000
Non-cash charges	\$70,000
Interest Expense	\$200,000
Capital Expenditure	\$150,000
Tax Rate	45%

The company's free cash flow to the firm (FCFF) is *closest to*:

- A. \$2,030,000
- B. \$2,120,000

C. \$2,330,000

Generally, free cash flow refers to the excess of operating cash flow over capital expenditures.

Free cash flow to the firm (FCFF) is the cash flow available to a company's debt and equity capital suppliers after paying all its operating expenses and making the required investments in fixed and working capital.

It is obtained using the formula;

$$\text{FCFF} = \text{Net Income} + \text{Non cash charges} + \text{Interest expense (1-Tax rate)} - \\ \text{Capital expenditures-Working capital expenditures}$$

It can also be obtained using the formula;

$$\text{FCFF} = \text{CFO} + \text{Interest expense (1-tax rate)} - \text{Capital expenditure}$$

Where CFO is the cash flow obtained from operating activities in the case where interest expense is included as an operating activity.

The table given above includes items included in the first formulae. So, we will use the first formulae to calculate the FCFF, as shown below.

$$\begin{aligned}\text{FCFF} &= \text{NI} + \text{NCC} + \text{Int} \times (1-t) - \text{FCInv} - \text{WCInv} \\ &= 2,000,000 + 70,000 + 200,000(1 - 45\%) - 150,000 \\ &= 2,030,000\end{aligned}$$

**B is incorrect.** The value of \$2,120,000 seems to be calculated by incorrectly excluding the tax rate from the interest expense in the FCFF formula. The tax rate is an essential component of the formula as it reduces the interest expense, thereby affecting the overall FCFF. Ignoring the tax rate would overstate the FCFF, leading to an incorrect conclusion about the company's financial health.

**C is incorrect.** The value of \$2,330,000 appears to be calculated by incorrectly adding the capital expenditure to the FCFF instead of subtracting it. Capital expenditure is a cash outflow and should be subtracted in the FCFF calculation. Adding capital expenditure would inflate the FCFF, providing a misleading picture of the company's ability to generate cash.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 5: Analyzing Statement of Cashflows 2, LOS 5b: Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.**

---

Q.40 In 2014, Nova Inc. reported \$12.5 million in free cash flow to the firm (FCFF), \$1.5 million in interests, and \$3.5 million in net borrowing. If its corporate tax rate was 22%, its free cash flow to equity (FCFE) was *closest to*:

- A. \$7.83 million
- B. \$14.50 million
- C. \$14.83 million

The calculation of Free Cash Flow to Equity (FCFE) is based on the Free Cash Flow to the Firm (FCFF), the interest paid, the net borrowing, and the corporate tax rate. FCFE is the cash flow available to a company's common stockholders after paying all its operating expenses and borrowing costs and making the required investments in working and fixed capital. The formula for calculating FCFE is as follows:

$$\text{FCFE} = \text{FCFF} - [\text{Interest} * (1 - \text{Tax Rate})] + \text{Net Borrowing}$$

Substituting the given values into the formula, we get:

$$\text{FCFE} = \$12,500,000 - [\$1,500,000 * (1 - 0.22)] + \$3,500,000 = \$14,830,000$$

**A is incorrect.** The error in this option lies in the treatment of net borrowing. In the calculation of FCFE, net borrowing should be added to the FCFF, not subtracted. This is because net borrowing represents additional funds available to the firm, and thus to the equity holders. In this option, net borrowing has been incorrectly subtracted from FCFF, leading to a lower FCFE value. If the net borrowing were a negative number, indicating a net repayment of debt, then it would be correct to subtract it from FCFF. However, in this case, the net borrowing is given as a positive number, indicating a net increase in borrowing, and should therefore be added to FCFF.

**B is incorrect.** The mistake in this option is that the tax rate has not been factored into the calculation of FCFE. The interest expense should be reduced by the tax rate before it is subtracted from the FCFF. This is because interest expense is tax-deductible, and thus the after-tax cost of interest is lower than the nominal interest expense. In this option, the full interest expense has been subtracted from FCFF without accounting for the tax shield, leading to an overestimation of the reduction in FCFF due to interest expense, and thus an underestimation of FCFE.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 5 - Analyzing Statements of Cashflows 2, LOS 5b: Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.**

---

Q.41 Dynasty Corporation, in 2016, reported for 2016 current liabilities of \$312 million and an ending balance of \$35 million in cash, account receivables of \$12 million, and marketable securities of \$1.3 million. Dynasty Corporation's cash ratio is *closest to*:

- A. 0.11
- B. 0.12
- C. 0.15

The cash ratio is a measure of a company's liquidity and its ability to meet short-term liabilities. It is calculated by dividing the sum of cash and marketable securities by current liabilities. In the case of Dynasty Corporation, the cash ratio is calculated as follows:

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}} = \frac{35M + 1.3M}{312M} = 0.1163$$

When rounded to two decimal places, the cash ratio is 0.12. This ratio indicates that Dynasty Corporation has \$0.12 of liquid assets for every dollar of current liabilities, which is a relatively low ratio, suggesting that the company may struggle to meet its short-term obligations if they were all due at once.

***CFA Level 1, Topic 3 - Financial Statement Analysis, learning Module 11 - Financial Analysis Techniques, LOS 11b: Calculate and interpret activity, liquidity, solvency, and profitability ratios.***

---

Q.42 Under which of the following cases is the capitalization of development cost *most likely* prohibited? In the case of:

- A. an IFRS-compliant company.
- B. software development by a company following US GAAP.
- C. the development of a life-saving drug by a company following US GAAP.

The capitalization of development cost is most likely prohibited in the case of the development of a life-saving drug by a company following US GAAP. This is because the US GAAP, or the United States Generally Accepted Accounting Principles, mandates that all research and development costs should be expensed as they are incurred. This means that these costs are recognized and recorded as an expense in the period they are incurred, rather than being capitalized and amortized over the useful life of the asset. This rule applies regardless of the potential future benefits that may be derived from the research and development activities. In the case of the development of a life-saving drug, the costs associated with the research and development of the drug would be expensed immediately prohibiting the capitalization of these costs.

**A is incorrect.** The International Financial Reporting Standards (IFRS) allows companies to capitalize development costs and recognize an intangible asset arising from development or during the development phase of internal projects once certain criteria are met. These criteria include the technical feasibility of completing the intangible asset, the intention to complete and the ability to use or sell the asset, the ability to measure reliably the expenditure attributable to the intangible asset during its development, the availability of adequate resources to complete the development, and the ability to measure the future economic benefits of the asset. Therefore, in the case of an IFRS-compliant company, the capitalization of development costs is not prohibited, but rather allowed under certain conditions.

**B is incorrect.** While it is true that US GAAP requires that both research and development costs are expensed as they are incurred, there is an exception for certain costs related to software development. According to the US GAAP, costs incurred during the application development stage of software creation can be capitalized. This includes costs related to the design of the software, coding, testing, and other direct costs necessary to make the software ready for its intended use. Therefore, in the case of software development by a company following US GAAP, the capitalization of development costs is not entirely prohibited.

***CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 7 - Analysis of Long Term Assets, LOS 7a: compare the financial reporting of the following types of intangible assets: purchased, internally developed, and acquired in a business combination.***

---

Q.43 A firm purchased a 3-year callable bond for \$950 with the intent of making a profit in the short term. After the first year of holding the security, the value of the bond has decreased to \$890. If the firm reports under US GAAP, determine the appropriate treatment of the amount of the loss on the bond.

- A. No loss will be recognized.
- B. A loss of \$60 will be recognized in the income statement.
- C. A loss of \$60 will be recognized in changes in stockholders' equity.

The bond in question is classified as a held-for-trading security because the firm purchased it with the intention of making a short-term profit. Under US GAAP, held-for-trading securities are reported at their fair value. This means that any subsequent increases or decreases in the value of these securities are recognized in the income statement. In this scenario, the value of the bond decreased from \$950 to \$890 after the first year. This decrease in value, which amounts to a loss of \$60, should be recognized in the income statement. This is in line with the accounting treatment for held-for-trading securities under US GAAP, which requires that changes in fair value be reported in the income statement.

**A is incorrect.** This option suggests that no loss will be recognized. However, this is not in line with the accounting treatment for held-for-trading securities under US GAAP. As mentioned earlier, held-for-trading securities are reported at their fair value, and any subsequent changes in their value are recognized in the income statement. In this case, the value of the bond decreased by \$60, which constitutes a loss.

**C is incorrect.** This option suggests that the loss of \$60 will be recognized in changes in stockholders' equity. However, this is not in line with the accounting treatment for held-for-trading securities under US GAAP. As mentioned earlier, held-for-trading securities are reported at their fair value, and any subsequent changes in their value are recognized in the income statement, not in changes in stockholders' equity.

***CFA Level 1, Topic 3- Financial Statement Analysis, Learning Module 3 - analyzing Balance Sheets, LOS 3c: explain the financial reporting and disclosures related to financial instruments.***

---

Q.44 Compared to the same period last year, Wind Corporation's tax rate has increased from 22% to 25%. Therefore, Wind Corporation's:

- A. Deferred tax asset has increased.
- B. Deferred tax liability has increased.
- C. Deferred tax assets and liability have both increased.

When a company's tax rate increases, both its deferred tax asset (DTA) and deferred tax liability (DTL) increase. This is due to the fact that deferred tax assets and liabilities are calculated based on the company's tax rate. When the tax rate increases, the value of the deferred tax assets and liabilities also increases. This is because deferred tax assets represent the amount of taxes that a company has overpaid and can claim back in the future. On the other hand, deferred tax liabilities represent the amount of taxes that a company will owe in the future. Therefore, an increase in the tax rate will increase the value of both these accounts.

**A is incorrect.** While it is true that an increase in the tax rate will increase the value of the deferred tax asset, this option is incorrect because it fails to acknowledge that the deferred tax liability will also increase. As explained above, both the deferred tax asset and liability are affected by changes in the tax rate. Therefore, suggesting that only one of these accounts has increased is incorrect.

**B is incorrect.** While it is true that an increase in the tax rate will increase the value of the deferred tax liability, this option is incorrect because it fails to acknowledge that the deferred tax asset will also increase. Both the deferred tax asset and liability are affected by changes in the tax rate. Therefore, suggesting that only one of these accounts has increased is incorrect.

*CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 9 - Analysis of Income Taxes, LOS 9a: Contrast accounting profit, taxable income, taxes payable, and income tax expense and temporary versus permanent differences between accounting profit and taxable income.*

---

Q.45 Dycorp reported in 2014 a net income of \$1.2 million, total assets and debt of \$8.5 million and \$1.5 million, respectively. Assuming that total debt equals total liabilities, Dycorp's debt to capital ratio is *closest to*:

- A. 0.08
- B. 0.18
- C. 0.81

The debt-to-capital ratio is a financial metric that measures the proportion of a company's total capital (debt plus equity) that is financed through debt. This ratio is crucial in understanding the financial structure of a company and its reliance on debt for its operations.

To arrive at this answer, we first need to calculate the equity of Dycorp using the information provided. Equity is calculated by subtracting total liabilities from total assets. In this case, Dycorp's total assets amount to \$8.5 million and total liabilities (which is equal to total debt) amount to \$1.5 million. Therefore, the equity of Dycorp is calculated as follows:

$$\text{Equity} = \text{Total Assets} - \text{Total Liabilities} = \$8.5 \text{ million} - \$1.5 \text{ million} = \$7 \text{ million}$$

Once we have the equity, we can then calculate the debt-to-capital ratio. This is done by dividing the total debt by the sum of total debt and total shareholders' equity. In this case, the total debt is \$1.5 million and the total shareholders' equity is \$7 million. Therefore, the debt-to-capital ratio is calculated as follows:

$$\text{Debt-to-Capital Ratio} = \text{Total Debt} / (\text{Total Debt} + \text{Total Shareholders' Equity}) = \$1.5 \text{ million} / (\$1.5 \text{ million} + \$7 \text{ million}) = 0.18$$

**A is incorrect.** A debt-to-capital ratio of 0.08 would imply that the company has a lower proportion of debt financing compared to its equity. This is not the case for Dycorp as the calculated ratio is 0.18, indicating a higher reliance on debt.

**C is incorrect.** A debt-to-capital ratio of 0.81 would suggest that the company is heavily financed by debt, with debt making up a significant majority of the company's total capital. This is not accurate for Dycorp as the calculated ratio is 0.18, which shows a more balanced mix of debt and equity financing.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 11 -Financial Analysis Techniques, LOS 11b: Calculate and interpret activity, liquidity, solvency, and profitability ratios.**

---

Q.46 Consider the following information about Zenga Company:

Year	2014
Net Profit	€145,000
Asset turnover	0.40
Return on assets	0.09
Return on equity	0.06

In 2014, the net profit margin for Zenga Company is *closest to*:

- A. 6%
- B. 9%
- C. 22%

The net profit margin for Zenga Company in 2014 is closest to 22%. This can be calculated using the formula for Return on Equity (ROE), which is the product of Net Profit Margin, Asset Turnover, and Financial Leverage. In this case, we are given the ROE (0.06 or 6%), Asset Turnover (0.40), and Return on Assets (ROA) (0.09 or 9%). We can use these values to find the Financial Leverage and subsequently the Net Profit Margin.

First, we calculate the Financial Leverage for 2014. Financial Leverage is the ratio of Total Assets to Total Equity. However, since we don't have the values for Total Assets and Total Equity, we can use the formula  $\text{Financial Leverage} = \text{ROE} / \text{ROA}$ . Substituting the given values, we get  $\text{Financial Leverage} = 0.06 / 0.09 = 0.67$ .

Next, we substitute the values of ROE, Asset Turnover, and Financial Leverage into the ROE formula and solve for Net Profit Margin. This gives us  $\text{Net Profit Margin} = 0.06 / (0.40 * 0.67) = 0.22$  or 22%.

**A is incorrect.** This option suggests that the net profit margin is 6%, which is actually the given Return on Equity (ROE) for Zenga Company in 2014. The net profit margin is a different financial metric and should not be confused with ROE. The net profit margin measures how much of each dollar of revenue a company actually keeps in earnings, while ROE measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

**B is incorrect.** This option suggests that the net profit margin is 9%, which is actually the given Return on Assets (ROA) for Zenga Company in 2014. The net profit margin and ROA are different financial metrics. While the net profit margin measures the percentage of profit a company makes on its sales, the ROA measures how efficiently a company can manage its assets to produce profits during a period. Therefore, the net profit margin cannot be the same as the ROA.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 11 -Financial Analysis Techniques, LOS 11b: Calculate and interpret activity, liquidity, solvency, and profitability ratios.**

---

Q.47 A company uses the US GAAP to prepare its financial statements. Which of the items listed below is least likely going to be reported as an operating activity?

- A. Interest paid.
- B. Dividends paid.
- C. Interest received.

Under the US GAAP, dividends paid are classified as a financing activity, not an operating activity. The US GAAP and IFRS have different classifications for certain items in the cash flow statement. While IFRS provides more flexibility in the classification of interest and dividends paid or received, and income tax expense, US GAAP has specific rules for these items.

Under US GAAP, interest received and interest paid are classified as operating activities. This is because these activities are related to the core business operations of the company. Interest is either earned from the company's investments or paid on the company's borrowings, both of which are directly related to the company's operations.

On the other hand, dividends paid are classified as a financing activity under US GAAP. This is because dividends are paid out of the company's profits to its shareholders, which is a way of financing the company. Therefore, it is not considered an operating activity, which involves the company's core business operations.

**A is incorrect.** Under US GAAP, interest paid is classified as an operating activity. This is because interest paid is related to the company's borrowings, which are directly related to the company's operations. Therefore, it is considered an operating activity, not a financing or investing activity.

**C is incorrect.** Under US GAAP, interest received is classified as an operating activity. This is because interest received is earned from the company's investments, which are directly related to the company's operations. Therefore, it is considered an operating activity, not a financing or investing activity.

***CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 4 - Analyzing Statements of Cashflows 1, LOS 4d: Contrast cash flow statements prepared under International Financial Reporting Standards (IFRS) and US Generally Accepted Accounting Principles (US GAAP).***

---

Q.48 Gino Corp.'s inventory has been bought for \$8 million by ACA Inc. and is predicted to be sold for \$18 million. Both firms report under IFRS, and the net realizable value of the inventory is assumed to be \$9 million. On the balance sheet of ACA Inc., inventories should *most likely* be shown at:

- A. \$8 million.
- B. \$9 million.
- C. \$10 million.

Under the International Financial Reporting Standards (IFRS), the valuation of inventory on a balance sheet is determined by the lower of cost and net realizable value (NRV) principle. This principle is designed to prevent the overstatement of inventory on the balance sheet. It ensures that the value of the inventory is not inflated, thereby providing a more accurate representation of a company's financial position.

The cost of the inventory refers to all the expenditures that were necessary to acquire the inventory and bring it to its present location and condition. In the case of Gino Corp.'s inventory that was bought by ACA Inc., the cost of the inventory is \$8 million. This cost includes all the expenses that were incurred to purchase the inventory and get it to its current state.

The net realizable value (NRV) of the inventory, on the other hand, is the estimated selling price in the ordinary course of business, less the estimated costs necessary to make the sale. In this scenario, the NRV is given as \$9 million. This means that ACA Inc. expects to sell the inventory for \$18 million, but it also anticipates that it will have to spend some money to make the sale, reducing the NRV to \$9 million.

According to the lower of cost and NRV principle, the inventory should be reported on the balance sheet at the lower of its cost and NRV. In this case, the cost of \$8 million is lower than the NRV of \$9 million. Therefore, the inventory should be shown at \$8 million on the balance sheet of ACA Inc.

**B is incorrect.** While the net realizable value of the inventory is \$9 million, this is not the value that should be reported on the balance sheet. According to the lower of cost and NRV principle, the inventory should be reported at the lower value, which in this case is the cost of \$8 million, not the NRV of \$9 million.

**C is incorrect.** The value of \$10 million does not correspond to any relevant value in this scenario. It is neither the cost of the inventory nor the net realizable value. Therefore, it cannot be the value at which the inventory is reported on the balance sheet.

***CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 6 - Analysis of Inventories, LOS 6b: describe the measurement of inventory at the lower of cost and net realisable value and its implications for financial statements and ratios.***

---

Q.49 The following financial information is available at the end of the year for Terexa Inc.

Security	Shared Information		
	Authorized	Issued outstanding	Other features
Common stock	1,000,000	500,000	Currently pays a dividend of \$1.15 per share
Preferred stock, series A	100,000	20,000	Nonconvertible, cumulative pays a dividend of \$3 per share
Preferred stock, series B	150,000	50,000	Convertible pays a dividend of \$5.50 per share. Each share is convertible into 3 common shares

**Additional Information** Retained earnings at start of year = \$10,000,000 Reported income for the year = \$2,000,000 Terexa's diluted EPS is *closest to*:

- A. \$2.85
- B. \$2.98
- C. \$3.33

	Basic EPS	Diluted EPS	
Net Income	2,000,000	2,000,000	
Pref Div, Series A	(60,000)	(60,000)	20,000 sh × \$3/sh
Pref Div, Series B	(275,000)	0	50,000sh × \$5.50/sh
Earnings available to	1,665,000	1,940,000	

### Weighted Average Number of Common Shares (WACS)

Shares	500,000	500,000	
If converted		150,000	3 com/pf × 50,000 pf
WACS	500,000	650,000	
EPS = (Earnings available to Common Shareholders)/(WACS)	3.33	2.98	

**A is incorrect.** As seen above, the diluted EPS is 2.98.

**C is incorrect.** 3.33 is the basic EPS.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 2 - Analyzing Income Statements, LOS 2 d: Describe how earnings per share is calculated and calculate and interpret a company's basic and diluted earnings per share for companies with simple and complex capital structures including those with antidilutive securities.**

Q.50 Simon Belfast, an equity analyst, is analyzing two market leaders (Sun Corp. & Moon Inc.) in the automotive industry.

	Sun Corp.	Moon Inc.
Cash	250,000	410,000
Marketable Securities	380,000	240,000
Inventory	220,000	550,000
PPE	650,000	1,300,000
Short-term liabilities	300,000	300,000
Long-term liabilities	700,000	400,000
Common Equity	500,000	1,800,000

Using the data given in the table, Sun Corp's cash ratio is *closest to*:

- A. 2.1
- B. 2.2
- C. 2.8

A cash ratio is a liquidity ratio that tests a company's ability to meet its short-term obligations using extremely liquid assets.

$$\begin{aligned} \text{Cash ratio} &= \frac{\text{(Cash + Marketable securities)}}{\text{Current liabilities}} \\ &= \frac{(250,000 + 380,000)}{300,000} = 2.1 \end{aligned}$$

Note: The cash ratio looks at the most liquid short-term assets of the company, which are those that can be most easily used to pay off current obligations.

**B is incorrect.** 2.2 is the cash ratio of Moon Inc., as shown below.

$$\text{Cash Ratio for Moon Inc.} = \frac{410,000 + 240,000}{300,000} = 2.1667$$

which can be rounded off to 2.2.

**C is incorrect.** 2.8 is the current ratio of Sun Corp. Current ratio is obtained by dividing current assets by current liabilities. In this case,

$$\frac{250,000 + 380,000 + 220,000}{300,000} = 2.8$$

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 3 - Analyzing Balance sheets, LOS 3e: Calculate and interpret common-size balance sheets and**

## related financial status.

---

Q.51 A firm reported the following:

Cash flow from operations	\$1,000,000
Interest expense	\$150,000
Capital Expenditure	\$250,000
Tax rate	33%

What is the company's free cash flow to the firm (FCFF)?

- A. \$649,000
- B. \$850,500
- C. \$900,000

The Free Cash Flow to the Firm (FCFF) is a measure of a company's financial performance and health. It represents the cash that a company is able to generate after accounting for the money required to maintain or expand its asset base. It is a crucial measure for investors as it shows the firm's capacity to generate cash and profits. FCFF is calculated by taking the net income, adding back any non-cash charges and interest expense (adjusted for tax), and then subtracting capital expenditures and changes in working capital.

In this case, the FCFF can be calculated using the formula:  $FCFF = CFO + \text{Interest expense}(1 - \text{tax rate}) - \text{Capital expenditure}$ . Here, CFO is the cash flow obtained from operating activities, which is \$1,000,000. The interest expense is \$150,000 and the tax rate is 33%. The capital expenditure is \$250,000. Substituting these values into the formula, we get  $FCFF = 1,000,000 + 150,000*(1-0.33) - 250,000 = \$850,500$ .

**A is incorrect.** The calculation for option A seems to have subtracted the interest expense directly from the CFO, which is not the correct approach. The interest expense should be adjusted for the tax rate before being added to the CFO. After this, the capital expenditure is subtracted.

**C is incorrect.** The calculation for option C seems to have ignored the tax adjustment for the interest expense. The interest expense should be reduced by the tax rate before being added to the CFO.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module Analyzing Statements of Cash Flows 2, LOS 2b: Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.**

---

Q.52 ABC Company has a net income of \$11 million from January 1st, 2016, to December 31st, 2016. On January 1st, 2016, it had 1 million shares outstanding, and the company bought back 200,000 shares on October 1st, 2016. ABC's earnings per share for the fiscal year of 2016 is closest to:

- A. \$0.86
- B. \$10.48
- C. \$11.58

The EPS (Earnings Per Share) is calculated by dividing the net income by the weighted average number of shares outstanding. In this case, the net income is \$11,000,000 and there are no preferred dividends to subtract. Therefore, the EPS formula becomes:

$$\text{EPS} = \frac{\text{Net Income}}{\text{Weighted Average Number of Shares Outstanding}}$$

The weighted average number of shares outstanding is calculated as follows:

- The number of shares outstanding at the beginning of the period is 1,000,000 shares, and they were outstanding for  $\frac{9}{12}$  of the year.
- After the buyback, 800,000 shares were outstanding for  $\frac{3}{12}$  of the year.

The weighted average number of shares outstanding is then calculated as:

$$(1,000,000 \times \frac{9}{12}) + (800,000 \times \frac{3}{12}) = 750,000 + 200,000 = 950,000 \text{ shares}$$

Now, we can calculate the EPS:

$$\text{EPS} = \frac{950,000}{1,100,000} = 0.86364$$

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 2 - Analyzing Income Statements, LOS 2d: describe how earnings per share are calculated and calculate and interpret a company's basic and diluted earnings per share for companies with simple and complex capital structures including those with anti-dilutive securities.**

---

Q.53 AVGI is an American company reporting under IFRS. Its inventory has been bought for \$16 million and is predicted to be sold for \$31 million. If the net realizable value is \$18 million, inventories should be shown on the balance sheet at:

- A. \$16 million
- B. \$18 million
- C. \$31 million

AVGI, despite being an American company, reports under the International Financial Reporting Standards (IFRS). The IFRS mandates that a company's inventory should be measured at the lower of cost or net realizable value (NRV). In this scenario, the cost of the inventory is \$16 million, which is lower than the net realizable value of \$18 million. Therefore, according to IFRS, the inventory should be reported at the cost price of \$16 million on the balance sheet.

It's important to note that even if AVGI were reporting under the US Generally Accepted Accounting Principles (GAAP), the inventory cost would still be reported as \$16 million. This is because the US GAAP also requires companies to value their inventory at the lower of cost or market value. In this context, the cost is the price at which the inventory was purchased, which is \$16 million. The market value, on the other hand, is the price at which the asset can be sold in an open market, which in this case is \$31 million. However, since the cost is lower than the market value, the inventory would still be reported at \$16 million under US GAAP.

**B is incorrect.** The net realizable value of the inventory is \$18 million, which is higher than the cost of the inventory (\$16 million). As per IFRS, a company should report its inventory at the lower of cost or net realizable value. In this case, the cost of the inventory is lower than the net realizable value, hence the inventory should be reported at the cost price of \$16 million, not at the net realizable value of \$18 million.

**C is incorrect.** The market value of the inventory is \$31 million. However, the market value of the inventory is not relevant when a company is reporting its inventory under IFRS. As per IFRS, the inventory should be reported at the lower of cost or net realizable value. In this case, the cost of the inventory (\$16 million) is lower than both the net realizable value (\$18 million) and the market value (\$31 million). Therefore, the inventory should be reported at the cost price of \$16 million, not at the market value of \$31 million.

***CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 6- Analysis of Inventories, LOS 6b: Describe the measurement of inventory at the lower of cost and net realizable value and its implications for financial statements and ratios.***

---

Q.54 Which of the following most likely has an impact on revenue recognition?

- A. A change in credit limits.
- B. A change in delivery terms.
- C. A change in payment terms with customers.

Both the International Financial Reporting Standards (IFRS) and the US Generally Accepted Accounting Principles (GAAP) have specific criteria for when revenue can be recognized, and a change in delivery terms can significantly impact these criteria.

Under IFRS, revenue is recognized when the company has transferred significant risks and rewards of ownership of the goods to the buyer, and the company neither retains effective control over the goods sold nor continues to manage them as if they were still the owner. Additionally, the revenue and transaction costs must be reliably measurable, and the economic benefits associated with the transaction are expected to flow to the company.

Similarly, under US GAAP, revenue is recognized when there is evidence of an arrangement between the buyer and the seller, a product has been delivered or a service rendered, the price is determined or determinable, and there is reasonable assurance that the seller will collect the money.

A change in delivery terms can impact the point at which ownership is transferred, and thus, the time of revenue recognition. For example, if the delivery terms change from FOB shipping point to FOB destination, the revenue recognition point would shift from the time of shipment to the time of delivery.

**A is incorrect.** A change in credit limits does not directly impact revenue recognition. While credit limits can affect the likelihood of collection, they do not change the point at which the risks and rewards of ownership are transferred, which is the key criterion for revenue recognition under both IFRS and US GAAP. Therefore, a change in credit limits would not change the timing of revenue recognition.

**C is incorrect.** A change in payment terms with customers does not directly impact revenue recognition. While payment terms can affect the timing of cash inflows, they do not change the point at which the risks and rewards of ownership are transferred. The revenue can still be reliably measured even if the payment terms change, and the economic benefits will still probably flow to the company. Therefore, a change in payment terms would not change the timing of revenue recognition.

***CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 2 - Analyzing Income Statements, LOS 2a: Describe general principles of revenue recognition, specific revenue recognition applications, and implications of revenue recognition choices for financial analysis.***

---

Q.55 An analyst has gathered the following information about a specific company:

Cash	\$400,000
Accounts receivable	\$250,000
Inventory	\$990,000
Accounts Payable	\$200,000
Taxes Payable	\$300,000

If the industry has a current ratio of 3.4, we can *most likely* conclude that:

- A. This company is as liquid as its industry.
- B. This company is less liquid compared to its industry.
- C. This company is more liquid compared to its industry.

We need to first calculate the company's current ratio and then compare it with the industry's current ratio. The current ratio is calculated by dividing the current assets by the current liabilities. A higher current ratio indicates a higher level of liquidity, which means the company has a greater ability to meet its short-term obligations. Conversely, a lower current ratio indicates a lower level of liquidity.

From the information given, we can calculate the company's current ratio as follows:

Current Assets	Current liabilities
Cash = \$400,000	Account Payable = \$200,000
Account receivable = \$250,000	Taxes payable = \$300,000
Inventory = \$990,000	
Total = \$1,640,000	Total = \$ 500,000

$$\text{Current ratio} = \frac{1,640,000}{500,000} = 3.28$$

Given that the industry's current ratio is 3.4, and the company's current ratio is 3.28, we can conclude that the company is less liquid than its industry.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 3 - Analyzing Balance Sheets, LOS 3e: Calculate and interpret common-size balance sheets and related financial ratios.**

---

Q.56 The financial statements of a small company show the following accounts at the end of the year 2016:

Property, Plant, and Equipment (PPE)	\$342,999
Accounts Receivable	\$129,898
Inventory	\$129,898
Bond issued at 7%	\$100,000
Current Liabilities	\$308,898

Note: The bond was issued in 2016. The interest due on the bond has neither been paid nor recorded in the books yet.

Note 2: The values of inventories and accounts receivable are the same.

Given the information, the Financial leverage for the firm is *closest to*:

- A. 2.54
- B. 3.11
- C. 3.23

$$\text{Financial Leverage} = \frac{\text{Total Assets}}{\text{Total Equity}}$$

Where,

$$\text{Total assets} = \$342,999 + \$129,898 + \$129,898 = \$602,795$$

$$\text{Total equity} = \text{Total assets} - \text{Total liabilities}$$

$$\begin{aligned}\text{Total liabilities} &= \text{Bonds} + \text{Current liabilities} + \text{Unpaid interest} \\ &= \$100,000 + \$308,898 + \$7,000(7\% \times \$100,000) = \$415,898\end{aligned}$$

$$\begin{aligned}\text{Total equity} &= \text{Total assets} - \text{Total external liabilities} \\ &= \$602,795 - \$415,898 = \$186,897\end{aligned}$$

Thus,

$$\text{Financial Leverage} = \frac{\$602,795}{\$186,897} \approx 3.23$$

**A is incorrect.** Assumes that the inventory has been included in the accounts receivable so that:

$$\begin{aligned}\text{Total Assets} &= \$342,999 + \$129,898 = \$473,897 \\ \Rightarrow \text{Financial Leverage} &= \frac{\$473,897}{\$186,897} \approx 2.54\end{aligned}$$

**B is incorrect.** Excludes unpaid interest in calculating the total liabilities. So that:

$$\begin{aligned}
 \text{Total liabilities} &= \text{Bonds} + \text{Current liabilities} \\
 &= \$100,000 + \$308,898 = \$408,898 \\
 \text{Total equity} &= \text{Total assets} - \text{Total external liabilities} \\
 &= \$602,795 - \$408,898 = \$193,897 \\
 \text{Financial Leverage} &= \frac{\$602,795}{\$193,897} \approx 3.11
 \end{aligned}$$

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 3 -Analyzing Balance Sheets, LOS 3e: calculate and interpret common-size balance sheets and related financial ratios**

---

Q.57 One year ago, Malzhem Inc. bought a corporate bond for \$1,000 and classified it as available for sale. It collected \$50 in coupons, and the bond is now worth \$1,040. On its balance sheet, Malzhem Inc. *most likely* should show for this bond the value of:

- A. \$1,000.
- B. \$1,040.
- C. \$1,090.

Option B is the correct answer because available-for-sale securities, such as the corporate bond in question, should be shown at their fair value on the balance sheet. In this case, the fair value of the bond is \$1,040, which is its current market value. This is in line with the Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) which require that available-for-sale securities be reported at fair value on the balance sheet. The changes in fair value are not recognized in earnings but are reported in other comprehensive income until the security is sold. Therefore, the bond should be reported at its current market value of \$1,040 on Malzhem Inc.'s balance sheet.

**A is incorrect.** This option suggests that the bond should be reported at its purchase price of \$1,000 on the balance sheet. However, this is not in line with the accounting standards for available-for-sale securities. These securities should be reported at their fair value, not at their purchase price or cost. Reporting the bond at its purchase price would not reflect its current market value and would therefore not provide an accurate representation of the company's financial position. This approach is typically used for held-to-maturity securities, not for available-for-sale securities.

**C is incorrect.** The coupons collected are recognized as interest income in the income statement, not added to the value of the bond on the balance sheet. Furthermore, this approach would not reflect the current market value of the bond. Therefore, reporting the bond at a value of \$1,090 would not provide an accurate representation of the company's financial position.

**CFA Level 1, Topic 3 - Financial Statement Analysis, learning Module 3 - Analyzing Balance Sheets, LOS 3c: Explain the financial reporting and disclosures related to financial instruments.**

---

Q.58 FinMotor paid \$459 million to acquire CarWash, whose net fair value amounted to \$387 million. If FinMotors reports under IFRS and CarWash reports under US GAAP, how should FinMotor account for the balance amount?

- A. \$72 million to be recorded as goodwill.
- B. \$72 million to be transferred to the capital reserve.
- C. \$72 million to be transferred to the revaluation surplus account.

The excess payment of \$72 million made by FinMotor to acquire CarWash, over and above CarWash's net fair value of \$387 million, is recognized as goodwill in financial accounting. Goodwill is an intangible asset that signifies the future economic benefits that arise from assets that cannot be individually identified and separately recognized. Both the International Financial Reporting Standards (IFRS) and the United States Generally Accepted Accounting Principles (US GAAP) mandate that goodwill be recognized in the acquirer's balance sheet as an asset. This is because the excess payment made during an acquisition represents the future economic benefits expected from the acquisition, which should be accounted for as goodwill.

**A is incorrect.** Capital reserves are typically used to record funds that are not distributable as dividends to shareholders. These funds are often generated from contributions by shareholders or from revaluation surpluses of fixed assets. However, the excess payment made in a business acquisition represents the future economic benefits expected from the acquisition. Therefore, it should be accounted for as goodwill, not transferred to the capital reserve.

**C is incorrect.** The revaluation surplus account is used under IFRS to record increases in the fair value of fixed assets over their carrying amount. However, the excess payment made in the acquisition of CarWash does not relate to the revaluation of fixed assets. Instead, it relates to the purchase price exceeding the net fair value of the acquired assets and liabilities. This excess is recognized as goodwill, which reflects the anticipated future economic benefits from assets acquired in a business combination that are not individually identified and separately recognized. Therefore, it is not appropriate to transfer the excess payment to the revaluation surplus account.

***CFA Level I, Topic 3—Financial Statements Analysis, Learning Module 7: Analysis of Long-Term Assets, LOS 6a: Compare the financial reporting of the following types of intangible assets: purchased, internally developed, and acquired in a business combination.***

---

Q.59 Given the following information about Alcany (in millions USD):

	2014	2015
Short term borrowings	2,000	3,000
Long-term interest bearing debt	15,000	16,000
Current position of long-term interest-bearing debt	4,000	4,200
EBIT	5,000	6,000
Interest payments	1,000	900
Total shareholder's equity	19,000	24,000

Which of the following statements is *most likely* correct?

- A. The solvency of Alcany improved in 2015 because the debt-to-equity ratio increased.
- B. The solvency of Alcany improved in 2015 because the debt-to-equity ratio decreased.
- C. The solvency of Alcany deteriorated in 2015 because the debt-to-equity ratio increased.

The debt-to-equity ratio is a solvency ratio that is calculated by dividing the total debt by total equity. It is a measure of the financial leverage of a company and indicates the proportion of debt used to finance the company's assets. A lower debt-to-equity ratio is generally more favorable as it indicates a lower risk of default.

In 2014, the debt-to-equity ratio for Alcany was calculated as follows:  $(15,000 + 4,000 + 2,000) / 19,000 = 1.1053$ . This means that for every dollar of equity, Alcany had \$1.1053 in debt. In 2015, the debt-to-equity ratio decreased to  $(16,000 + 4,200 + 3,000) / 24,000 = 0.9667$ . This means that for every dollar of equity, Alcany had \$0.9667 in debt. The decrease in the debt-to-equity ratio from 1.1053 to 0.9667 indicates that the solvency of Alcany improved in 2015.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 3 - Analyzing Balance sheets, LOS 3e: Calculate and interpret common-size balance sheets and related financial ratios.**

---

Q.60 You are given the following information about DIA Inc:

Total equity	\$12,004,000
Total assets	\$26,035,000
Sales	\$14,214,000
EBIT	\$1,064,000
EBT	\$723,000
Net income	\$634,000

DIA Inc.'s tax burden ratio and interest burden ratio are respectively *closest to*:

- A. 0.68 and 0.88.
- B. 0.88 and 0.88.
- C. 0.88 and 0.68.

The tax burden ratio is a measure that shows the proportion of earnings before taxes (EBT) that is left after the income tax charge. It is calculated by dividing a company's net income by its earnings before taxes. In the case of DIA Inc., the tax burden ratio is calculated as follows: Net Income/EBT = 634,000/723,000 = 0.88. This means that 88% of DIA Inc.'s earnings before taxes is left after the income tax charge.

The interest burden ratio, on the other hand, is a measure that shows the percentage of Earnings before Interest and Taxes (EBIT) that is left over after deducting interest expense. It is calculated by dividing EBT by EBIT. For DIA Inc., the interest burden ratio is calculated as follows: EBT/EBIT = 723,000/1,064,000 = 0.68. This means that 68% of DIA Inc.'s earnings before interest and taxes is left over after deducting interest expense.

**A is incorrect.** This option suggests that the tax burden ratio and interest burden ratio are 0.68 and 0.88 respectively. However, as calculated above, the tax burden ratio is 0.88 and the interest burden ratio is 0.68.

**B is incorrect.** This option suggests that both the tax burden ratio and the interest burden ratio are 0.88. However, as calculated above, the tax burden ratio is 0.88 and the interest burden ratio is 0.68.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 11 - Financial Analysis Techniques, LOS 11d: Demonstrate the application of DuPont analysis of return on equity and calculate and interpret effects of changes in its components.**

---

Q.61 Payment of dividends under US GAAP is *most likely* classified as which of the following activities?

- A. Operating activity.
- B. Financing activity.
- C. Investing activity.

Under the US GAAP, the payment of dividends is considered a financing activity. Financing activities are transactions involving long-term liabilities and equity. They include obtaining resources from owners by issuing shares, borrowing from creditors by issuing bonds, and repaying amounts borrowed or distributing dividends to owners. The payment of dividends falls under this category as it involves the distribution of profits to the company's shareholders, which is a form of financing activity.

**A is incorrect.** This option suggests that the payment of dividends under US GAAP is classified as an operating activity. Operating activities are the principal revenue-producing activities of the entity and other activities that are not investing or financing activities. They include cash receipts from sales of goods and services, cash payments to suppliers for goods and services, cash payments to employees for services, and cash receipts or payments from contracts held for dealing or trading purposes. The payment of dividends does not fall under this category as it does not involve the primary revenue-generating activities of the company.

**C is incorrect.** This option suggests that the payment of dividends under US GAAP is classified as an investing activity. Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents. They include cash payments to acquire property, plant, and equipment, intangibles, and other long-term assets, and cash receipts from sales of property, plant, and equipment, intangibles, and other long-term assets. The payment of dividends does not fall under this category as it does not involve the acquisition or disposal of long-term assets.

***CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 4 - Analyzing Statement of Cashflows 1, LOS 4d: Contrast cashflow statements prepared under International Financial Reporting Standards (IFRS) and US Generally Accepted Accounting Principles (US GAAP).***

---

Q.62 LAGIE chemicals had the following information in their income statement.

Revenue	\$38,500,000
Cost of goods sold	\$12,300,000
Operating expenses	\$835,000
Interest expense	\$532,000
Tax expense	\$389,000

LAGIE's gross profit margin is *closest to*:

- A. 0.6349
- B. 0.6805
- C. 26,200,000

The Gross Profit is calculated by subtracting the Cost of Goods Sold from the Revenue. The given Revenue is \$38,500,000 and the Cost of Goods Sold is \$12,300,000. Subtracting these two values gives us a Gross Profit of \$26,200,000. Dividing this Gross Profit by the Revenue (\$26,200,000 / \$38,500,000) gives us a Gross Profit Margin of 0.6805. This calculation aligns with the financial data provided in the income statement of LAGIE chemicals and accurately represents the company's gross profit margin.

**A is incorrect.** This option suggests that the gross profit margin is 0.6349. However, this value does not align with the calculation of Gross Profit Margin as per the given financial data. Instead, this value seems to represent the Net Profit Margin, which is calculated by dividing the Net Profit by the Revenue. The Net Profit is calculated by subtracting all expenses (including Cost of Goods Sold, Operating Expenses, Interest Expense, and Tax Expense) from the Revenue. However, in this question, we are asked to calculate the Gross Profit Margin, not the Net Profit Margin.

**C is incorrect.** This option suggests that the gross profit margin is \$26,200,000. However, this value is not a margin but a gross profit figure. The Gross Profit Margin is a ratio that indicates the financial health of a company by showing the proportion of money left over from revenues after accounting for the cost of goods sold. It is expressed as a decimal or percentage, not as a dollar amount. Therefore, stating the Gross Profit Margin as \$26,200,000 is incorrect. This value is the Gross Profit, not the Gross Profit Margin.

**CFA Level 1, Topic 3 - Financial Statement Analysis, Learning Module 2 - Analyzing Income Statements, LOS 2e:** evaluate a company's financial performance using common-size income statements and financial ratios based on the income statement.

Q.63 Through his son, who works at ACIA Corp., a stockbroker learns that ACIA Corp. is altering its accounting records. He decides to advise his clients to sell the stock of ACIA Corp. Is this a violation of the Code and Standards? Why?

- A. No, it constitutes the use of material public information.
- B. Yes, it constitutes the use of material public information.
- C. Yes, it constitutes the use of material non-public information.

This is a violation of the Code and Standards, specifically Standard II(A) - Material Nonpublic Information. This standard prohibits members and candidates from acting or causing others to act on material nonpublic information that could affect the value of an investment. Information is considered material if its disclosure would likely impact an investment's value or if reasonable investors would want to know about it before making an investment decision. Information is considered nonpublic if it is not yet available to the general public. In this case, the stockbroker has acted on material nonpublic information, which he obtained through his son who works at ACIA Corp. This information pertains to ACIA Corp. altering its accounting records, which is a significant piece of information that could affect the company's stock value. As such, the stockbroker's action of advising his clients to sell the stock based on this information is a clear violation of Standard II(A).

**A is incorrect.** The information about ACIA Corp. altering its accounting records is nonpublic information, as it is not yet available to the general public. The stockbroker obtained this information through his son who works at ACIA Corp., not through public channels. Therefore, his action of advising his clients to sell the stock based on this information is not a use of material public information, but rather a use of material nonpublic information, which is a violation of Standard II(A).

**B is incorrect.** This option incorrectly states that the stockbroker's action constitutes the use of material public information, which is a violation of the Code and Standards. However, the information about ACIA Corp. altering its accounting records is nonpublic information, not public information. If the information were public, the stockbroker would not have violated any standard by acting on it. Therefore, this option is incorrect as it misrepresents the nature of the information and the stockbroker's violation.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3c: Identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.***

---

Q.64 John Richards, a market analyst, is working on a regression model to establish stock's valuations in the banking industry. Without even finishing his model, Richards sees a stock that seems to be undervalued and sends his recommendation to buy it. Which of the following standards has Richards violated?

- A. Standard I(B) - Independence and Objectivity.
- B. Standard III(A) - Loyalty, Prudence, and Care.
- C. Standard V(A) - Diligence and Reasonable Basis.

Standard V(A) - Diligence and Reasonable Basis mandates that members and candidates must be diligent, independent, and thorough in their investment recommendations and actions. They must also have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment recommendation, analysis, or action.

In this scenario, John Richards has violated this standard by making an investment recommendation based on an unfinished model. This indicates a lack of diligence and thoroughness, as well as a lack of a reasonable basis for his recommendation. His actions are not supported by appropriate research and investigation, which is a clear violation of Standard V(A).

**A is incorrect.** Standard I(B) - Independence and Objectivity, requires members and candidates to maintain independence and objectivity in their professional activities. This standard prohibits members and candidates from offering or accepting any gift, benefit, compensation, or consideration that could reasonably compromise their own or another's independence and objectivity. However, the information provided in the question does not suggest that Richards has violated this standard. There is no indication that he has compromised his independence or objectivity in any way.

**B is incorrect.** Standard III(A) - Loyalty, Prudence, and Care, requires members and candidates to act in the best interests of their clients, to act on behalf of their clients, and to prioritize their clients' interests above those of their employers and their own. This standard also requires them to act with reasonable care and to exercise prudent judgment. However, the information provided in the question does not suggest that Richards has violated this standard. There is no indication that he has acted disloyally, imprudently, or without care in relation to his clients.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.***

---

Q.65 Rob Harrington, a stockbroker, works for a large New York bank. His long-term friend and a stock trader at the same bank calls him one evening to ask him if there are any clients interested in stock PTLN. Since there are no policies or procedures to discourage employees from sharing information, Harrington should *most likely*:

- A. Disclose the information.
- B. Advise regulators of the potential conflict of interest and seek legal counsel.
- C. Advise his firm to develop firewalls to allow the different departments to function independently.

Standard II(A) - Material nonpublic information forbids members and candidates from acting or causing others to act on material nonpublic information that could affect the value of an investment. Information is material if its disclosure would probably impact an investment's value or if reasonable investors would wish to know about it before investing. Information is nonpublic if it is not yet available to the general public.

Members and candidates are required to encourage their firms to adopt information barriers, known as firewalls, between departments to prevent violation of standard II(A) within a firm.

Firewalls restrict the flow of confidential information to those who need to know the information to perform their jobs effectively. Rob Harrington should advise the bank to develop firewalls and protections to allow the different departments to function independently.

**A is incorrect.** Rob Harrington will be violating standard II(A) if he discloses the information.

**B is incorrect.** The most appropriate course for action for Rob Harrington will be to advise his firm to enact firewalls.

***CFA Level 1, Topic 10, Reading 71 - Guidance for Standards I-VII, LOS 71a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.***

---

Q.66 Josianne Feng, CFA, is a new fund manager charged with the management of 50 stocks. What should be her policy for proxy voting?

- A. The manager should never vote since the manager's votes don't always represent the clients' opinions.
- B. The manager has a responsibility to investors to vote the shares to the investors' benefit but can skip routine votes that would require too much time on a cost-benefit basis.
- C. The manager is always responsible for voting but not disclosing the proxy voting policy to all the clients since that's part of confidential information.

The manager has a responsibility to investors to vote the shares to the investors' benefit but can skip routine votes that would require too much time on a cost-benefit basis. This is in line with Standard III(A) - Loyalty, Prudence, and Care, which mandates members and candidates to act with reasonable care and exercise reasonable judgment. They are required to prioritize their client's interests over their own and work for their clients' benefit. Neglecting to vote, voting without due consideration, or failing to consider the impact of the question is considered a violation of this standard.

Members and candidates are exempted from proxy voting if a cost-benefit analysis shows that clients may not benefit from the proxy voting. This means that if the time and resources required to vote on routine matters outweigh the potential benefits to the clients, the manager is justified in skipping such votes. This is a practical approach that ensures the manager's efforts are directed towards actions that bring the most benefit to the clients.

**A is incorrect.** The statement that the manager should never vote since the manager's votes don't always represent the clients' opinions is a violation of Standard III(A). As a fund manager, Josianne Feng has a fiduciary duty to act in the best interest of her clients. This includes voting on matters that could impact the value of the stocks she manages. By not voting, she would be neglecting her duty and potentially harming her clients' interests.

**C is incorrect.** The statement that the manager is always responsible for voting but not disclosing the proxy voting policy to all the clients since that's part of confidential information is also a violation of Standard III(A). Transparency is a key aspect of a fund manager's relationship with her clients. Clients have a right to know the proxy voting policies as these policies could impact their investments. By not disclosing these policies, the manager would be withholding important information from her clients, which is against the principles of loyalty, prudence, and care.

*CFA Level 1, Reading 71 - Guidance for Standards I-VII, CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.*

---

Q.67 Which of the following is *most likely* incorrect?

- A. Material Public Information may consist of discussions with management that may reveal information that isn't material but may give valuable clues.
- B. "Firewall" is a common term applied to the barriers created to prevent sensitive information from being disseminated between a firm's departments.
- C. A compliance program is incomplete if all it does is create awareness of the definition of insider trading and the fines and jail sentences to which the employee could be liable.

The correct answer is option A because it incorrectly states that Material Public Information may consist of discussions with management that may reveal information that isn't material but may give valuable clues. This statement is incorrect as per Standard II(A) - Material Non-Public Information of the CFA Institute's Code of Ethics and Standards of Professional Conduct. This standard forbids members and candidates from acting or causing others to act on material nonpublic information. Information is considered material if its disclosure will affect an investment's value or if reasonable investors would want to know about the information before making an investment decision.

However, the statement in option A is describing a practice known as the mosaic theory. This theory allows members and candidates to analyze information obtained from both public and nonmaterial nonpublic sources to come up with an investment recommendation. This practice is not a violation of the standard as it does not involve acting on material nonpublic information. Therefore, the statement in option A is incorrect as it confuses the concept of Material Public Information with the practice of mosaic theory.

**B is incorrect.** The term "Firewall" is indeed commonly used to describe the barriers created to prevent sensitive information from being disseminated between a firm's departments. This practice is a crucial part of maintaining the confidentiality of material nonpublic information and preventing insider trading. Therefore, the statement in option B is correct and does not represent an incorrect statement.

**C is incorrect.** A compliance program that only creates awareness of the definition of insider trading and the fines and jail sentences to which the employee could be liable is indeed incomplete. A comprehensive compliance program should also include training on ethical decision-making, procedures for reporting suspected violations, and measures to prevent and detect violations. Therefore, the statement in option C is correct and does not represent an incorrect statement.

***CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.***

---

Q.68 Which of the following is *most likely* incorrect?

- A. Discriminating against non-email clients violates the standard of fair dealing.
- B. Given a new recommendation, the firm should not trade until all clients have a fair chance to receive the new recommendation.
- C. A standard of fairness and loyalty to clients requires IPO distributions to the most important clients or the people providing the firm with the most revenue.

The correct answer is option C because it contradicts the principles of Standard III(B) – Fair Dealing. This standard requires members and candidates to deal with all clients fairly and objectively when making investment recommendations, providing investment analysis, taking investment actions, or engaging in other professional activities. The standard of fairness and loyalty to clients necessitates that IPO distributions be made to all clients without favoring some clients over others. This means that the distribution of IPOs should not be based on the importance of the client or the revenue they provide to the firm. Instead, it should be based on a fair and objective assessment of the investment suitability for each client. Giving preferential treatment to certain clients based on their importance or revenue contribution is a violation of this standard.

**A is incorrect.** The statement in option A is actually correct as per the principles of Standard III(B) – Fair Dealing. Discriminating against non-email clients is indeed a violation of this standard. This is because it amounts to treating non-email clients unfairly and favoring email clients over them. The standard requires that all clients be treated fairly and objectively, regardless of the communication medium they prefer. Therefore, any form of discrimination, including based on the client's preferred communication medium, is a violation of this standard.

**B is incorrect.** The statement in option B is also correct as per the principles of Standard III(B) – Fair Dealing. According to this standard, members and candidates must not trade until all their clients have had a fair chance to receive a new recommendation. This is to ensure that all clients are given an equal opportunity to benefit from the investment recommendation. Trading before all clients have received the recommendation would be unfair to those clients who have not yet received it.

**CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.**

---

Q.69 Marco Rubio is a CFA member working as an equity analyst at Bright Stock Brokers. After thorough analysis, he has concluded that the stock of M & M is overpriced at its current level. However, he is aware that his firm's investment division is in talks with M & M to underwrite a rights issue, and is concerned that a negative research report might hurt the good relationship between the two entities and possibly scuttle the underwriting plans. Rubio needs to write a report right away. Which of the following outlines the best course of action for Mr. Rubio?

- A. Write a report outlining his findings based solely on company fundamentals.
- B. Write a favorable report that excludes his findings but makes an effort to disclose them privately to the CEO of his firm.
- C. Write a report honestly outlining his findings but only after consulting with a fellow CFA member who happens to be a minor shareholder at M & M.

Option A is the correct answer because it adheres to the principles of Standard V(A) – Diligence and Reasonable Basis, as outlined in the CFA Institute's Code of Ethics and Standards of Professional Conduct. This standard requires members and candidates to exercise diligence, independence, and thoroughness in analyzing investments, making recommendations, or taking investment actions. It also mandates that they should have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action. In the given scenario, Marco Rubio's analysis of M & M's stock is based on his independent and thorough research. His conclusion that the stock is overpriced is a result of his diligent analysis of the company's fundamentals. Therefore, he should write a report outlining his findings based solely on these fundamentals, irrespective of the potential impact on his firm's relationship with M & M. His duty as a CFA member and an equity analyst is to provide an objective and unbiased analysis to his clients and the public. Succumbing to pressure from other divisions of his firm and issuing favorable ratings that contradict his findings would be a violation of his professional responsibilities.

**B is incorrect.** This course of action would be a clear violation of Standard V(A) – Diligence and Reasonable Basis. As a CFA member, Rubio is required to provide an independent, objective, and thorough analysis based on company fundamentals. Writing a favorable report that contradicts his findings would not only compromise his independence but also mislead investors who rely on his analysis to make informed investment decisions. Furthermore, privately disclosing his findings to the CEO would not absolve him of his responsibility to the public.

**C is incorrect.** While seeking advice or a second opinion is not inherently wrong, it should not influence Rubio's independent and objective analysis. His report should be based solely on his own research and understanding of the company's fundamentals. Consulting with a shareholder of M & M could potentially bias his analysis, thereby violating the principles of independence and objectivity outlined in Standard V(A).

**CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.**

---

Q.70 Which of the following parties can *most likely* claim compliance with GIPS?

- A. Software developers.
- B. Firms that manage assets.
- C. Consultants that do not manage assets.

The Global Investment Performance Standards (GIPS) are a set of standardized, industry-wide ethical principles that guide investment firms on how to calculate and present their investment results to prospective clients. The main objective of GIPS is to promote transparency and comparability among investment firms worldwide.

GIPS can only be claimed by firms that manage assets. The reason for this is that GIPS is designed to ensure fair representation and full disclosure of an investment firm's performance history. They provide a framework for the calculation and presentation of returns that prospective clients can trust. This is only applicable to firms that are in the business of managing assets, as they are the ones who are presenting performance results to potential clients.

**A is incorrect.** Software developers cannot claim compliance with GIPS. Software developers are involved in the creation of software, which may include financial software. However, they do not manage assets and do not present performance results to potential clients. Therefore, GIPS is not applicable to them.

**C is incorrect.** Consultants who do not manage assets cannot claim compliance with GIPS. Consultants may provide advice to investment firms, but if they do not manage assets, they are not presenting performance results to potential clients. Therefore, GIPS is not applicable to them.

***CFA Level 1, Topic 10 - ethics, learning Module 4 - Introduction to Global Investment Performance Standards (GIPS), LOS 4a: explain why the GIPS standards were created, what parties the GIPS standards apply to, and who is benefitted by the standards.***

---

Q.71 Verification will *most likely* help test whether:

- A. the firm has enough credibility to perform its own verification.
- B. policies and procedures are designed to calculate performance in compliance with the GIPS Standards.
- C. the investment firm has complied with all the composite construction requirements of the GIPS standards on a composite-specific basis.

Option B is the correct answer as it accurately describes the purpose of verification in the context of the Global Investment Performance Standards (GIPS). Verification is a process that is designed to test whether an investment firm's policies and procedures are in compliance with the GIPS Standards. This process is crucial in ensuring that the firm's performance calculations are accurate, reliable, and in line with the standards set by the GIPS. The verification process involves a thorough review of the firm's policies and procedures, as well as a detailed examination of the firm's performance calculations. This ensures that the firm is adhering to the GIPS Standards and that its performance calculations are reliable and accurate.

**A is incorrect.** Verification is an independent process that is conducted by a third party, not by the firm itself. This is to ensure that the verification process is unbiased and reliable. A firm cannot perform its own verification because it would not provide the necessary level of objectivity and independence required for a reliable and credible verification process.

**C is incorrect.** Verification does not test compliance on a composite-specific basis. Instead, it tests compliance on a firm-wide basis. The GIPS standards require that all actual, fee-paying, discretionary portfolios be included in at least one composite. The verification process tests whether the firm has complied with this requirement on a firm-wide basis, not on a composite-specific basis.

**CFA Level 1, Topic 10 - Ethics, Learning Module 4 - Introduction to the Global Performance Standards (GIPS), LOS 4e: describe the concept of independent verification.**

---

Q.72 Which of the following is *least likely* accurate?

- A. A violation of ethical standards reflects not only an employee's conduct but also that of their supervisor.
- B. It is not the supervisor's responsibility to ensure that investment reports are compliant with the Code and Standards.
- C. Reasonable supervision is typically determined as a function of the number of employees supervised and the specific jobs being done.

According to Standard IV(C) - Responsibilities of Supervisors, it is a requirement for members and candidates to ensure that people under their supervision comply with applicable rules, laws, regulations, and the Code and standards. This standard clearly states that it is indeed the supervisor's responsibility to ensure that investment reports are compliant with the Code and standards. This responsibility cannot be shrugged off or delegated to others without proper oversight.

**A is incorrect.** A violation of ethical standards does reflect not only on an employee's conduct but also that of their supervisor. This is because supervisors are expected to guide their subordinates and ensure they adhere to ethical standards. If an employee violates these standards, it could indicate a failure on the part of the supervisor to adequately enforce these standards or to properly educate their subordinates about them.

**C is incorrect.** Reasonable supervision is typically determined as a function of the number of employees supervised and the specific jobs being done. This is because the level of supervision required can vary depending on the number of employees and the nature of their jobs. For instance, a supervisor responsible for a large number of employees may need to delegate some supervisory roles to subordinates. However, even in such cases, the supervisor should instruct those delegates about methods to promote compliance. Therefore, the statement in option C is accurate, making it an incorrect answer to the question which asks for the least accurate statement.

***CFA Level 1, Topic 10 -Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards including the sub-section of each Standard.***

---

Q.73 Robert Zane, CFA, was retained by Alpha Beta Management (ABM) to manage their corporate pension plan. ABM has approached Zane and requested that Zane invests 50% of the entire plan in ABM stocks. Since the country in which Zane practices does not regulate the investments of company retirement plans, Zane may:

- A. Invest 50% of all of the retirement plan assets in ABM stock in line with the management's request only if he can document that the investment is more prudent than any other investment opportunity he might find.
- B. Invest a portion of the retirement plan in ABM stock if the investment is prudent and if he keeps the overall portfolio properly diversified.
- C. Disregard the management's request and fail to invest any funds in ABM stock, regardless of the stock's prospects.

The correct answer is option B because it aligns with the Standard III(A) - Loyalty, Prudence, and Care of the CFA code of conduct. This standard compels CFA members and candidates to act for the benefit of their clients and put the interest of their clients before their employers or their own. As the retirement plan manager, Zane owes his fiduciary duty to the plan participants, not to the company's management sponsoring the plan. The fiduciary duty includes the obligation to diversify the plan's investments, regardless of the sponsoring company's stock quality. It's, however, important to note that investing in the company's stock is not prohibited. The key here is that the investment must be prudent and the overall portfolio must be properly diversified. This is to ensure that the risk is spread out and not concentrated in one investment, which could lead to significant losses if that particular investment performs poorly.

**A is incorrect.** Investing 50% in one company's stock is too risky for a retirement plan. By investing 50% into ABM stock, Robert Zane will be violating his fiduciary duty to the plan participants, thereby going against Standard III(A). This is because such a large investment in a single stock does not provide adequate diversification, which is a key principle in investment management. Diversification helps to spread risk and reduce the potential for large losses. Therefore, even if Zane can document that the investment in ABM stock is more prudent than any other investment opportunity he might find, it would still not be appropriate to invest such a large proportion of the plan's assets in a single stock.

**C is incorrect.** Robert Zane should not simply disregard the management's request and fail to invest any funds in ABM stock, regardless of the stock's prospects. As a fiduciary, Zane has a duty to consider all investment opportunities that could benefit the plan participants. If ABM stock has good prospects, it may be a prudent investment to include in the portfolio. However, the decision to invest should be based on a thorough analysis of the stock and its potential risks and returns, not simply on the management's request. Therefore, completely disregarding the possibility of investing in ABM stock would not be in line with Zane's fiduciary duty to the plan participants.

***CFA Level 1, Topic 10 -Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards including the sub-section of each Standard.***

---

Q.74 Which of the following statements is *most likely* true?

- A. Members cannot pursue a competing independent practice that could result in compensation or other benefits.
- B. Members and candidates are required to disclose any compensation arrangement to their employers that involves performing competing tasks or services that their employers can charge for, only if they occur during work hours.
- C. Members can pursue a competing independent practice that could result in compensation or other benefits as long as they have their employer's written consent.

Option C is the correct answer because it aligns with Standard IV(A) - Loyalty, which states that members and candidates must act for the benefit of their employers and not deprive them of their skills and knowledge. This standard does not prohibit members and candidates from pursuing a competing independent practice that could result in compensation or other benefits. However, it does stipulate that they must first receive written consent from their employer. This is to ensure that the employer is aware of the potential conflict of interest and has the opportunity to address it appropriately. This standard is designed to protect the interests of the employer and maintain a level of trust and transparency in the professional relationship.

**A is incorrect.** This statement is not entirely accurate. While it is true that members and candidates should not engage in activities that could harm their employer or deprive them of their skills and knowledge, this does not mean that they cannot pursue a competing independent practice. The key factor here is the requirement for written consent from the employer. With this consent, members and candidates can pursue such practices, provided they do not violate any other ethical standards or legal requirements.

**B is incorrect.** Standard IV(A) - Loyalty requires members and candidates to disclose any compensation arrangement to their employers, regardless of when it occurs. This is to ensure transparency and to allow the employer to address any potential conflicts of interest. The timing of the arrangement, whether it occurs during or outside of work hours, is not a determining factor in the requirement for disclosure.

***CFA Level 1, Topic 10 -Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards including the sub section of each Standard.***

---

Q.75 Jonathan Brooks, CFA, is a stockbroker in Hong Kong. Yi, his neighbor and a well-known financial blogger tells him that he is about to publish information about a firm that is under a lot of pressure from its creditor. Brooks should *most likely*:

- A. Sell the stock, given this information.
- B. Buy the stock, since this information is soon to be published.
- C. Not trade the stock before the release of this information.

The Standard II(A) - Material nonpublic information prohibits members and candidates from using or sharing material nonpublic information that could potentially affect the value of an investment. Material non-public information is defined as any knowledge that is not readily available to the general public and has the potential to significantly impact the market and affect the value of an investment.

In this scenario, the information given to Jonathan Brooks by his neighbor Yi, a well-known financial blogger, is considered material nonpublic information. This is because the information about the firm under pressure from its creditor is not yet available to the general public and could potentially affect the value of the firm's stock. Therefore, according to Standard II(A), Brooks should not act on this information until it is made public. Doing so would be unfair to other investors who do not have access to this information.

**A is incorrect.** If Brooks were to sell the stock based on the information given to him by Yi, he would be acting on material nonpublic information. This would be a violation of Standard II(A) as it would be unfair to other investors who do not have access to this information. Furthermore, it could potentially affect the value of the investment, which is against the principles of fair and ethical trading practices.

**B is incorrect.** If Brooks were to buy the stock based on the information given to him by Yi, he would be acting on material nonpublic information. This would be a violation of Standard II(A) as it would be unfair to other investors who do not have access to this information. Furthermore, it could potentially affect the value of the investment, which is against the principles of fair and ethical trading practices. Therefore, Brooks should wait until the information has been published before taking any investment actions.

***CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.***

---

Q.76 Tom Jones, CFA is an independent research analyst with a huge social media following across multiple social media platforms. Unicorn Capital is underwriting AXA Bank's IPO. Tom Jones has been contacted by Unicorn Capital to issue a favorable report on AXA Bank shares for a cash compensation. To be in compliance with the CFA Code and Standards, Tom Jones should *most likely*?

- A. Issue the report as per Unicorn Capital's request.
- B. Decline Unicorn's cash offer to issue a favorable report.
- C. Issue a unfavorable report but decline the cash compensation from Unicorn Capital.

Option B is the correct answer as it aligns with the CFA Code and Standards. According to these standards, Tom Jones, as an independent research analyst, should not guarantee a favorable investment analysis on AXA Bank to Unicorn Capital in exchange for cash compensation. While it is permissible for him to accept compensation for conducting an investment analysis on AXA Bank, the analysis must be independent and objective. The conclusions drawn from the analysis must be reasonable, adequate, and supported by relevant research. This ensures that the integrity of the analysis is maintained and that it is not influenced by any external factors such as monetary compensation.

**A is incorrect.** If Tom Jones were to issue a favorable investment analysis report as per Unicorn Capital's request, he would be in violation of Standard I(B) of the CFA Code and Standards. This standard prohibits Members and Candidates from offering, soliciting, or accepting any gift, benefit, remuneration, or other consideration that could reasonably be expected to compromise their or another's independence and objectivity. By issuing a report favoring Unicorn Capital's interests, Tom Jones would be compromising his professional independence and objectivity, thereby violating this standard.

**C is incorrect.** While it is true that issuer-paid research is acceptable, the researcher should not guarantee a favorable report to the research sponsor. If Tom Jones were to issue a guaranteed favorable research report, he would be in violation of Standard I (B) on Professionalism – Independence and Objectivity. This standard emphasizes the importance of maintaining professional independence and objectivity in all professional activities. By guaranteeing a favorable report, Tom Jones would be compromising these principles, thereby violating the standard.

**CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3b: Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.**

---

Q.77 In the context of Global Investment Performance Standards, composites refer to:

- A. The aggregate of portfolios managed with the same investment mandate.
- B. The combined fees of portfolios managed with the same investment mandate.
- C. The verification standards that apply to portfolios managed with the same investment mandate.

In the context of Global Investment Performance Standards (GIPS), composites refer to the aggregate of portfolios managed with the same investment mandate, objective, or strategy. This is the essence of option A, which is the correct answer. The concept of composites is crucial in the realm of investment management as it provides a comprehensive view of the performance of a specific investment strategy. By aggregating portfolios with the same mandate, composites allow for a more accurate and fair comparison of performance across different investment firms. This is because all portfolios that meet the pre-established criteria for a particular class must be represented, ensuring that the performance record is not skewed by the exclusion of underperforming portfolios. Therefore, composites serve as the primary vehicle for presenting business performance to prospective clients, enhancing transparency and credibility in the investment management industry.

**A is incorrect.** While it is true that composites involve the aggregation of portfolios, they do not pertain to the combined fees of these portfolios. The concept of composites is centered on the performance of portfolios with the same investment mandate, not on their associated costs. Therefore, option B misrepresents the nature of composites by focusing on the financial aspect rather than the performance aspect. It is important to note that while fees can impact the net performance of a portfolio, they are not the defining feature of a composite in the context of GIPS.

**C is incorrect.** Composites do not refer to the verification standards that apply to portfolios managed with the same investment mandate. While GIPS does set out certain verification standards to ensure compliance and consistency in performance reporting, these standards are separate from the concept of composites. Composites are about the aggregation of portfolio performance, not about the standards that govern this process. Therefore, option C is incorrect as it conflates the concept of composites with the verification standards of GIPS.

***CFA Level 1, Topic 10 - Ethics, Learning Module 4 - Introduction to the Global Investment Performance Standards (GIPS), LOS 4c: Explain the construction and purpose of composites in performance reporting.***

---

Q.78 Billy Perignon is scheduled to have dinner with a client whose portfolio he manages. Perignon plans to advise the client to add 5000 shares to his current EER position. Before the meeting, and under Standard (V) - Investment Analysis, Recommendations, and Actions, Perignon should **least likely**:

- A. Exercise diligence, independence, and thoroughness in analyzing the investment.
- B. Plan to document the details of the conversation with the client with regard to his investment recommendation.
- C. Identify other clients for whom EER may be a suitable investment and notify them immediately of his recommendation.

While identifying other clients for whom EER may be a suitable investment is a good practice, it is not necessary for Perignon to notify them immediately of his recommendation. This is because Perignon's primary responsibility is to the client he is meeting with. His focus should be on providing personalized advice based on that client's needs and circumstances. It is important to note that the immediacy of notifying other clients is not a requirement under Standard (V) - Investment Analysis, Recommendations, and Actions. Instead, Perignon should take the time to analyze each client's individual situation and needs before making a recommendation.

**A is incorrect.** As a portfolio manager, Perignon is expected to carefully assess the investment opportunity, consider all relevant factors, and provide well-informed advice to the client. Diligence ensures that Perignon thoroughly evaluates the investment, independence prevents any conflicts of interest, and thoroughness ensures a comprehensive analysis. Therefore, this option is not the least likely action that Perignon should take.

**B is incorrect.** Proper documentation is essential for transparency, compliance, and record-keeping. It helps demonstrate adherence to ethical standards and provides a clear trail of communication. Documentation ensures accountability, transparency, and clarity in communication. Therefore, this option is not the least likely action that Perignon should take.

**CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.**

---

Q.79 A CFA® charter holder gathers the opening prices of stock ABC from a widely read publication and then uses the data as part of a report he is preparing but fails to disclose the data source in the report. The charter holder's actions are *most likely*?

- A. A violation of Standard I(C) – Misrepresentation.
- B. Not a violation of Standard I(C) – Misrepresentation - if the data can be gathered from several public sources.
- C. Not a violation of Standard I(C) – Misrepresentation - if the data cannot be gathered from several public sources.

The correct answer is option A because Standard I(C) – Misrepresentation prohibits members and candidates from knowingly making any misrepresentations related to investment analysis, recommendations, actions, or other professional activities. This standard specifically addresses the issue of plagiarism and requires members and candidates not to misrepresent their abilities, their expertise, or the extent of their work in a way that could mislead clients and prospective clients. Members and candidates are obligated to disclose if their research is derived from another source. In this case, the CFA charter holder failed to disclose that the data used in the report was obtained from another source, thereby violating Standard I(C) – Misrepresentation.

The charter holder did not alter or manipulate the data in any way, but simply failed to disclose where it was obtained from. This is a violation of Standard I(C) – Misrepresentation, but it does not fall under the category of misrepresenting the data itself. Therefore, while the charter holder's actions were unethical and a violation of the CFA Institute's standards, they do not constitute a misrepresentation of the data.

**B is incorrect.** The CFA Institute's standards require full transparency and honesty in all professional activities, including the sourcing of data. Therefore, even if the data could have been obtained from several public sources, the charter holder is still required to disclose where it was actually obtained from. Failing to do so is a violation of Standard I(C) – Misrepresentation.

**C is incorrect.** The CFA Institute's standards require full transparency and honesty in all professional activities, including the sourcing of data. Therefore, even if the data could not have been obtained from several public sources, the charter holder is still required to disclose where it was actually obtained from. Failing to do so is a violation of Standard I(C) – Misrepresentation.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3c: Identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.***

---

Q.80 According to the Code of Ethics, a member reflects credit on the profession when he/she:

- A. places the clients first.
- B. practices in a professional and ethical manner.
- C. consults with other members on a regular basis.

The correct answer is option B, which states that a member reflects credit on the profession when he/she practices in a professional and ethical manner. This is in line with the fourth component of the Code of Ethics, which emphasizes the need for members to practice and encourage others to practice professionally and ethically in a way that will reflect credit on themselves and the profession. This component is crucial as it ensures that members uphold the integrity and reputation of the profession by adhering to ethical standards and professional conduct. It also encourages members to foster a culture of ethical behavior and professionalism within the profession, thereby enhancing its credibility and trustworthiness in the eyes of the public, clients, and other stakeholders.

**A is incorrect.** While it is important for members to prioritize the interests of their clients, the Code of Ethics does not specifically require them to place their clients first. Instead, the Code requires members to place the integrity of the investment profession and the interests of their clients above their own personal interests. This means that members should act in the best interests of their clients, but not necessarily place their clients first in all situations. They should also uphold the integrity of the profession by acting with competence, diligence, respect, and in an ethical manner.

**C is incorrect.** The Code of Ethics does not specifically require members to consult with other members on a regular basis. While consultation and collaboration among members can be beneficial for sharing knowledge and best practices, it is not a mandatory requirement under the Code of Ethics. The Code primarily focuses on the individual conduct of members, emphasizing the need for them to act with integrity, competence, diligence, respect, and in an ethical manner. It also encourages members to maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

***CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2 b: Identify the six components of the Code of Ethics and the seven Standards of Professional Conduct.***

---

Q.81 According to the CFA Institute Code of Ethics, CFA Institute Members and Candidates must do all of the following, *except*:

- A. Act with integrity and dignity.
- B. Exercise independent judgment.
- C. Not knowingly violate the securities acts and laws.

While this is an important aspect of professional conduct, it is not explicitly stated in the Code of Ethics of the CFA Institute. The Code of Ethics is a set of codified beliefs that outline the acceptable and unacceptable conduct for members of the CFA Institute. It provides a general guide on how members should behave in their professional capacity.

The Code of Ethics consists of six components:

1. Act with integrity, competence, diligence, respect, and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
2. Place the integrity of the investment profession and the interests of clients above their own interests.
3. Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
4. Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
5. Promote the integrity of, and uphold the rules governing, capital markets.
6. Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

**A is incorrect.** The statement "Act with integrity and dignity" is indeed part of the Code of Ethics. The first component of the Code of Ethics explicitly states that members should act with integrity, competence, diligence, respect, and in an ethical manner with all stakeholders in the global capital markets. This includes acting with integrity and dignity in all professional dealings.

**B is incorrect.** The statement "Exercise independent judgment" is also part of the Code of Ethics. The third component of the Code of Ethics requires members to use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities. This means that members are expected to make decisions based on their own professional judgment, free from external influences.

***CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2b: Identify the six components of the Code of Ethics and the seven Standards of Professional Conduct.***

---

Q.82 Which of the following is not a possible disciplinary sanction with respect to the CFA Institute's enforcement of the Code and Standards?

- A. Private censure.
- B. Payment of a fine.
- C. Suspension of a candidate from further participation in the CFA program.

The CFA Institute does not have the authority to impose fines as a form of disciplinary action. The CFA Institute's disciplinary sanctions are primarily focused on the professional conduct of its members and candidates. If a member or candidate is found to have violated the Code and Standards, the CFA Institute can impose sanctions such as censure, suspension, or revocation of membership. In the case of candidates, they can also be barred from further participation in the CFA program. The imposition of a fine, however, is not within the purview of the CFA Institute's disciplinary measures. This is because the CFA Institute is a professional organization, not a regulatory or legal body, and therefore does not have the legal authority to impose financial penalties.

**A is incorrect.** A private censure is a form of disciplinary action that the CFA Institute can take. It involves issuing a formal reprimand to the member or candidate, usually in writing, expressing disapproval of their conduct. This is typically done in cases where the violation is not severe enough to warrant suspension or revocation of membership, but where the CFA Institute still deems it necessary to express its disapproval of the member or candidate's conduct.

**C is incorrect.** If a candidate is found to have violated the Code and Standards, the CFA Institute can indeed suspend them from further participation in the CFA program. This is a severe sanction that effectively halts the candidate's progress towards obtaining the CFA charter. It is typically imposed in cases where the violation is serious and the CFA Institute deems it necessary to protect the integrity of the CFA program and the profession.

***CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2a: Describe the structure of the CFA Institute Professional Conduct Program and the process for the enforcement of the Code and Standards..***

---

Q.83 Tim Peters, CFA is a Senior Investment Manager at Staples Asset Managers. He will be leaving the company at the end of the month to join Grey Capital as a Chief Investment Officer where among his major responsibilities will be to increase the funds under management. During his last day at Staples Asset Managers, Tim contacts two of the clients he brought to Staples and informs them of the services he would offer them if they moved their accounts to Grey Capital. Under the CFA Code and Standards, Tim Peters *most likely*?

- A. Violated Standard IV(A)- Duties to employers.
- B. Did not violate Standard IV(A)- Duties to employers because he brought the clients to Staples Asset Managers.
- C. Did not violate Standard IV(A)- Duties to employers because he had already resigned from Staples Asset Managers.

**B is incorrect.** Regardless of whether he brought the clients or not, Tim is still required to act in the best interest of his employer until his last day at Staples Asset Managers. This includes not soliciting the employer's clients prior to cessation of employment. The fact that he brought the clients to Staples Asset Managers does not give him the right to solicit them for his future employer while still being employed by Staples.

**C is incorrect.** The argument that Tim did not violate Standard IV(A)- Duties to employers because he had already resigned from Staples Asset Managers is also flawed. Even if he had already resigned, he was still an employee of Staples Asset Managers at the time he contacted the clients. According to the CFA Code and Standards, a member or candidate who is considering pursuing new employment must not contact present or potential clients to solicit their business for the new employer prior to leaving his or her current job. Therefore, Tim's actions were in violation of Standard IV(A)- Duties to employers.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3c: Identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.***

---

Q.84 Mark Roberts works as a portfolio analyst at First Community Trust. He is charged with managing the account of one Sarah Sanders, a client. Ms. Sanders pays First Community Trust a fee based on the performance of assets in her portfolio. Mr. Robert's employer pays him a salary for managing Ms. Sanders' account. Sarah Sanders offers Mr. Roberts an all-expenses-paid trip to Las Vegas, including free accommodation and use of her yacht, provided that she earns at least 20% yearly pre-tax profit from her portfolio. What should Mr. Roberts do concerning the offer?

- A. Immediately inform his employer of the arrangement before accepting it.
- B. Accept the offer but only after assessing the likelihood of the proposed level of performance.
- C. Wait until the yearly results are out before accepting the offer, and then inform his employer of the arrangement only if the results meet Ms. Sanders' present condition.

According to Standard IV(B) - Additional Compensation Arrangements of the Code of Ethics and Standards of Professional Conduct, members and candidates must not accept gifts, benefits, or compensation that competes with or could potentially compromise their loyalty to their employer's interest unless they obtain written consent from all parties involved. This standard is designed to prevent conflicts of interest that could potentially harm the employer or the integrity of the profession.

In this scenario, Mark Roberts, a portfolio analyst at First Community Trust, is offered an all-expenses-paid trip to Las Vegas by his client, Sarah Sanders, provided that she earns at least 20% yearly pre-tax profit from her portfolio. This offer can be seen as a form of additional compensation that could potentially compete with his employer's interest. Therefore, according to the Code of Ethics, Mr. Roberts should not accept this offer without first obtaining written consent from his employer. This is why option A, which suggests that Mr. Roberts should immediately inform his employer of the arrangement before accepting it, is the correct answer.

**B is incorrect.** This option suggests that Mr. Roberts should accept the offer but only after assessing the likelihood of the proposed level of performance. This approach is not in line with the Code of Ethics. The Code does not allow members and candidates to accept additional compensation based on their assessment of the likelihood of achieving certain performance levels. Instead, it requires them to obtain written consent from their employer before accepting any additional compensation.

**C is incorrect.** This option suggests that Mr. Roberts should wait until the yearly results are out before accepting the offer, and then inform his employer of the arrangement only if the results meet Ms. Sanders' present condition. This approach is also not in line with the Code of Ethics. The Code requires members and candidates to inform their employer about any additional compensation arrangements immediately, regardless of the results.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.***

---

Q.85 Zeng Yi, CFA, is an analyst at Power Stocks Inc. Power Stocks Inc. plans to announce a change in recommendation from a hold to a sell on YYZ stock. Yi happens to be a member of the team that decided to change the recommendation. Yi's father has an account at Power Stocks Inc. that contains YYZ stock. According to the Code and Standards, trading on Yi's father's account should most likely begin?

- A. As soon as the information is disseminated to all clients.
- B. Only after the recommendation is announced to the general public.
- C. Only after Yi, as a beneficial owner, has given an appropriate amount of time for his clients and his employer to act.

According to Code and Standards of Power Stocks Inc, Yi, being a beneficial owner of his father's account, should treat this account like any other client account. This means that there should be no special treatment or disadvantage due to the familial relationship between Yi and the account holder. The account should be treated impartially, just like any other client account. Therefore, trading on Yi's father's account can commence as soon as the information about the change in recommendation is disseminated to all clients. This ensures that all clients, including Yi's father, receive the information at the same time and have the same opportunity to act on it.

**B is incorrect.** Waiting until the recommendation is announced to the general public would not be in line with the Code and Standards. This would mean that Yi's father's account, being a client account, would not be treated like all other client accounts. Instead, it would be at a disadvantage as it would receive the information later than other clients. This would not be fair or ethical, as all client accounts should be treated equally and given the same opportunities to act on information.

**C is incorrect.** The reasoning behind this is that waiting until Yi has given an appropriate amount of time for his clients and his employer to act would also not be in line with the Code and Standards. This would mean that Yi's father's account, being a client account, would not be treated like all other client accounts. Instead, it would be at a disadvantage as it would receive the information later than other clients. This would not be fair or ethical, as all client accounts should be treated equally and given the same opportunities to act on information.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.***

---

Q.86 Which of the following is *most likely* correct regarding standard 1(B)- Independence and objectivity?

- A. Members and candidates should solicit gifts from their clients only after attaining great portfolio returns.
- B. Members and candidates should issue favorable reports, even if forged, of top companies upon request.
- C. Members and candidates should not accept gifts, benefits, compensations, or considerations from their clients or prospective clients.

Standard 1(B) - Independence and Objectivity, is a crucial part of the ethical standards set for members and candidates in the finance industry. This standard is designed to ensure that all professional activities are conducted with a high degree of independence and objectivity. It explicitly prohibits members and candidates from giving, soliciting, or accepting any gift, benefit, compensation, or consideration that could potentially compromise their own or another's independence and objectivity. This is to ensure that their professional judgment and actions are not influenced by personal interests or external pressures.

Option C is the correct answer as it accurately reflects the principles of Standard 1(B). Members and candidates should not accept gifts, benefits, compensations, or considerations from their clients or prospective clients. Accepting such gifts or benefits could potentially influence their professional judgment and compromise their independence and objectivity. This could lead to biased decisions that may not be in the best interest of their clients or the organization they represent. Therefore, to maintain the highest level of professional conduct and ethical behavior, it is imperative that members and candidates refrain from accepting any such gifts or benefits.

**A is incorrect.** The statement suggests that members and candidates should solicit gifts from their clients only after attaining great portfolio returns. This is a clear violation of Standard 1(B). The standard strictly prohibits members and candidates from soliciting gifts of any kind from their clients and prospective clients, regardless of the performance of the portfolio. Soliciting gifts could potentially influence their professional judgment and compromise their independence and objectivity. It could lead to a conflict of interest and biased decisions that may not be in the best interest of their clients.

**B is incorrect.** The statement suggests that members and candidates should issue favorable reports, even if forged, of top companies upon request. This is a clear violation of Standard 1(B). The standard strictly forbids members and candidates from issuing false or misleading reports. Issuing forged reports could potentially harm the integrity of the financial markets and the profession. It could also lead to legal consequences for the members and candidates involved. Therefore, it is crucial that all reports issued by members and candidates are accurate, fair, and objective.

***CFA Level 1, Topic 10 - Ethics, Learning Module 2 - Code of Ethics and Standards of Professional Conduct, LOS 2c: Explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.***

---

Q.87 A financial analyst who is a CFA member sends a research report on a company to his supervisor. The supervisor approves the report, but the analyst soon discovers that the supervisor plans to release a version of the report that shows stronger earnings estimates than the original report without a reasonable and adequate reason. In response to this, the analyst should *most likely*:

- A. Let the supervisor do as he pleases.
- B. Take up the issue with regulatory authorities.
- C. Insist that the supervisor changes the earnings forecast or remove their name from the report.

The correct answer is option C, which suggests that the analyst should insist that the supervisor changes the earnings forecast or remove their name from the report. This is the most appropriate course of action according to Standard V (A) - Diligence and Reasonable Basis of the CFA Institute's Code of Ethics and Standards of Professional Conduct. This standard mandates that members and candidates should exercise diligence, thoroughness, and independence when making investment recommendations, analysis, or taking actions. They should also have a reasonable and adequate basis supported by appropriate research and investigation for any investment recommendation, analysis, or action. In this scenario, the supervisor is planning to release a modified version of the report that shows stronger earnings estimates than the original report, without a reasonable and adequate reason. This is a clear violation of the standard. Therefore, the analyst, in order to uphold the standard, must insist that the supervisor either issues the original version of the report or removes the analyst's name from the report if the supervisor insists on releasing the modified version.

**A is incorrect.** If the analyst lets the supervisor do as he pleases, it would mean that the analyst is complicit in the violation of Standard V (A) - Diligence and Reasonable Basis. This standard requires that the analyst should be diligent, thorough, and independent in their work. By allowing the supervisor to release a modified version of the report that shows stronger earnings estimates than the original report, without a reasonable and adequate reason, the analyst would be failing to uphold this standard. Therefore, this option is not the most appropriate course of action for the analyst.

**B is incorrect.** While it might seem like a good idea for the analyst to take up the issue with regulatory authorities, this is not the most appropriate course of action according to the CFA Institute's Code of Ethics and Standards of Professional Conduct. The best course of action for the analyst, as per these standards, is to first try and resolve the issue internally within the organization. This means that the analyst should insist that the supervisor either issues the original version of the report or removes the analyst's name from the report if the supervisor insists on releasing the modified version. Only if these attempts fail should the analyst consider reporting the issue to regulatory authorities. Therefore, this option is not the most appropriate course of action for the analyst.

**CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3a: Demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity.**

---

Q.88 Jonathan Ingram, CFA, is a research analyst following Mountain Corp. All the information he has gathered suggests Mountain's stock should be rated "weak-hold." During a recent dinner with a friend, Ingram overheard another experienced analyst saying that the stock should be rated "buy." He returns to his office the next day and issues a "buy" recommendation. Ingram:

- A. has not violated CFA Institute Standards of Professional Conduct.
- B. has violated CFA Institute Standards of Professional Conduct because he used Material Nonpublic Information.
- C. has violated CFA Institute Standards of Professional Conduct because he did not have a reasonable and adequate basis for making his recommendation.

Option C is the correct answer because it accurately states that Jonathan Ingram has violated the CFA Institute Standards of Professional Conduct due to his lack of a reasonable and adequate basis for making his recommendation. The CFA Institute's Standard V(A) - Diligence and Reasonable Basis, mandates that members and candidates must exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, or taking action. Furthermore, they must have a reasonable and adequate basis for any investment analysis, recommendation, or action, which should be supported by appropriate research and investigation. In this case, Ingram changed his recommendation from a "weak-hold" to a "buy" based on an overheard conversation, which is not a reasonable or adequate basis for such a decision. This action clearly violates the CFA Institute Standards of Professional Conduct, specifically Standard V(A).

**A is incorrect.** As explained above, Ingram's action of changing his recommendation based on an overheard conversation, without conducting his own thorough research and analysis, is a clear violation of Standard V(A) - Diligence and Reasonable Basis. This standard requires members and candidates to be diligent, independent, and thorough in their analysis and recommendations, and to have a reasonable and adequate basis for their actions. Ingram's action of changing his recommendation without a reasonable and adequate basis is a clear violation of this standard.

**B is incorrect.** The scenario does not provide any evidence that the experienced analyst's "buy" recommendation was based on material nonpublic information. Therefore, it cannot be concluded that Ingram violated the standards by using such information. It is important to note that while using material nonpublic information for investment decisions is a violation of the CFA Institute Standards of Professional Conduct, there is no indication in this scenario that such information was used.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3c: Identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.***

---

Q.89 If a supervisor makes a reasonable effort to detect violations by their subordinates but fails to detect a violation that occurs, he:

- A. is in compliance with Standard IV(C) - Responsibilities of supervisors.
- B. is always in violation of Standard IV(C) - Responsibilities of Supervisors.
- C. is only in violation of Standard IV(C) - Responsibilities of Supervisors if the violation that occurs is punishable by law.

According to Standard IV(C) - Responsibilities of Supervisors, it is required of members to ensure that their subordinates comply with all applicable laws, rules, regulations, and the Code and standards. However, it is important to note that the existence of violations by subordinates does not automatically imply that the supervisor has violated this standard. The key factor here is the effort made by the supervisor to prevent such violations. If the supervisor has put in place reasonable measures to discourage employees from violating laws, then he/she is in compliance with Standard IV(C), even if a violation occurs. This is because the standard recognizes that despite best efforts, it may not always be possible to prevent all violations.

**B is incorrect.** The standard does not hold supervisors accountable for all violations by their subordinates. Instead, it focuses on the efforts made by the supervisor to prevent such violations. If the supervisor has made reasonable efforts to detect and prevent violations, then he/she is not in violation of the standard, even if a violation occurs. Therefore, the assertion that the supervisor is always in violation of the standard is incorrect.

**C is incorrect.** The standard does not differentiate between violations that are punishable by law and those that are not. The focus of the standard is on the supervisor's efforts to prevent any violations, regardless of their legal implications. Therefore, a supervisor who does not put measures in place to detect potential violations would be in violation of the standard, irrespective of whether the violation is punishable by law or not.

***CFA Level 1, Topic 10 - Ethics, Learning Module 3 - Guidance for Standards I-VII, LOS 3c: Identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.***

---

Q.90 Joshua Miller, CFA, is a portfolio manager responsible for the accounts of private wealth clients. Kim Ortega, one of Miller's clients, has a below-average risk appetite. Her investment account is currently solely allocated to fixed-income securities. After extensive research, Miller allocates emerging market equities to Ortega's investment account. He believes that the low correlation between domestic bonds and emerging market stocks will significantly reduce portfolio risk. In addition, based on numerous emerging market specialists' reports, the emerging market stocks have significant return potential.

With respect to the requirements and recommendations of the CFA Institute Standards of Professional Conduct, Miller's decision to allocate emerging market stocks to Ortega's investment account:

- A. Is not suitable.
- B. Is in compliance.
- C. Lacks a diligent and reasonable basis.

Miller's decision to allocate emerging market stocks to the investment portfolio is consistent with the CFA Institute Standards of Professional Conduct. Although emerging market equities are highly risky as a standalone investment, they have significant diversification potential and will greatly reduce portfolio risk when combined with fixed-income securities. Therefore, his decision considers the suitability of the investment according to Standard III(C): Suitability.

**A is incorrect.** Suggesting that Miller's decision is not suitable overlooks the nuanced understanding of risk and diversification in portfolio management. .

**C is incorrect.** Miller has conducted thorough research prior to considering emerging market equities as an investment candidate. Therefore, his actions are consistent with the CFA Institute Standards of Professional Conduct in this regard.

***CFA Level I, Topic 10, Ethics, Learning Module 5: Ethics Application. LOS (b): Explain how the practices, policies, and conduct do or do not violate the CFA Institute Code of Ethics and Standards of Professional Conduct.***

---