CFA Level 1 Sample Questions

1) Scott Peterson, CFA, has worked in Funds Management for over 20 years. He is a very personal man and therefore, has gained a solid client base over the years. This client base consists of family members, friends and clients who he only knows in a professional sense. Scott treats all clients (including his family and friends) equally as they are all fee-paying. This includes allocations of IPOs as they become available. According to the *Standards of Practice Handbook*, Scott Peterson has:
    a. not violated any of the CFA Institute Standards of Professional Conduct.
    b. violated the standard relating to fair dealing.
    c. violated the standard relating to priority of transactions.

2) Jack Stewart, CFA, is a graduate in the research department of a large public bank focusing on Media and Telecommunications businesses. Jack is not allowed to discuss work in detail with members of the Investment Banking division as he sometimes reports on companies that may have relationships with the Investment Banking team. As Jack was hired with a large group of graduates, he knows some of the members of the Investment Banking division well. One afternoon, Jack was drinking a coffee near his work place and bumped into Paula Duncan, a graduate from the Investment Banking Division. She mentioned that she is working on a large acquisition of a telecommunications business. Jack assumes it is Telephones R Us as they have been struggling recently and their share price is relatively affordable. Jack goes home and purchases some shares of this business. Has Jack violated any of the CFA Institute Code of Standards?
    a. No.
    b. Yes, Misconduct and Preservation of confidentiality.
    c. Yes, Fair Dealing and Market Manipulation.

3) The following are *all* major sections of the GIPS standards except:
    a. fundamentals of Compliance, Calculation Methodology and Wrap Fee/Separately Managed Accounts.
    b. input Data, Commodities, Presentation and Reporting.
    c. composite construction, Real Estate and Private Equity.

4) Elise Walsh has recently completed her Level 1 Examination. Elise had been studying for over 6 months so was very relieved at the end of the day. Her friend, who has no interest in sitting a CFA examination, asked Elise if the exam was hard. Elise replied "It went okay, I super happy that they didn't test us on the valuation of Forward Rate Agreements." According to the *Standards of Practice Handbook*, Elise violated:
    a. none of the Standards as Elise's friend does not wish to sit the CFA exams.
    b. the standard relating to responsibilities as a CFA Member or a CFA Candidate.
    c. the standard relating to Misrepresentation.

5) An analyst gathered the following information regarding a stock's returns over the last 5 years:

Year	Portfolio return
2011	2.8%
2012	3.9%
2013	-5.6%
2014	-1.3%
2015	11.5%

The portfolio's mean absolute deviation for the five-year period is closest to:

a. 3.95%.
b. 4.36%.
c. 4.57%.

6) A distribution has a kurtosis of 3.5 and is slightly skewed to the left. This distribution would most likely be considered to be:
   a. Leptokurtic.
   b. Mesokurtic.
   c. Platykurtic.

7) An analyst has estimated the probability of a stocks returns being as follows.

Year	Probability
Less than 0%	18%
0% to 4%	35%
4% to 8%	22%
8% to 12%	16%
Over 12%	9%

The required return for this particular stock is over 8%. According to this analyst, what are the odds that this will be the case?

   a. 1 in 3
   b. 1 in 4
   c. 2 in 5

8) The AUD/USD exchange rate is currently 0.73 and the EURO/USD is trading at 1.10. The implied cross exchange rate of AUD/EURO is closest to:
   a. 0.80.
   b. 0.66.
   c. 2.52.

9) Which of the following theorised that the real business cycle is affected by changes in technology and external shocks rather than monetary variables?
   a. New Classical.
   b. New Keynesian.
   c. Economists of the Austrian school.

10) Which of the following are not one of the two fundamental characteristics that make financial information useful?
    a. Relevance.
    b. Faithful representation.
    c. Verifiability.

11) Humphrey's Company had 20,000 shares of common stock outstanding at the beginning of the year. 5,000 shares were issued on October 1. Assuming a simple capital structure, if Humphrey's Company had net income of $30,000 and paid $4,500 in cash dividends to its shareholders, their basic EPS is closest to:
    a. $1.15.
    b. $1.20.
    c. $1.58.

12) If accounts receivable increases, what happens to the cash ratio and the quick ratio?
    a. Both increase.
    b. One increases and the other decreases.
    c. Both decrease.

13) If, for a given asset, a reversal is expected in the future and the tax base of the asset is currently less than the carrying value, which of the following is correct?
    a. Neither a deferred tax asset or liability is created.
    b. A deferred tax asset is created.
    c. A deferred tax liability is created.

14) In regards to a pension liability, past service costs are:
    a. Expensed in the income statement under IFRS reporting.
    b. Remeasured in other comprehensive income under IFRS.
    c. Expensed in the income statement as incurred under U.S. GAAP reporting.

15) The CFO of Mattress Kings has gathered the following information for you to determine the firms Weighted Average Cost of Capital (WACC):

Beta	1.2
Risk free rate	4%
Market risk premium	8%
Debt/Equity	50%
Cost of debt	6.5%
Tax rate	35%

The firms WACC is closest to:

    a. 9.6%.
    b. 10.4%.
    c. 10.9%.

16) A firm is evaluating whether to invest in a project. The initial investment required is $250,000 and the expected cash flows are as follows:

Year 1	$50,000
Year 2	$60,000
Year 3	$65,000
Year 4	$70,000
Year 5	$100,000

The appropriate discount rate is 8%, the NPV of the project is closest to:

a. -$542.
b. $14,980.
c. $18,846.

17) According to the Dividend Discount Model, if the risk free rate increases, what will happen to the cost of equity and the calculated share price?
a. Both will increase.
b. One will increase and the other will decrease.
c. Both will decrease.

18) A firm is experiencing slowed growth, intense competition and declining profitability. The firm is mostly likely in the:
a. Shakeout Stage.
b. Mature Stage.
c. Decline Stage.

19) A bond is currently selling for 98.5% of its face value (face value being $100). It is estimated that if the bond's yield rises by 25 basis points, the price will drop to $96.80 dollars and if the bond's yield drops by 25 basis points, the bond will sell for $101.20. The duration of the bond is closest to:
a. 8.93.
b. 9.01.
c. 10.66.

20) The risk most likely evident by the width of the bid-ask spread is:
a. Event risk.
b. Liquidity risk.
c. Default risk.

21) Which of the following is *not* one of the four C's of credit analysis?
a. Capacity.
b. Character.
c. Cash flows.

22) The current stock price of Australian Junior Miners (AJM) is $48 and the risk free rate is 4.5%. 3-month put options with an exercise price of $47 are

currently valued at $1.60. Using this information, the price of a 3-month call option with the same exercise price is closest to:

a. $2.13.
b. $2.74.
c. $3.11.

23) The *least* likely source of commodity futures returns are most likely from:

a. Roll yield.
b. Collateral yield.
c. Contango.

24) David, a beginner investor has recently purchased two stocks. He owns $600 of Stock A and $400 of stock B and knows the correlation between the two stocks is 0.78. He knows standard deviation is used to measure risk and therefore wishes to calculate the standard deviation of the portfolio.

	Stock A	Stock B
Expected return	6%	19%
Standard Deviation	9%	20%

Using the above information, the portfolio's standard deviation is closest to:

a. 12.67%.
b. 13.81%.
c. 9.5%.

25) When a portfolio manager is conducting a top down analysis of an industry, they are most likely in which stage of the portfolio management process?

a. The planning step.
b. The execution step.
c. The feedback step.

CFA Level 1 Sample Solutions

1) Scott Peterson, CFA, has worked in Funds Management for over 20 years. He is a very personal man and therefore, has gained a solid client base over the years. This client base consists of family members, friends and clients who he only knows in a professional sense. Scott treats all clients (including his family and friends) equally as they are all fee-paying. This includes allocations of IPOs as they become available. According to the *Standards of Practice Handbook*, Scott Peterson has:
    a. not violated any of the CFA Institute Standards of Professional Conduct.
    b. violated the standard relating to fair dealing.
    c. violated the standard relating to priority of transactions.

    Answer: A

    Scott has not violated any of the standards as he is treating all of his fee-paying clients equally. As long as Scott is not the beneficiary to any of the family member's accounts, it is ethically sound to treat them equally.

2) Jack Stewart, CFA, is a graduate in the research department of a large public bank focusing on Media and Telecommunications businesses. Jack is not allowed to discuss work in detail with members of the Investment Banking division as he sometimes reports on companies that may have relationships with the Investment Banking team. As Jack was hired with a large group of graduates, he knows some of the members of the Investment Banking division well. One afternoon, Jack was drinking a coffee near his work place and bumped into Paula Duncan, a graduate from the Investment Banking Division. She mentioned that she is working on a large acquisition of a telecommunications business. Jack assumes it is Telephones R Us as they have been struggling recently and their share price is relatively affordable. Jack goes home and purchases some shares of this business. Has Jack violated any of the CFA Institute Code of Standards?
    a. No.
    b. Yes, Misconduct and Preservation of confidentiality.
    c. Yes, Fair Dealing and Market Manipulation.

    Answer: A

    Jack has the duty to his employer to not discuss work in detail. Although Paula briefly mentioned that she is working on a Telco, she did not specify which one by any means. One could argue Jack has used the Mosaic Theory, gathering pieces of material public and non-material non Public information to place his trade. If Paula had mentioned a specific Telco and Jack had bought stocks in that company, he would have been in violation of the Code of Standards.

3) The following are *all* major sections of the GIPS standards except:
   a. fundamentals of Compliance, Calculation Methodology and Wrap Fee/Separately Managed Accounts.
   b. input Data, Commodities, Presentation and Reporting.
   c. composite construction, Real Estate and Private Equity.

   Answer: B

   Commodities is not one of the nine major sections of the GIPS standards. The 9 major sections are Input Data, Calculation methodology, Composite construction, Disclosures, Presentation and reporting, Real Estate, Private Equity and Wrap fee/Separately Managed Account (SMA) portfolios. You should know these 9 off by heart for the exam.

4) Elise Walsh has recently completed her Level 1 Examination. Elise had been studying for over 6 months so was very relieved at the end of the day. Her friend, who has no interest in sitting a CFA examination, asked Elise if the exam was hard. Elise replied "It went okay, I super happy that they didn't test us on the valuation of Forward Rate Agreements." According to the *Standards of Practice Handbook*, Elise violated:
   a. none of the Standards as Elise's friend does not wish to sit the CFA exams.
   b. the standard relating to responsibilities as a CFA Member or a CFA Candidate.
   c. the standard relating to Misrepresentation.

   Answer: B

   Although Elise's friend has no plan on sitting the CFA Examinations, it is still a violation of the Code of Conduct to reveal anything that was or was not tested on the exam.

5) An analyst gathered the following information regarding a stock's returns over the last 5 years:

Year	**Portfolio return**
2011	2.8%
2012	3.9%
2013	-5.6%
2014	-1.3%
2015	11.5%

   The portfolio's mean absolute deviation for the five-year period is closest to:
   a. 3.95%.
   b. 4.36%.
   c. 4.57%.

   Answer: C

The mean of the 5 portfolio returns is 2.26. This is calculated as the sum of the returns divided by the number of the sample. In this case that is 5.

$$\frac{2.8 + 3.9 + (-5.6) + (-1.3) + 11.5}{5} = 2.26\%$$

The mean absolute deviation is calculated by summing the absolute values of the differences of each of the samples to the average and then dividing it by the number of samples.

$$\frac{|2.8 - 2.26| + |3.9 - 2.26| + |-5.6 - 2.26| + |-1.3 - 2.26| + |11.5 - 2.26|}{5} = 4.257\%$$

6) A distribution has a kurtosis of 3.5 and is slightly skewed to the left. This distribution would most likely be considered to be:
   a. Leptokurtic.
   b. Mesokurtic.
   c. Platykurtic.

Answer: A

A kurtosis above 3 means that it is Leptokurtic, a kurtosis of 3 means it is Mesokurtic and a kurtosis of less than 3 means it is Platykurtic. A normal distribution has a kurtosis of 3. The skewness of this distribution is irrelevant when the kurtosis is given.

7) An analyst has estimated the probability of a stocks returns being as follows.

Year	**Probability**
Less than 0%	18%
0% to 4%	35%
4% to 8%	22%
8% to 12%	16%
Over 12%	9%

The required return for this particular stock is over 8%. According to this analyst, what are the odds that this will be the case?

   a. 1 in 3
   b. 1 in 4
   c. 2 in 5

Answer: B

In order to calculate a cumulative probability, you must sum each of the probabilities of the given scenarios that satisfy what is being requested; in this question, it is the categories that have returns over 8%.

Therefore, we need to sum both the categories "8% to 12%" and "Over 12%". The odds of both of these are 16% and 9% respectively. Therefore the sum is 25%. The odds of this are 25/100 or 1 in 4.

8) The AUD/USD exchange rate is currently 0.73 and the EURO/USD is trading at 1.10. The implied cross exchange rate of AUD/EURO is closest to:
   a. 0.80.
   b. 0.66.
   c. 2.52.

   Answer: B

   In order to calculate cross exchange rates, we must cross multiply.

$$\frac{AUD}{EUR} = \frac{AUD}{USD} * \frac{USD}{EUR}$$

   We know AUD/USD = 0.73. In order to calculate USD/EUR we must "flip" EUR/USD. This means 1/1.10 = 0.91. Therefore to calculate the AUD/EUR we have:

$$\frac{AUD}{EUR} = 0.73 * 0.91 = 0.66$$

9) Which of the following theorised that the real business cycle is affected by changes in technology and external shocks rather than monetary variables?
   a. New Classical.
   b. New Keynesian.
   c. Economists of the Austrian school.

   Answer: B

   New Classical school economists theorised about the real business cycle. This focuses on changes in technology and external shocks to the economy as the cause of business cycles. Economists of the Austrian school focus on government intervention as the cause of business cycles and the Monetarist school believes that the money supply and decisions about the money supply affect the business cycle.

10) Which of the following are not one of the two fundamental characteristics that make financial information useful?
   a. Relevance.
   b. Faithful representation.
   c. Verifiability.

   Answer: C

   The two fundamental characteristics that make financial information useful are relevance and faithful representation. The four characteristics that

enhance relevance and faithful representation are comparability, verifiability, timeliness and understandability.

11) Humphrey's Company had 20,000 shares of common stock outstanding at the beginning of the year. 5,000 shares were issued on October 1. Assuming a simple capital structure, if Humphrey's Company had net income of $30,000 and paid $4,500 in cash dividends to its shareholders, their basic EPS is closest to:
    a. $1.15.
    b. $1.20.
    c. $1.58.

Answer: B

In order to calculate EPS we need to know the average weighted number of shares for the year. We know that we had 20,000 shares for 12 months and an extra 5,000 for 3 months. Therefore, we calculate average weighted shares as:

$$Average\ weighted\ shares = \frac{20{,}000 * 12 + 5{,}000 * 3}{12} = 21250$$

The formula for basic EPS is:

$$EPS = \frac{Net\ Income - Preferred\ Dividends}{Average\ weighted\ share}$$

Therefore, basic EPS is calculated as:

$$EPS = \frac{30{,}000 - 4{,}500}{21{,}250} = \$1.2$$

12) If accounts receivable increases, what happens to the cash ratio and the quick ratio?
    a. Both increase.
    b. One increases and the other decreases.
    c. Both decrease.

Answer: A

The current ratio and quick ratio are as follows:

$$current\ ratio = \frac{current\ assets}{current\ liabilities}$$

$$quick\ ratio = \frac{cash + marketable\ securities + accounts\ receivables}{current\ liabilities}$$

Both the current ratio and the quick ratio include accounts receivables on the numerator. In the current ratio, accounts receivables are included in the

'current assets' part of the equation. Since accounts receivables are increasing and are included in the numerator of both the formulas, the ratio increases.

Note: If you increase something that is on the denominator of a fraction, the ratio will decrease.

13) If, for a given asset, a reversal is expected in the future and the tax base of the asset is currently less than the carrying value, which of the following is correct?
    a. Neither a deferred tax asset or liability is created.
    b. A deferred tax asset is created.
    c. A deferred tax liability is created.

Answer: C

Taxable income is currently less than it would have been as the tax base of the asset is less than the carrying value. This means that when a reversal occurs in the future, taxable income will be higher than what it would have been, meaning the company will need to pay more money in the future and thus a deferred liability is created.

14) In regards to a pension liability, past service costs are:
    a. Expensed in the income statement under IFRS reporting.
    b. Remeasured in other comprehensive income under IFRS.
    c. Expensed in the income statement as incurred under U.S. GAAP reporting.

Answer: A

For pension liabilities, past service costs are expensed in the income statement under IFRS. Under U.S. GAAP, past service costs are recognised in other comprehensive income and amortised to the income statement.

15) The CFO of Mattress Kings has gathered the following information for you to determine the firms Weighted Average Cost of Capital (WACC):

Beta	1.2
Risk free rate	4%
Market risk premium	8%
Debt/Equity	50%
Cost of debt	6.5%
Tax rate	35%

The firms WACC is closest to:

    a. 9.6%.
    b. 10.4%.
    c. 10.9%.

Answer: C

The formula to calculate a firm's WACC is as follows:

$$WACC = r_e * \frac{E}{V} + r_d * \frac{D}{V} * (1 - t)$$

The cost of debt and tax rates are given at 6.5% and 35% respectively. In order to calculate E/V and D/V we need to use the fact we know that debt is half of equity. Therefore, E/V = 67% and D/V = 33% (it would help to remember these are the weights when D/E = 50% as this is tested a lot).

We must use CAPM to calculate the cost of equity. This formula is:

$$r_e = r_f + \beta(r_m - r_f)$$

where: $(r_m - r_f) = market\ risk\ premium$

$$r_e = 4\% + 1.2(8\%) = 13.6\%$$

Therefore:

$$WACC = 0.136 * 0.67 + 0.065 * 0.33 * (1 - 0.35) = 10.5\%$$

16) A firm is evaluating whether to invest in a project. The initial investment required is $250,000 and the expected cash flows are as follows:

Year 1	$50,000
Year 2	$60,000
Year 3	$65,000
Year 4	$70,000
Year 5	$100,000

The appropriate discount rate is 8%, the NPV of the project is closest to:

a. -$542.
b. $14,980.
c. $18,846.

Answer: C
Using your financial calculator, CF0=-250,000, CF1=50,000, CF2=60,000, CF3=65,000, CF4=70,000, CF5=100,000. When you click NPV, enter I=8. Calculating NPV should give $18,846.

A trick with these questions (if you need to save time in the exam) is to not type in zeroes into your calculator if all of the given figures are in thousands. If you did that you would have: CF0=-250 , CF1=50, CF2=60, CF3=65, CF4=70, CF5=100. When you click NPV, enter I=8. Calculating NPV should give

$18.846. We then know this is in thousands as we did not include the thousands in the cash flows. This method is not recommended if you are not confident with the calculations or if time is not an issue for you.

17) According to the Dividend Discount Model, if the risk free rate increases, what will happen to the cost of equity and the calculated share price?
    a. Both will increase.
    b. One will increase and the other will decrease.
    c. Both will decrease.

Answer: A

According to the dividend discount model, if if r_e increases and g decreases, the numerator will decrease and the denominator will increase. This will lead the calculated share price to decrease.

$$Price = \frac{D_0(1+g)}{r_e - g}$$

18) A firm is experiencing slowed growth, intense competition and declining profitability. The firm is mostly likely in the:
    a. Shakeout Stage.
    b. Mature Stage.
    c. Decline Stage.

Answer: A

The shakeout stage is defined by slowing growth, intense competition, declining profitability, cost cutting and overcapacity.

19) A bond is currently selling for 98.5% of its face value (face value being $100). It is estimated that if the bond's yield rises by 25 basis points, the price will drop to $96.80 dollars and if the bond's yield drops by 25 basis points, the bond will sell for $101.20. The duration of the bond is closest to:
    a. 8.93.
    b. 9.01.
    c. 10.66.

Answer: A

Once we calculate that the current price would be $98.50 (98.50% of the $100 face value), we can use the formula for the duration of a bond as follows:

$$Duration = \frac{Price_{i\ decrease} - Price_{i\ increase}}{2 * Price_{current} * Basis\ point\ change}$$

$$Duration = \frac{101.20 - 96.80}{2 * 98.50 * 0.0025} = \$8.93$$

20) The risk most likely evident by the width of the bid-ask spread is:
   a. Event risk.
   b. Liquidity risk.
   c. Default risk.

Answer: B

The bid-ask spread is an indication of liquidity. For a very liquid instrument, the bid-ask spread will be narrow, indicating lower transaction costs to that of a less traded instrument with a wider bid ask spread.

21) Which of the following is *not* one of the four C's of credit analysis?
   a. Capacity.
   b. Character.
   c. Cash flows.

Answer: C

The four C's of credit analysis are character, covenants, capacity and collateral.

22) The current stock price of Australian Junior Miners (AJM) is $48 and the risk free rate is 4.5%. 3-month put options with an exercise price of $47 are currently valued at $1.60. Using this information, the price of a 3-month call option with the same exercise price is closest to:
   a. $2.13.
   b. $2.74.
   c. $3.11.

Answer: C

The formula for put-call parity is as follows:

$$C + \frac{X}{(1+r)^t} = S_0 + P$$

As we would like to estimate the price of a 3-month call option, we need to use 0.25 for t as 3 months is a quarter of a year.

Therefore, we solve the equation as follows:

$$C + \frac{47}{(1+0.045)^{0.25}} = 48 + 1.6$$

$$C + 46.49 = 48 + 1.6$$

$$C = 48 + 1.6 - 46.49$$

$$C = \$3.11$$

23) The *least* likely source of commodity futures returns are most likely from:
   a. Roll yield.
   b. Collateral yield.
   c. Contango.

Answer: C

The three sources of returns for commodities futures are from roll yield, collateral yield and changes in spot prices. If future prices are higher than spot prices, a situation called contango is in place whereby roll yield is negative. If backwardisation is in place (spot prices are higher than future prices), roll yield is positive.

24) David, a beginner investor has recently purchased two stocks. He owns $600 of Stock A and $400 of stock B and knows the correlation between the two stocks is 0.78. He knows standard deviation is used to measure risk and therefore wishes to calculate the standard deviation of the portfolio.

	Stock A	Stock B
Expected return	6%	19%
Standard Deviation	9%	20%

Using the above information, the portfolio's standard deviation is closest to:
   a. 12.67%.
   b. 13.81%.
   c. 9.5%.

Answer: B

The formula for the standard deviation of a two stock portfolio is:

$$\sigma = \sqrt{w_1^2 * \sigma_1^2 + w_2^2 * \sigma_2^2 + 2 * p * w_1 * w_2 * \sigma_1 * \sigma_2}$$

where p = correlation coefficient

As David has 60% in Stock A and 40% in Stock B, standard deviation can be calculated as follows:

$$\sigma = \sqrt{0.6^2 * 0.09^2 + 0.4^2 * 0.2^2 + 2 * 0.78 * 0.6 * 0.4 * 0.09 * 0.2} = 12.67\%$$

25) When a portfolio manager is conducting a top down analysis of an industry, they are most likely in which stage of the portfolio management process?
   a. The planning step.
   b. The execution step.
   c. The feedback step.

Answer: B

This portfolio manager is most likely in the execution step. This is the step of the portfolio management process whereby the manager is evaluating where to invest a client's money as well as purchasing the securities to create the portfolio.