CFA® Level I
Sample Examination for 2002 Candidates
120 Questions
3 Hours

AIMR has developed this sample examination to help candidates practice for the Level I examination. This 120-question sample examination represents a three-hour section (one-half the regular exam time), which is equivalent to either the morning or afternoon section of the actual examination. To simulate realistic exam-day conditions, candidates should set aside a block of three hours in which to take the sample examination. Doing so will allow 1½ minutes, on average, for each question. Candidates also should simulate other examination conditions such as using an AIMR approved calculator and not referring to any reference materials.

The sample examination is intended only to give candidates practice at answering questions that are similar in style to those that will appear on the 2002 CFA Level I examination. None of these sample questions will appear on that examination. Candidates should not rely on the sample exam as their only means of preparing for the 2002 CFA Level I examination. Careful study of the readings listed in the *2002 CFA Level I Study Guide* is essential to being well prepared.

If you detect any irregularities with the guideline answers to sample questions, please submit those irregularities by fax to **Level I Sample Exam Comments** at 434.951.5220. Corrections will be printed in the *Candidate Bulletin* and posted on the AIMR website. **No individual replies will be given**.

Sample Examination Structure			
Question	**Topic**	**Percent**	**Minutes**
1–18	Ethical and Professional Standards	15	27
19–36	Quantitative Analysis	15	27
37–50	Economic Analysis	12	21
51–80	Financial Statement Analysis and Corporate Finance	25	45
81–108	Asset Valuation	23	42
109–120	Portfolio Management	10	18
Total		100	180

QUESTIONS 1 THROUGH 18 RELATE TO ETHICAL AND PROFESSIONAL STANDARDS AND ARE ALLOCATED 27 MINUTES.

1. The AIMR Code of Ethics specifically addresses *all* of the following **EXCEPT**:

   A. competence.
   B. integrity and dignity.
   C. independent judgment.
   D. importance of contractual obligations.

2. According to the AIMR Code of Ethics, members must practice, and encourage others to practice, in a professional and ethical manner that will:

   A. reflect credit on members and their profession.
   B. add value for clients, prospects, employers, and employees.
   C. maintain the excellent reputation of AIMR and its members.
   D. encourage talented and ethical individuals to enter the investments profession.

3. George Moses, CFA, analyzes Technicorp for a brokerage company. Extensive study has led Moses to rate Technicorp as a "hold," largely because of increasing competition in the industry. At a recent AIMR Society meeting, Moses discussed Technicorp's prospects with two other analysts. Although the other analysts did not give a reason, both said that Technicorp was about to experience rapid earnings growth. Immediately following the meeting, Moses issued a "buy" recommendation for Technicorp. According to the AIMR *Standards of Practice Handbook,* did Moses violate the AIMR Standards of Professional Conduct?

   A. No.
   B. Yes, because he copied the opinions of others.
   C. Yes, because he did not seek approval of the change from his supervisor.
   D. Yes, because he did not have a reasonable and adequate basis for his recommendation.

4. An AIMR member resides in Country A, where securities laws are *more* strict than the AIMR Standards of Professional Conduct, and does all of his business in Country B, where securities laws are *less* strict than the AIMR Standards. The laws of Country A state that professional conduct is governed by the laws of the locality in which business is conducted. According to the AIMR *Standards of Practice Handbook*, the member has a duty to adhere to:

   A. the laws of Country A.
   B. the laws of Country B.
   C. AIMR Standards of Professional Conduct.
   D. a basic standard of competence and diligence.

5. Wilfred Clark, CFA, accumulated several items of nonpublic information through contacts with computer companies. Although none of the information is "material" individually, Clark concluded, by combining the nonpublic information, that one of the companies will have unexpectedly high earnings in the coming year. According to the AIMR *Standards of Practice Handbook*, Clark:

   A. may not use the nonpublic information.
   B. may use the nonpublic information to make investment recommendations and decisions at any time.
   C. must make reasonable efforts to achieve immediate public dissemination of the nonpublic information.
   D. may use the nonpublic information only after gaining approval from a supervisory analyst attesting to its nonmateriality.

6. The AIMR Standards of Professional Conduct state that a financial analyst shall not, when presenting material to others, "copy or use in substantially the same form, material prepared by another person without acknowledging its use and identifying the name of the author or publisher of such material." The analyst, however, may use information from other sources without acknowledgment if the information:

   A. includes the analyst's own conclusions.
   B. is only being reported in a one-to-one client presentation.
   C. is only being reported to the analyst's employer or associates.
   D. is factual information published in recognized financial and statistical reporting services.

7. The AIMR Standards of Professional Conduct specifically require that an AIMR member must inform his or her employer, in writing, about the Standards only if the member works at a company that:

   A. provides investment advice directly to clients.
   B. employs 25 or more investment professionals.
   C. has not previously employed AIMR members.
   D. has not publicly acknowledged, in writing, the AIMR Standards as part of the company's policies.

8. Susan Roberts, CFA, a portfolio manager for Howard Investment Counsel, received a call from Michael Moore, an institutional broker. Moore called to recommend buying Megamove, an obscure stock traded over-the-counter, as a takeover candidate. In the past, Moore has demonstrated an ability to pick takeover candidates. If she buys the stock, is Roberts violating the AIMR Standards of Professional Conduct involving trading on material nonpublic information?

   A. No.
   B. Yes, because Roberts did not research the stock herself.
   C. Yes, because Roberts is receiving confidential information.
   D. Yes, because Moore and his sources are breaching fiduciary duty and are receiving personal benefits as a result.

9. The AIMR Standards of Professional Conduct prohibit CFA charterholders from making statements misrepresenting their qualifications, their firm's services, or the expected performance of any investment. To which of the following forms of communication are these Standards intended to apply?

	Oral Representation	E-mail
A.	No	No
B.	No	Yes
C.	Yes	No
D.	Yes	Yes

10. According to the AIMR *Standards of Practice Handbook*, which of the following statements about a member's use of clients' brokerage commission is **FALSE**? Client brokerage commissions:

   A. may be directed to pay for the investment manager's operating expenses.
   B. should be used by the member to ensure that fairness to the client is maintained.
   C. should be commensurate with the value of the brokerage and research services received.
   D. may be used by the member to pay for securities research used in managing the client's portfolio.

11. Beth Patrick, a fixed income analyst at a brokerage company, assists her company's traders by developing in-house bond ratings to supplement those of the major bond rating services. The traders use disparities in the ratings to construct profitable investment strategies. Patrick makes inferences from nonmaterial private information and news events, which she reflects in her bond ratings. Patrick's approach:

   A. reflects the mosaic theory.
   B. violates confidentiality rules.
   C. violates insider trading rules.
   D. reflects the misappropriation of information theory.

12. When an AIMR member has a limited number of shares of an initial public offering to distribute, the member would **NOT** violate the AIMR Standards of Professional Conduct by:

A. allocating the shares pro rata to all subscribers for which the issue is appropriate.
B. first filling the orders of individual clients, then filling the orders of institutional clients.
C. first filling the orders of clients who have generated the most commissions during the past year.
D. first filling the orders of those who have been clients of the investment professional for the longest period of time.

13. The AIMR Performance Presentation Standards do **NOT** have as a stated goal to:

A. enhance the professionalism of the securities industry.
B. promote policies that help analysts avoid conflicts of interest.
C. improve the service offered to investment management clients.
D. achieve greater uniformity and comparability among performance disclosures.

14. The corporate finance department of an investment-banking firm decides to compete for the business of ETV Corporation. Knowing that the firm's brokerage department has a "sell" recommendation on ETV, the director of the corporate finance department writes a letter to the director of the brokerage department asking that the recommendation be changed to "buy." According to the AIMR *Standards of Practice Handbook*, the *best* action for the brokerage department to take is to:

A. assign a new analyst to decide if the stock should receive a "buy" recommendation.
B. have the director of the corporate finance department review the recommendation for the stock rating to ensure its accuracy.
C. change the recommendation to "buy" only after receiving written direction from the director of the corporate finance department.
D. remove ETV Corporation from the research universe and put it on a restricted list giving only factual information about the company.

15. The AIMR Performance Presentation Standards do **NOT** address the:

A. calculation of returns.
B. presentation of results.
C. disclosure of conflicts of interest.
D. creation and maintenance of composites.

16. Louis Stark, CFA, is employed in the merger and acquisitions department of an investment firm. His friend, Elizabeth Mackie, CFA, is a portfolio manager in the investment management department of the same firm. Stark is helping a client acquire Gamma Corporation. According to the *AIMR Standards of Practice Handbook*, which of the following is the *most* appropriate action to take involving communication between the two departments?

    A. Stark may tell Mackie about the pending merger if Mackie promises not to release the information to the public.
    B. The investment firm should build a Fire Wall between the merger and acquisitions department and the investment management department.
    C. The investment firm must add Gamma Corporation to its list of stocks that cannot be added to portfolios managed by employees of the investment firm.
    D. Stark may tell Mackie about the pending merger if Mackie promises in advance not to use this information to help make an investment decision about Gamma Corporation.

17. AIMR members with supervisory responsibility are:

    A. not expected to prevent violations of laws, rules, and regulations by non-AIMR member employees.
    B. expected to establish and implement written compliance procedures about applicable statutes, regulations, and provisions of the AIMR Code and Standards.
    C. in compliance with the AIMR Standards after warning an offending employee to stop violating the applicable statutes, regulations, and provisions of the AIMR Code and Standards.
    D. expected to evaluate personally the conduct of their employees concerning applicable statutes, regulations, and provisions of the AIMR Code and Standards on a continuing basis regardless of how many employees they supervise.

18. According to the AIMR *Standards of Practice Handbook*, AIMR members are permitted to:

    A. depend on coworkers, who are AIMR members, to fulfill the obligation of informing employers of the Code and Standards.
    B. use in research reports, without acknowledgment, materials prepared by an AIMR member employed by another company.
    C. be excused for a lack of knowledge of the laws and regulations of countries in which they provide investment services, but not of the country in which they live and work.
    D. waive the requirement to inform their employer, in writing, that AIMR members are obligated to comply with the Code and Standards, if the employer has acknowledged, in writing, adoption of the Code and Standards.

QUESTIONS 19 THROUGH 36 RELATE TO QUANTITATIVE ANALYSIS AND ARE ALLOCATED 27 MINUTES.

19. An analyst gathered the following data:

63.5	96.9	112.3	134.1
66.4	98.3	116.2	138.5
75.6	99.5	116.9	139.8
77.5	100.7	118.3	140.7
84.4	102.0	122.0	143.0
87.6	105.5	122.2	153.9
89.9	108.4	124.5	155.5

In constructing a frequency distribution using five classes, if the first class is "60 up to 80," the class frequency of the third class is:

A. 4.
B. 5.
C. 6.
D. 8.

20. An analyst constructed the following hypothesis test:

H_0: $b = 0$
H_1: $b > 0$

The null hypothesis means that:

A. the dependent variable is sensitive to changes in the independent variable.
B. the independent variable is sensitive to changes in the dependent variable.
C. changes in the dependent variable do not explain changes in the independent variable.
D. changes in the independent variable do not explain changes in the dependent variable.

21. A portfolio of non-dividend-paying stocks earned a geometric mean return of 5 percent between January 1, 1995, and December 31, 2001. The arithmetic mean return for the same period was 6 percent. If the market value of the portfolio at the beginning of 1995 was $100,000, the market value of the portfolio at the end of 2001 was *closest* to:

A. $135,000.
B. $140,710.
C. $142,000.
D. $150,363.

22. An analyst gathered the following data in a frequency distribution:

Class	Frequency
0 up to 10	2
10 up to 20	5
20 up to 30	6
30 up to 40	3

The mean and median of the data in the frequency distribution are *closest* to:

	Mean	Median
A.	21.25	21.67
B.	21.25	25.00
C.	25.00	21.67
D.	25.00	25.00

23. Which of the following statements about standard deviation is **TRUE**? Standard deviation:

A. is the square of the variance.
B. can be a positive or a negative number.
C. is denominated in the same units as the original data.
D. is the arithmetic mean of the squared deviations from the mean.

24. An analyst developed the following probability distribution of the rate of return for a common stock:

Scenario	Probability	Rate of Return
1	0.25	0.08
2	0.50	0.12
3	0.25	0.16

The standard deviation of the rate of return is *closest* to:

A. 0.0200.
B. 0.0267.
C. 0.0283.
D. 0.0400.

25. A stock with a coefficient of variation of 0.50 has a(n):

A. variance equal to half the stock's expected return.
B. expected return equal to half the stock's variance.
C. expected return equal to half the stock's standard deviation.
D. standard deviation equal to half the stock's expected return.

26. Least squares regression assumes that the relationship between the dependent and independent variables is:

A. causal.
B. random.
C. straight-line.
D. economically significant.

27. An individual deposits $10,000 at the beginning of each of the next 10 years, starting today, into an account paying 9 percent interest compounded annually. The amount of money in the account at the end of 10 years will be *closest* to:

A. $109,000.
B. $143,200.
C. $151,900.
D. $165,600.

28. The probability that two or more events will happen concurrently is:

A. joint probability.
B. multiple probability.
C. concurrent probability.
D. conditional probability.

29. An analyst has developed a ratio to identify companies expected to experience declining earnings per share (EPS). Research shows that 70 percent of firms with declining EPS have a negative ratio, while only 20 percent of firms not experiencing a decline in EPS have a negative ratio. The analyst expects that 10 percent of all publicly traded companies will experience a decline in EPS next year. The analyst randomly selects a company and its ratio is negative. Based on Bayes' theorem, the posterior probability that the company will experience an EPS decline next year is *closest* to:

A. 14%.
B. 28%.
C. 30%.
D. 50%.

30. A normal distribution would *least likely* be described as:

A. asymptotic.
B. a discrete probability distribution.
C. a symmetrical or bell-shaped distribution.
D. a curve that theoretically extends from negative infinity to positive infinity.

31. An investment strategy has an expected return of 12 percent and a standard deviation of 10 percent. If investment returns are normally distributed, the probability of earning a return less than 2 percent is *closest* to:

A. 10%.
B. 16%.
C. 32%.
D. 34%.

32. Based on a normal distribution with a mean of 500 and a standard deviation of 150, the *z*-value for an observation of 200 is *closest* to:

A. –2.00.
B. –1.75.
C. 1.75.
D. 2.00.

33. An investor wants to have $1 million when she retires in 20 years. If she can earn a 10 percent annual return, compounded annually, on her investments, the lump-sum amount she would need to invest today to reach her goal is *closest* to:

A. $100,000.
B. $117,459.
C. $148,644.
D. $161,506.

34. If the standard deviation of a population is 100 and a sample size taken from that population is 64, the standard error of the sample means is *closest* to:

A. 0.08.
B. 1.56.
C. 6.40.
D. 12.50.

35. In hypothesis testing, a Type II error is:

A. rejecting the null hypothesis when it is true.
B. rejecting the null hypothesis when it is false.
C. accepting the null hypothesis when it is true.
D. accepting the null hypothesis when it is false.

36. An investment promises to pay $100 one year from today, $200 two years from today, and $300 three years from today. If the required rate of return is 14 percent, compounded annually, the value of this investment today is *closest* to:

A. $404.
B. $444.
C. $462.
D. $516.

QUESTIONS 37 THROUGH 50 RELATE TO ECONOMIC ANALYSIS AND ARE ALLOCATED 21 MINUTES.

37. According to new classical economists, financing a reduction in current taxes by government borrowing will *most likely* result in aggregate demand being:

    A. decreased.
    B. increased.
    C. unaffected.
    D. increased or reduced, depending on interest rate levels.

38. The crowding-out model suggests that persistent, large government budget deficits are *most likely* to be associated with a(n):

    A. increase in net exports.
    B. decrease in private spending.
    C. decrease in the real rate of interest.
    D. decrease in demand for loanable funds.

39. Based on historical data and assuming less-than-full employment, periods of sharp acceleration in the growth rate of the money supply tend to be associated initially with:

    A. periods of economic recession.
    B. an increase in the velocity of money.
    C. a rapid growth of gross domestic product.
    D. reductions in real gross domestic product.

40. When the inflationary side effects of expansionary government macroeconomic policies are anticipated quickly, the *primary* impact of a demand stimulus is a(n):

    A. increase in output.
    B. increase in the price level.
    C. decrease in unemployment.
    D. increase in aggregate supply.

41. According to the adaptive expectations hypothesis, when the inflation rate is accelerating, individuals would be *most likely* to:

    A. overestimate the future inflation rate.
    B. underestimate the future inflation rate.
    C. assume the future inflation rate will eventually decline.
    D. assume the future inflation rate will continue to accelerate.

42. Which of the following is *least likely* to explain why government regulation is usually a sub-optimal response to monopolistic markets?

A. Regulatory agencies often reflect the views of special interests.
B. Owners of regulated companies can lack the incentive to operate at a low cost.
C. Regulatory agencies may lack information about the true costs and profits of companies.
D. Regulatory agencies can typically enforce marginal cost pricing but not average cost pricing.

43. The law of diminishing marginal utility states that the:

A. marginal return derived from making successive units of investment eventually declines.
B. additional satisfaction derived from consuming successive units of a product eventually declines.
C. additional satisfaction derived from consuming successive units of a product is limited by the amount of disposable income.
D. additional satisfaction derived from consuming successive units of a product can be increased by reducing the product price.

44. For most products, the long-run price elasticity of demand is:

A. less than the short-run price elasticity of demand.
B. greater than the short-run price elasticity of demand.
C. more likely to increase than is the short-run price elasticity of demand.
D. more likely to decrease than is the short-run price elasticity of demand.

45. Which of the following statements *best* describes the relationship between the amount of accounting profits (assuming historical-cost-based accounting) and the amount of economic profits of a company?

A. Accounting profits and economic profits are similar.
B. Economic profits are greater than accounting profits.
C. Accounting profits are greater than economic profits.
D. No systematic relationship exists between accounting and economic profits.

46. A downward shift in a company's average total cost curve is *least likely* to result from:

A. a decrease in taxes.
B. a decrease in historical costs.
C. a decrease in resource prices.
D. the use of improved technology.

47. Interest rate parity describes relationships among current:

A. interest rates and expected future interest rates.
B. interest rates, expected future interest rates, and spot/forward exchange rate differentials.
C. interest rate differentials between countries and spot/forward foreign exchange rate differentials.
D. interest rate differentials between countries and expected inter-country future interest rate differentials.

48. A profit-seeking company is *most likely* to continue production in the short run if the product price at least exceeds:

A. total cost per unit of output.
B. fixed cost per unit of output.
C. average cost per unit of output.
D. variable cost per unit of output.

49. If the effects are fully anticipated, what impact is expansionary monetary policy *most likely* to have on real economic activity?

A. Little or no impact.
B. Large expansionary impact.
C. Moderate expansionary impact.
D. Moderate contractionary impact.

50. The *most likely* objective of government regulation of a natural monopoly is to:

A. expand output so consumer demand is fully met.
B. provide incentives for potential competitors to enter the market.
C. reduce the product price to the supplier's marginal cost per unit of output.
D. reduce the product price to the supplier's average total cost per unit of output.

QUESTIONS 51 THROUGH 80 RELATE TO FINANCIAL STATEMENT ANALYSIS AND CORPORATE FINANCE AND ARE ALLOCATED 45 MINUTES.

Assume U.S. GAAP (generally accepted accounting principles) apply unless otherwise noted.

51. Software development costs incurred before and after a product is proven economically feasible are:

A. expensed both before and after.
B. capitalized both before and after.
C. expensed before and capitalized after.
D. capitalized before and expensed after.

52. A company's current ratio is 2.0. If the company uses cash to retire notes payable that are due within one year, would this transaction *most likely* increase or decrease the current ratio and asset turnover ratio, respectively?

	Current ratio	Asset turnover ratio
A.	Increase	Increase
B.	Increase	Decrease
C.	Decrease	Increase
D.	Decrease	Decrease

53. Which of the following statements about impairment and appreciation of the value of long-lived assets is **TRUE**? Managers:

A. may recognize gains and losses due to impaired assets only when those assets are sold.
B. have considerable discretion about the timing and amount of recognized increase in the value of appreciated assets.
C. have considerable discretion about the timing and amount of impairment recognition for assets the company intends to keep.
D. may write up the value of previously-impaired assets to the original book value prior to impairment, if the asset recovers its value.

54. Two companies are identical except for substantially different dividend payout ratios. After several years, the company with the lower dividend payout ratio is *most likely* to have:

A. lower stock price.
B. higher debt/equity ratio.
C. less rapid growth of earnings per share.
D. more rapid growth of earnings per share.

55. An analyst should consider whether a company acquired assets through a capital lease or an operating lease because the company may structure:

A. operating leases to look like capital leases to enhance the company's leverage ratios.
B. operating leases to look like capital leases to enhance the company's liquidity ratios.
C. capital leases to look like operating leases to enhance the company's leverage ratios.
D. capital leases to look like operating leases to enhance the company's liquidity ratios.

56. A lease is *most likely* to be classified as an operating lease if the:

A. lease contains a bargain purchase option.
B. collectibility of lease payments by the lessor is unpredictable.
C. term of the lease is more than 75 percent of the estimated economic life of the leased property.
D. present value of the minimum lease payments equals or exceeds 90 percent of the fair value of the leased property.

57. On January 1, a company entered into a capital lease resulting in an obligation of $10,000 being recorded on the balance sheet. The lessor's implicit interest rate was 12 percent. At the end of the first year of the lease, the cash flow from financing activities section of the lessee's statement of cash flows showed a use of cash of $1,300 applicable to the lease. The amount the company paid the lessor in the first year of the lease was *closest* to:

A. $1,200.
B. $1,300.
C. $2,500.
D. $10,000.

58. An analyst applied the DuPont System to the following data for a company:

- Equity turnover 4.2
- Net profit margin 5.5%
- Total asset turnover 2.0
- Dividend payout ratio 31.8%

The company's return on equity is *closest* to:

A. 1.3%.
B. 11.0%.
C. 23.1%.
D. 63.6%.

59. Which of the following is reported as debt on the balance sheet?

A. Preferred stock.
B. Operating leases.
C. Investment in affiliates.
D. Minority interest in consolidated subsidiaries.

60. Which of the following is **NOT** an example of off-balance-sheet financing?

A. Participating in joint ventures.
B. Using take-or-pay arrangements.
C. Issuing convertible preferred stock.
D. Selling accounts receivable to an unrelated party with limited recourse.

61. An analyst gathered the following information about a company for a fiscal year:

• Cash paid for land	\$30,000
• Depreciation expense	\$10,000
• Cash paid for salaries	\$60,000
• Cash paid to suppliers	\$40,000
• Cash collected from customers	\$150,000
• Cash paid for interest to bondholders	\$20,000
• Cash collected for sale of equipment	\$75,000

If the company is not subject to income taxes, the net cash flow from operations for the fiscal year is *closest* to:

A. \$20,000.
B. \$30,000.
C. \$50,000.
D. \$75,000.

62. During a period of rising price levels, the financial statements of a company using FIFO instead of LIFO for inventory accounting will show:

A. lower total assets and lower net income.
B. lower total assets and higher net income.
C. higher total assets and lower net income.
D. higher total assets and higher net income.

63. Delta Corp., a highly profitable company, purchased a new asset on January 1, 2001, for $1,000,000. The following information applies to the asset:

- Depreciated straight-line over 10 years with no salvage value
- Three-year MACRS depreciation class, with first year MACRS factor = 0.333
- Tax rate of 40%

The effect of the asset purchase on Delta's deferred tax liability for 2001 is *closest* to a:

A. $233,000 decrease.
B. $93,200 decrease.
C. $93,200 increase.
D. $233,000 increase.

64. An analyst gathered the following information about a company whose fiscal year end is December 31:

- Net income for the year was $10.5 million.
- Preferred stock dividends of $2 million were paid for the year.
- Common stock dividends of $3.5 million were paid for the year.
- 20 million shares of common stock were outstanding on January 1, 2001.
- The company issued 6 million new shares of common stock on April 1, 2001.
- The capital structure does not include any potentially dilutive convertible securities, options, warrants, or other contingent securities.

The company's basic earnings per share for 2001 was *closest* to:

A. $0.35.
B. $0.37.
C. $0.43.
D. $0.46.

65. If a company recognizes revenue earlier than justified under accrual accounting, which of the following *best* describes the impact on accounts receivable and inventory, respectively?

	Accounts receivable	Inventory
A.	Overstated	Overstated
B.	Overstated	Understated
C.	Understated	Overstated
D.	Understated	Understated

66. When analyzing a company's leverage and liquidity, an analyst should consider deferred tax liabilities on a company's balance sheet:

A. as equity.
B. as long-term debt.
C. as short-term debt.
D. on a case-by-case basis.

67. An analyst gathered the following information about a company for a fiscal year:

Quarter	Purchases in Units	Cost per Unit	Purchases in Dollars
1	200	$22	$ 4,400
2	300	24	7,200
3	300	26	7,800
4	200	28	5,600
Total	1,000		$25,000

- Sales for the fiscal year were 800 units
- Inventory remaining at the end of the fourth quarter was 600 units
- Inventory at the beginning of the first quarter was 400 units at $20 per unit

Reported inventory at the end of the fourth quarter using LIFO and FIFO, respectively, would be *closest* to:

	LIFO	FIFO
A.	$12,400	$14,200
B.	$12,400	$15,800
C.	$14,200	$15,800
D.	$15,800	$14,200

68. In the Statement of Cash Flows, which of the following *best* describes whether interest received and interest paid, respectively, are classified as operating or investing cash flows?

	Interest received	Interest paid
A.	Operating	Operating
B.	Operating	Investing
C.	Investing	Operating
D.	Investing	Investing

Use the following data to answer Questions 69 to 71.

Brown Company provided the following financial statements:

Brown Company Income Statement Year Ending December 31, Year 2	
Sales	$19,000
Cost of goods sold	12,000
Depreciation expense	1,500
Selling, general, and administrative expense	1,000
Interest expense	1,200
Taxable income	3,300
Taxes	1,440
Net income	$ 1,860
Other Data for Year 2	
Dividends paid	$864
Sale of fixed assets	0

Brown Company Balance Sheet as of December 31		
	Year 1	Year 2
Assets		
Cash	$ 2,000	$ 2,200
Accounts receivable	3,000	3,500
Inventory	4,000	4,200
Total current assets	9,000	9,900
Fixed assets at cost	22,000	24,300
Accumulated depreciation	9,000	10,500
Net fixed assets	13,000	13,800
Total assets	$22,000	$23,700
Liabilities and equity		
Accruals	$ 1,600	$ 1,760
Accounts payable	2,400	2,640
Total current liabilities	4,000	4,400
Notes payable	11,000	11,800
Long-term debt	4,000	3,204
Common stock	2,000	2,300
Retained earnings	1,000	1,996
Total liabilities and equity	$22,000	$23,700

69. Brown Company’s financing cash flow for Year 2 was *closest* to:

A. –$860.
B. –$560.
C. $4.
D. $304.

70. Brown Company’s quick ratio at the end of Year 2 was *closest* to:

A. 0.50.
B. 0.83.
C. 1.30.
D. 2.12.

71. Brown Company's operating profit return on total assets for Year 2 was *closest* to:

A. 4%.
B. 8%.
C. 13%.
D. 20%.

72. Which of the following expenditures to build a new plant is *least likely* to be capitalized as property, plant, and equipment?

A. Interest costs during construction.
B. Freight expenses incurred shipping new machinery to the plant.
C. Increases in the fair value of the plant assets during construction.
D. Personnel expenses incurred to set up the new machinery before the plant begins operations.

73. In 2001, Baxter Company owned machinery that became permanently impaired. As of December 31, 2001, the machinery had a book value of $800,000 and a market value of $100,000. Baxter also owned a warehouse that, as of December 31, 2001, had a book value of $1,200,000 and a market value of $2,500,000. Baxter:

A. must recognize both the loss on the machinery and the gain on the warehouse in 2001.
B. may recognize the loss on the machinery and the gain on the warehouse in 2001 or in later years.
C. must recognize the loss on the machinery in 2001, but may not recognize the gain on the warehouse until it is sold.
D. may recognize the loss on the machinery in 2001 or in later years, but may not recognize the gain on the warehouse until it is sold.

74. Which of the following *best* describes how issuing zero-coupon bonds affects a company's financial statements? The company's:

A. net income is overstated every year until maturity.
B. cash flow from operations decreases for the life of the bond.
C. cash flow from investing decreases during the year of maturity.
D. cash flow from financing increases during the year of issuance.

75. An analyst gathered the following information about a fixed asset purchased by a company:

- Purchase price $12,000,000
- Estimated useful life 5 years
- Estimated salvage value $2,000,000

Using the double-declining-balance depreciation method, the company's depreciation expense in Year 2 will be *closest* to:

A. $2,000,000.
B. $2,400,000.
C. $2,880,000.
D. $7,680,000.

76. The following information applies to a company's preferred stock:

• Current price	$47.00 per share
• Par value	$50.00 per share
• Annual dividend	$3.50 per share

If the company's marginal corporate tax rate is 34 percent, the after-tax cost of preferred stock is *closest* to:

A. 4.62%.
B. 4.91%.
C. 7.00%.
D. 7.45%.

77. An analyst gathered the following information about a manufacturing company:

• Expected cash dividends one year from today	$6.00
• Expected growth rate	7%
• Common stock (current market price)	$72.00
• Company tax rate	34%

The company's after-tax cost of retained earnings is *closest* to:

A. 10.12%.
B. 14.79%.
C. 15.33%.
D. 15.92%.

78. When analyzing a proposed corporate investment, which of the following should **NOT** be considered as an *incremental* cash flow?

A. Sunk costs.
B. Externalities.
C. Opportunity costs.
D. Changes in net working capital.

79. Financial leverage differs from operating leverage because financial leverage accounts for a company's:

A. use of debt.
B. variability in sales.
C. use of plant and equipment.
D. variability in fixed operating costs.

80. Graham Industries has two separate divisions: the Farm Equipment Division and the Household Products Division. Each division accounts for about 50 percent of the company's revenues and assets. Managers now want to enter the toy industry. In assessing the attractiveness of investment projects in the toy industry, Graham should use a required rate of return based on:

A. a required return computed for the toy industry.
B. the required rate of return on the market portfolio.
C. Graham's current weighted-average cost of capital.
D. a weighted-average required return computed for the farm equipment, household products, and toy industries.

QUESTIONS 81 THROUGH 108 RELATE TO ASSET VALUATION AND ARE ALLOCATED 42 MINUTES.

81. An analyst gathered the following data about stocks J, K, and L, which together form a value-weighted index:

	December 31, Year 1		December 31, Year 2	
Stock	Price	Shares Outstanding	Price	Shares Outstanding
J	$40	10,000	$50	10,000
K	$30	6,000	$20	12,000*
L	$50	9,000	$40	9,000

*2 for 1 stock split

The ending value-weighted index (base index = 100) is *closest* to:

A. 92.31.
B. 93.64.
C. 106.80.
D. 108.33.

82. The divisor for the Dow Jones Industrial Average (DJIA) is *most likely* to decrease when a stock in the DJIA:

A. has a stock split.
B. has a reverse split.
C. pays a cash dividend.
D. is removed and replaced.

83. Using the following data and the direct capitalization approach, an analyst estimated the market value of an income-producing property to be $2,750,000:

- Annual gross potential rental income $400,000
- Annual property operating expenses $100,000
- Annual vacancy and collection losses $50,000

Which of the following capitalization rates is *closest* to the rate the analyst used to calculate the market value of the property?

A. 9.1%.
B. 10.9%.
C. 12.7%.
D. 14.6%.

84. In futures trading, the minimum level to which an equity position may fall before requiring additional margin is the:

A. initial margin.
B. variation margin.
C. cash flow margin.
D. maintenance margin.

85. A fixed income manager wants to take advantage of a forecast decline in interest rates over the next several months. Which of the following combinations of maturity and coupon rate would *most likely* result in the largest increase in portfolio value?

	Maturity	Coupon rate
A.	2015	10%
B.	2015	12%
C.	2030	10%
D.	2030	12%

86. A silver futures contract requires the seller to deliver 5,000 Troy ounces of silver. An investor sells one July silver futures contract at a price of $8 per ounce, posting a $2,025 initial margin. If the required maintenance margin is $1,500, the price per ounce at which the investor would first receive a maintenance margin call is *closest* to:

A. $5.92.
B. $7.89.
C. $8.11.
D. $10.80.

87. Which of the following statements about the value of a call option at expiration is **FALSE**?

A. The short position in the same call option can result in a loss if the stock price exceeds the exercise price.
B. The value of the long position equals zero or the stock price minus the exercise price, whichever is higher.
C. The value of the long position equals zero or the exercise price minus the stock price, whichever is higher.
D. The short position in the same call option has a zero value for all stock prices equal to or less than the exercise price.

88. An analyst gathered the following information about a stock market index:

• Required rate of return	16%
• Expected dividend payout ratio	30%
• Expected return on equity investment	20%

The expected price/earnings (P/E) ratio of the index is *closest* to:

A. 3.5.
B. 7.0.
C. 15.0.
D. 35.0.

89. The current price of an asset is 75. A three-month, at-the-money American call option on the asset has a current value of 5. At what value of the asset will a covered call writer break even at expiration?

A. 70.
B. 75.
C. 80.
D. 85.

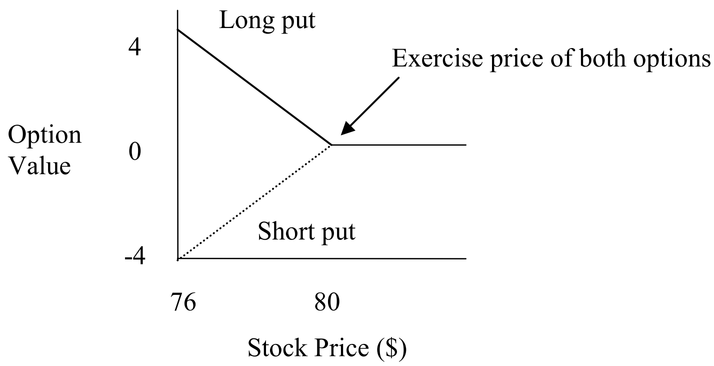
90. An analyst gathered the following information about a common stock:

• Annual dividend per share	$2.10
• Risk-free rate	7%
• Risk premium for this stock	4%

If the annual dividend is expected to remain at $2.10, the value of the stock is *closest* to:

A. $19.09.
B. $30.00.
C. $52.50.
D. $70.00.

91. The following diagram shows the value of a put option at expiration:



Ignoring transaction costs, which of the following statements about the value of the put option at expiration is **TRUE**?

A. The value of the short position in the put is $4 if the stock price is $76.
B. The value of the long position in the put is –$4 if the stock price is $76.
C. The long put has value when the stock price is below the $80 exercise price.
D. The value of the short position in the put is zero for stock prices equaling or exceeding $76.

92. A company's return on equity is greater than its required rate of return on equity. The earnings multiplier (P/E) for that company's stock is *most likely* to be positively related to the:

A. risk-free rate.
B. market risk premium.
C. earnings retention ratio.
D. stock's Capital Asset Pricing Model beta.

93. The current price of an asset is 100. An out-of-the-money American put option with an exercise price of 90 is purchased along with the asset. If the breakeven point for this hedge is at an asset price of 114 at expiration, then the value of the American put at the time of purchase must have been:

A. 0.
B. 4.
C. 10.
D. 14.

94. An analyst gathered the following information about a company:

• 2001 net sales	$10,000,000
• 2001 net profit margin	5.0%
• 2002 expected sales growth	–15.0%
• 2002 expected profit margin	5.4%
• 2002 expected common stock shares outstanding	120,000

The company's 2002 expected earnings per share is *closest* to:

A. $3.26.
B. $3.72.
C. $3.83.
D. $4.17.

95. An industry is currently growing at twice the rate of the overall economy. New competitors are entering the industry and the formerly high profit margins have begun to decline. The life cycle stage that best characterizes this industry is:

A. mature growth.
B. pioneering development.
C. rapid accelerating growth.
D. stabilization and market maturity.

96. Which of the following statements about "short selling" is **TRUE?**

A. A short position may be hedged by writing call options.
B. A short position may be hedged by purchasing put options.
C. Short sellers may be subject to margin calls if the stock price increases.
D. Stocks that pay large dividends should be sold short before the ex-dividend date and bought afterward to take advantage of the large price decline in a short time period.

97. Two parties enter a three-year, plain-vanilla interest rate swap agreement to exchange the LIBOR rate for a 10 percent fixed rate on $10 million. LIBOR is 11 percent now, 12 percent at the end of the first year, and 9 percent at the end of the second year. If payments are in arrears, which of the following characterizes the net cash flow to be received by the fixed-rate payer?

A. $100,000 at the end of year 2.
B. $100,000 at the end of year 3.
C. $200,000 at the end of year 2.
D. $200,000 at the end of year 3.

98. The structure of an investment company is *least likely* to be characterized by:

A. a corporate form of organization.
B. investment of a pool of funds from many investors in a portfolio of investments.
C. an annual management fee ranging from 3 to 5 percent of the total value of the fund.
D. a board of directors who hires a separate investment management company to manage the portfolio of securities and to handle other administrative duties.

99. A market anomaly refers to:

A. an exogenous shock to the market that is sharp but not persistent.
B. a price or volume event that is inconsistent with historical price or volume trends.
C. a trading or pricing structure that interferes with efficient buying and selling of securities.
D. price behavior that differs from the behavior predicted by the Efficient Market Hypothesis.

100. Interest rate sensitivity for bonds with embedded options is *most accurately* measured by:

A. Convexity.
B. Effective duration.
C. Modified duration.
D. Macaulay duration.

101. An analyst gathered the following spot rates:

Time (years)	Annual Spot Rate
1	15.0%
2	12.5%
3	10.0%
4	7.5%

The one-year forward rate two years from now is *closest* to:

A. –4.91%.
B. 5.17%.
C. 10.05%.
D. 15.74%.

102. A newly issued ten-year option-free bond is valued at par on June 1, 2000. The bond has an annual coupon of 8.0 percent. On June 1, 2003, the bond has a yield to maturity of 7.1 percent. The first coupon is reinvested at 8.0 percent and the second coupon is reinvested at 7.0 percent. The future price of the bond on June 1, 2003, is *closest* to:

A. 100.0% of par.
B. 102.5% of par.
C. 104.8% of par.
D. 105.4% of par.

103. Omega Corp. has outstanding a $100 million, 9% coupon bond issue that is refund protected until July 1, 2010. This issue:

A. is noncallable.
B. is call protected until July 1, 2010.
C. currently may be redeemed with funds from general operations.
D. currently may be redeemed but only if refunded by an issue with a lower cost.

104. The embedded option that is *least likely* to be a benefit to the issuer of debt securities is the:

A. floor on a floater.
B. right to call the issue.
C. accelerated sinking fund provision.
D. right of the underlying borrowers in a pool of loans to repay an amount in excess of the scheduled principal payment.

105. The interest rate risk of a noncallable bond is *most likely* to be positively related to the:

A. risk free rate.
B. bond's coupon rate.
C. bond's time to maturity.
D. bond's yield to maturity.

106. An analyst determines the following information about a semiannual coupon bond (par = $1,000):

• Par value	$1,000
• Modified duration	10
• Current price	$800
• Yield to maturity (YTM)	8%

If the YTM increases to 9 percent, the predicted decrease in price, using the duration concept, is *closest* to:

A. $80.00.
B. $77.67.
C. $76.92.
D. $75.56.

107. A three-year option-free bond with an 9 percent annual coupon rate has a yield to maturity of 9 percent. One- and two-year spot rates are 6.5 percent and 7.0 percent, respectively. The three-year spot rate is *closest* to:

A. 6.4%.
B. 8.1%.
C. 9.0%.
D. 9.2%.

108. If an investor's required return is 12 percent, the value of a 10-year maturity zero-coupon bond with a maturity value of $1,000 is *closest* to:

A. $312.
B. $688.
C. $1,000.
D. $1,312.

QUESTIONS 109 THROUGH 120 RELATE TO PORTFOLIO MANAGEMENT AND ARE ALLOCATED 18 MINUTES.

109. Which of the following is *least likely* to affect the required rate of return on an investment?

A. Real risk free rate.
B. Asset risk premium.
C. Expected rate of inflation.
D. Investors' composite propensity to consume.

110. In the context of the security market line (SML), which of the following statements *best* characterizes the relationship between risk and the required rate of return for an investment?

A. The slope of the SML indicates the risk per unit of return for a given individual investor.
B. A parallel shift in the SML occurs in response to a change in the attitudes of investors toward risk.
C. A movement along the SML shows a change in the risk characteristics of a specific investment, such as a change in its business risk or financial risk.
D. A change in the slope of the SML reflects a change in market conditions, such as ease or tightness of monetary policy or a change in the expected rate of inflation.

111. An individual investor's investment objectives should be expressed in terms of:

A. risk and return.
B. capital market expectations.
C. liquidity needs and time horizon.
E. tax factors and legal and regulatory constraints.

112. Which of the following statements about the security market line (SML) is **FALSE**?

A. Properly valued assets plot exactly on the SML.
B. The SML leads all investors to invest in the same portfolio of risky assets.
C. The SML provides a benchmark for evaluating expected investment performance.
D. The SML is a graphic representation of the relationship between expected return and beta.

113. According to the provisions of a typical corporate defined-benefit pension plan, the employer is responsible for:

A. paying benefits to retired employees.
B. investing in conservative fixed income assets.
C. counseling employees in the selection of asset classes.
D. maintaining an actuarially determined, fully-funded pension plan.

114. A U.S. investor who buys Japanese bonds will *most likely* maximize his return if interest rates:

A. fall and the dollar weakens relative to the yen.
B. fall and the yen weakens relative to the dollar.
C. rise and the dollar weakens relative to the yen.
D. rise and the yen weakens relative to the dollar.

115. Arbitrage pricing theory (APT) and the capital asset pricing model (CAPM) are *most* similar with respect to their assumption that:

A. security returns are normally distributed.
B. a mean-variance efficient market portfolio exists and contains all risky assets.
C. an asset's price is primarily determined by its covariance with one dominant factor.
D. unique risk factors are independent and will be diversified away in a large portfolio.

116. Which of the following statements *best* reflects the importance of the asset allocation decision to the investment process? The asset allocation decision:

A. helps the investor decide on realistic investment goals.
B. identifies the specific securities to include in a portfolio.
C. determines most of the portfolio's returns and volatility over time.
D. creates a standard by which to establish an appropriate investment time horizon.

117. An analyst gathered the following information about a 7% coupon foreign bond:

• Initial price	100
• Holding period	1 year
• End of holding period price	96
• Foreign currency appreciation during holding period	6%

The bond's total dollar return for the holding period is *closest* to:

A. 3.0%.
B. 3.3%.
C. 9.2%.
D. 17.7%.

118. Which of the following is **NOT** an implication of risk aversion for the investment process?

A. The security market line is upward sloping.
B. The promised yield on AAA-rated bonds is higher than on A-rated bonds.
C. Investors expect a positive relationship between expected return and expected risk.
D. Investors prefer portfolios that lie on the efficient frontier to other portfolios with equal rates of return.

119. An investor is considering adding another investment to a portfolio. To achieve the maximum diversification benefits, the investor should add an investment that has a correlation coefficient with the existing portfolio *closest* to:

A. −1.0.
B. −0.5.
C. 0.0.
D. +1.0.

120. In the context of capital market theory, unsystematic risk:

A. is described as unique risk.
B. refers to nondiversifiable risk.
C. remains in the market portfolio.
D. refers to the variability in all risky assets caused by macroeconomic and other aggregate market-related variables.

GUIDELINE ANSWERS FOR QUESTIONS RELATING TO ETHICAL AND PROFESSIONAL STANDARDS.

1. D
   LOS: Study Session 1–1

   Reference: *Standards of Practice Handbook*, 8th ed., p. 1.

2. A
   LOS: Study Session 1–1

   Reference: *Standards of Practice Handbook*, 8th ed., p. 1.

3. D
   LOS: Study Session 1–2–IV

   Reference: *Standards of Practice Handbook*, 8th ed., p. 65.

4. C
   LOS: Study Session 1–2–I

   Reference: *Standards of Practice Handbook*, 8th ed., pp. 10–11.

5. B
   LOS: Study Session 1–2–V

   Reference: *Standards of Practice Handbook*, 8th ed., pp. 143–152.

6. D
   LOS: Study Session 1–2–II

   Reference: *Standards of Practice Handbook*, 8th ed., p. 29.

7. D
   LOS: Study Session 1–2–III

   Reference: *Standards of Practice Handbook*, 8th ed., pp. 37–38.

8. A
   LOS: Study Session 1–2–V

   Reference: *Standards of Practice Handbook*, 8th ed., pp. 145–149.

9. D
   LOS: Study Session 1–2–IV

   Reference: *Standards of Practice Handbook*, 8th ed., pp. 131–132.

10. A
LOS: Study Session 1–2–IV

Reference: *Standards of Practice Handbook*, 8^{th} ed., pp. 91–92.

11. A
LOS: Study Session 1–3–b

Reference: *Standards of Practice Handbook*, 8^{th} ed., pp. 228–231.

12. A
LOS: Study Session 1–3–b

Reference: *Standards of Practice Handbook*, 8^{th} ed., pp. 107–109.

13. B
LOS: Study Session 1–4–a

Reference: *AIMR Performance Presentation Standards*^{SM} *Handbook*, 2^{nd} ed., in *2002 CFA Level I Candidate Readings*, p. 3.

14. D
LOS: Study Session 1–3–a

Reference: *Standards of Practice Handbook*, 8^{th} ed., pp. 79, 84.

15. C
LOS: Study Session 1–4–c

Reference: *AIMR Performance Presentation Standards*^{SM} *Handbook*, 2^{nd} ed., in *2002 CFA Level I Candidate Readings*, pp. 11–19.

16. B
LOS: Study Session 1–3–b

Reference: *Standards of Practice Handbook*, 8^{th} ed., pp. 149–151, 232–235.

17. B
LOS: Study Session 1–2–III

Reference: *Standards of Practice Handbook*, 8^{th} ed., p. 57.

18. D
LOS: Study Session 1–3–b

Reference: *Standards of Practice Handbook*, 8^{th} ed., pp. 12, 13, 29, 37 and 38.

GUIDELINE ANSWERS FOR QUESTIONS RELATING TO QUANTITATIVE ANALYSIS.
*Page references for answers will be printed in the *Candidate Bulletin* and posted on the AIMR website.

19. D
LOS: Study Session 2–1–B–d

The third class is "100 up to 120." There are 8 observations in this range.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

20. D
LOS: Study Session 3–1–B–b

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

21. B
LOS: Study Session 2–1–B–j

There are seven annual periods between January 1, 1995 and December 31, 2001.
Market value end of 2001
$EMV = BMV \times (1+GM)^n$
$= \$100,000 \times (1.05)^7$
$= \$140,710$

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

22. A
LOS: Study Session 2–1–B–i

Calculation of the mean:

$$\overline{X} = \frac{\sum fX}{n}$$

$$= \frac{(5\times2)(15\times5)(25\times6)(35\times3)}{16}$$

= 21.25

Calculation of the median:
With a total of 16 observations, the median observation is the eighth one. Assuming an equal distribution of observations within the group, the eighth observation is 1/6 of the way between 20 and 30, or 21.67.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis*. *

23. C
LOS: Study Session 2–1–B–k

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis*. *

24. C
LOS: Study Session 2–1–B–k

Expected value = $0.25 \times 0.08 + 0.50 \times 0.12 + 0.25 \times 0.16 = 0.12$.
Variance = $0.25 \times (0.08–0.12)^2 + 0.50 \times (0.12–0.12)^2 + 0.25 \times (0.16–0.12)^2 = 0.0008$.
Standard deviation = $(0.0008)^{1/2} = 0.0283$.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis*. *

25. D
LOS: Study Session 2–1–B–m

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis*. *

26. C
LOS: Study Session 3–1–C–j

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis*. *

27. D
LOS: Study Session 2–1–A-c

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

28. A
LOS: Study Session 2–1–C–f

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

29. B
LOS: Study Session 2–1–C–t

$$P(A_1 \mid B) = \frac{P(A_1) \times P(B \mid A_1)}{[P(A_1) \times P(B \mid A_1)] + [P(A_2) \times P(B \mid A_2)]}$$

$$= \frac{(0.10)(0.70)}{[(0.10)(0.70)] + [(0.90)(0.20)]}$$

= 0.28, or 28%,

where A_1 = EPS decline
A_2 = no EPS decline
B = negative ratio.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

30. B
LOS: Study Session 2–1–D–l

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

31. B
LOS: Study Session 2–1–D–o

68% of the returns fall within ±1 standard deviation of the mean. Therefore,
(100% – 68%) ÷ 2
= 32% ÷ 2
= 16%.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

32. A
LOS: Study Session 2–1–D–o

$$z = \frac{X - \mu}{\sigma}$$

= (200–500) ÷ 150
= –2.00.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

33. C
LOS: Study Session 2–1–A–a

$$PV = \frac{FV_n}{(1+i)^n}$$

$$= \frac{\$1{,}000{,}000}{(1+0.10)^{20}}$$

= $148,644.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

34. D

LOS: Study Session 3–1–A–g

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

$$= \frac{100}{\sqrt{64}}$$

= 12.50.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

35. D

LOS: Study Session 3–1–B–g

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

36. B

LOS: Study Session 2–1–A–g

$$PV = \sum_{t=1}^{n} CF_t \left(\frac{1}{1+i}\right)^t$$

= \$100 × 0.8772 + \$200 × 0.7695 + \$300 × 0.6750

= \$444.10.

Reference: DeFusco, McLeavey, Pinto, Runkle, *Quantitative Methods for Investment Analysis.* *

GUIDELINE ANSWERS FOR QUESTIONS RELATING TO ECONOMIC ANALYSIS.

37. C
LOS: Study Session 4–1–A–a

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 301–303.

38. B
LOS: Study Session 4–1–A–c

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 299–301.

39. C
LOS: Study Session 4–1–C–d

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., p. 357–359.

40. B
LOS: Study Session 4–1–D–a

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., p. 771–772.

41. B
LOS: Study Session 4–1–D–b

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 390–392.

42. D
LOS: Study Session 5–1–E–f

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 627–630.

43. B
LOS: Study Session 5–1–A–a

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 497–498.

44. B
LOS: Study Session 5–1–A–c

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 511–512.

45. C
LOS: Study Session 5–1–B–b

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., p. 535–536.

46. B
LOS: Study Session 5–1–B–f

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 548–550.

47. C
LOS: Study Session 6–2–k

Reference: Shapiro, *Foundations of Multinational Financial Management*, 3rd ed., in *2002 CFA Level I Candidate Readings*, p. 46.

48. D
LOS: Study Session 5–1–C–d

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 564–566.

49. A
LOS: Study Session 4–1–C–c

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 365–366.

50. D
LOS: Study Session 5–1–E–f

Reference: Gwartney, Stroup, Sobel, *Economics*, 9th ed., pp. 627–629.

GUIDELINE ANSWERS FOR QUESTIONS RELATING TO FINANCIAL STATEMENT ANALYSIS AND CORPORATE FINANCE.

51. C
LOS: Study Session 9–1–B–c

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 338–340.

52. A
LOS: Study Session 8–1–a

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management,* 6th ed., pp. 391-392, 395-396.

53. C
LOS: Study Session 9–1–C–e, f

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 398–403.

54. D
LOS: Study Session 8–1–a

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 412–413.

55. C
LOS: Study Session 10–1–C–c

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., p. 538.

56. B
LOS: Study Session 10–1–C–a

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 534–537.

57. C
LOS: Study Session 10–1–C–b

Financing section shows principal reduction only. Rental payment consists of interest plus principal.
= $\$10{,}000 \times 0.12 + \$1300$
= $\$1200 + \$1300$
= $\$2500$.

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., p. 540.

58. C
LOS: Study Session 8–1–b

ROE = Equity turnover × Net profit margin
= $4.2 \times 5.5\%$
= 23.1%.

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 396–397, 400.

59. D
LOS: Study Session 7–1–h

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 70–71.

60. C
LOS: Study Session 10–1–C–d

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 548–556.

61. B
LOS: Study Session 7–3–e, f

Net cash flow from operations = Cash collected from customers – Cash paid for salaries – Cash paid to suppliers – Cash paid for interest to bondholders
= $\$150{,}000 – \$60{,}000 – \$40{,}000 – \$20{,}000$
= $\$30{,}000$.

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., p. 92.

62. D
LOS: Study Session 9–1–A–c

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 259–265.

63. C
LOS: Study Session 10–1–A–f

MACRS depreciation = $1,000,000 × 0.333 = $333,000
Straight line depreciation = $1,000,000 ÷ 10 = $100,000
Increase in deferred tax liability = (333,000 −100,000) × 0.4 = $93,200.

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 430–432.

64. A
LOS: Study Session 8–2–a

$$\text{Basic EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of shares outstanding}}$$

$$= \frac{\$10{,}500{,}00 - \$2{,}000{,}000}{(\frac{3}{12}\times 20{,}000{,}000) + (\frac{9}{12}\times 26{,}000{,}000)}$$

= $0.35.

Reference: Kieso, Weygandt, *Intermediate Accounting*, 9th ed., in *2002 CFA Level I Candidate Readings*, pp. 861–865.

65. B
LOS: Study Session 7–1–d

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 48–58.

66. D
LOS: Study Session 10–1–A–d

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 439–444.

67. B
LOS: Study Session 9–1–A–a

Ending inventory using LIFO:
$= 400 \times \$20 + 200 \times \$22$
$= \$8{,}000 + \$4{,}400$
$= \$12{,}400.$

Ending inventory using FIFO:
$= 200 \times \$20 + 300 \times \$26 + 100 \times \$24$
$= \$5{,}600 + \$7{,}800 + \$2{,}400$
$= \$15{,}800.$

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 259–260.

68. A
LOS: Study Session 7–3–e

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 112–117.

69. B
LOS: Study Session 7–3–e, f

Increase NP – Retired long-term debt + Stock sold – Dividends paid
$= \$800 - \$796 + \$300 - \$864$
$= -\$560.$

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 89–97, 113–117.

70. C
LOS: Study Session 8–1–a

(Cash + AR)/Current liabilities
$= (\$2{,}200 + \$3{,}500) \div \$4{,}400$
$= 1.30.$

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., p. 392.

71. D
LOS: Study Session 8–1–a

EBIT/Average total assets
= \$4,500 ÷ \$22,850
= 20%.

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 400-404.

72. C
LOS: Study Session 9–1–B–b

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 322–330.

73. C
LOS: Study Session 9–1–C–f

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 393–403.

74. D
LOS: Study Session 10–1–B–a, b

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 480–483.

75. C
LOS: Study Session 9–1–C–a

Year	Beginning of Year Book Value	Annual Depreciation	End of Year Book Value	Beginning of Year Accumulated Depreciation
1	\$12,000,000	\$4,800,000	\$7,200,000	\$0
2	\$7,200,000	\$2,880,000	\$4,320,000	\$4,800,000
3	\$4,320,000	\$1,728,000	\$2,592,000	\$7,680,000
4	\$2,592,000	\$592,000	\$2,000,000	\$9,408,000
5	\$2,000,000	——	\$2,000,000	\$10,000,000

Reference: White, Sondhi, Fried, *The Analysis and Use of Financial Statements*, 2nd ed., pp. 382–383.

76. D
LOS: Study Session 11–1–B–b

$$k_{ps} = \frac{D_{ps}}{P_n}$$
= \$3.50 ÷ \$47.00
= 7.45%.

Reference: Brigham, Houston, *Fundamentals of Financial Management*, 8th ed., pp. 355–356.

77. C
LOS: Study Session 11–1–B–b

$$k_{re} = \frac{D_1}{P_0} + g$$
= \$6.00 ÷ \$72.00 + 0.07
= 15.33%.

Reference: Brigham, Houston, *Fundamentals of Financial Management*, 8th ed., pp. 358–359.

78. A
LOS: Study Session 11–1–D–b

Reference: Brigham, Houston, *Fundamentals of Financial Management*, 8th ed., pp. 426–428.

79. A
LOS: Study Session 11–1–F–g

Reference: Brigham, Houston, *Fundamentals of Financial Management*, 8th ed., p. 498.

80. A
LOS: Study Session 11–1–E–a

Reference: Brigham, Houston, *Fundamentals of Financial Management*, 8th ed., p. 470.

GUIDELINE ANSWERS FOR QUESTIONS RELATING TO ASSET VALUATION.

81. C
LOS: Study Session 12–1–B–c

Value-weighted Index = [(50×10 + 20×12 + 40×9)÷(40×10 + 30×6 + 50×9)]×100 = 106.80.

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., Ch. 5, pp. 155–159.

82. A
LOS: Study Session 12–1–B–a

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 156–157.

83. A
LOS: Study Session 17–1–f

Market capitalization rate = Annual NOI/market value

Gross potential rental income	$400,000
Property operating expenses	(100,000)
Vacancy and collection losses	(50,000)
Net operating income	$250,000

= $250,000 ÷ $2,750,000
= 9.1%.

Reference: Gitman, Joehnk, *Fundamentals of Investing,* 6th ed., in *2002 CFA Level I Candidate Readings,* p. 87.

84. D
LOS: Study Session 16–1–B–e

Reference: Kolb, *Futures*, *Options & Swaps*, 3rd ed., p. 18.

85. C
LOS: Study Session 14–1–B–d

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* pp. 36–37.

86. C
LOS: Study Session 16–1–B–f

$\$2,025 - X = \$1500$
$X = \$525$.

$525 ÷ 5,000 ounces
= $0.105 or $0.11 per ounce

$8 + $0.11 = $8.11 per ounce
A seller loses when the price rises.

Reference: Kolb, *Futures*, *Options & Swaps*, 3rd ed., p. 18.

87. C
LOS: Study Session 16–1–D–b

Reference: Kolb, *Futures*, *Options & Swaps*, 3rd ed., p. 308.

88. C
LOS: Study Session 13–1–B–b

Growth rate = (1–payout ratio) × ROE = (1−0.3) × 20% = 14% = 0.14
P/E = payout ratio ÷ (required return–growth rate) = 0.3 ÷ (0.16–0.14) = 15.0.

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 679–685.

89. A
LOS: Study Session 16–1–D–j

The covered call writer receives the call premium of $5.
Breakeven = current stock price − call premium = $75 − $5 = $70

Reference: Kolb, *Futures*, *Options & Swaps*, 3rd ed., pp. 304–316.

90. A
LOS: Study Session 18–1–A–a; Study Session 13–1–A–b

$$V_j = \frac{D}{RFR + RP}$$

= $2.10 ÷ 0.11
= $19.09.

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 445–452.

91. C
LOS: Study Session 16–1–D–d

Reference: Kolb, *Futures*, *Options*, *& Swaps*, 3rd ed., pp. 313–314.

92. C
LOS: Study Session 13–1–A–f

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 295–299, 457–459.

93. D
LOS: Study Session 16–1–D–l

If the breakeven is $114 at expiration and the asset price when the put option was bought was $100, the option cost was the difference, or $14.

Reference: Kolb, *Futures*, *Options & Swaps*, 3rd ed., pp. 304–316.

94. C
LOS: Study Session 13–1–D–a

2002 Expected Sales = $10,000,000 × (1−0.15) = $8,500,000
2002 Expected Net Income = $8,500,000 × 5.4% = $459,000
EPS = $459,000 ÷ 120,000
= $3.83.

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 802–810.

95. A
LOS: Study Session 13–1–C–b

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 747–748.

96. C
LOS: Study Session 12–1–A–f

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 129–130.

97. C
LOS: Study Session 16–1–E–d

Because the payments are in arrears, the end-of-year payments depend on the interest rate at the beginning of the year (or prior year end). The payment at the end of year 2 is based on the 12% interest rate at the end of year 1. If the floating rate is higher than the fixed rate, the fixed rate payer receives the interest rate differential times the principal amount, or:

$\$10,000,000 \times (0.12–0.10) = \$200,000$.

Reference: Kolb, *Futures*, *Options*, *& Swaps*, 3rd ed., pp. 139–141.

98. C
LOS: Study Session 17–2–a

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 1099–1105.

99. D
LOS: Study Session 12–1–C–e

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., p. 216.

100. B
LOS: Study Session 15–1–C–j

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* pp. 262–263.

101. B
LOS: Study Session 15–1–B–s

One year forward rate at $t + 2 = (1 + \text{three year spot})^3 \div (1 + \text{two year spot})^2 - 1$
$= (1 + 0.10)^3 \div (1 + 0.125)^2 - 1 = 1.0517 - 1 = 0.0517 = 5.17\%$.

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* pp. 210–212.

102. C
LOS: Study Session 15–1–A–e

At June 1, 2003, the bond has 7 years to maturity.

$$P_f = \sum_{t=1}^{n}\left[\frac{C}{(1+i)^t}\right] + \frac{P_p}{(1+i)^n} = \sum_{t=1}^{7}\left[\frac{80}{(1+0.071)^t}\right] + \frac{1000}{(1+0.071)^7}$$

= 429.64 + 618.69 = $1048.33 or 104.8% of par.

Where: P_f = forward bond price
P_p = maturity value
C = annual coupon payment

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* pp. 149–154.

103. C
LOS: Study Session 14–1–A–g

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* pp. 16–18.

104. A
LOS: Study Session 14–1–A–i

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* p. 21.

105. C
LOS: Study Session 14–1–B–d

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program*, pp. 36–37.

106. A
LOS: Study Session 15–1–C–g

$$\Delta P = -D_{\text{mod}} \times \Delta i \times P$$
$$= -10 \times 0.01 \times 800$$
$$= -80.$$

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program*, pp. 256–257.

107. D
LOS: Study Session 15–1–B–i

$$\frac{90}{(1+0.065)}+\frac{90}{(1+0.07)^2}+\frac{1090}{(1+Z_3)^3}=1000$$

$$\frac{1090}{(1+Z_3)^3}=836.88$$

$$1+Z_3=\left(\frac{1090}{836.88}\right)^{1/3}$$

$Z_3 = 0.0921 = 9.2\%$.

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program*, pp. 201–204.

108. A
LOS: Study Session 15–1–A–h

$n = 20$ periods
$i = 6\%$ per period
$\$1,000 \times 0.312 = \$312$.

Reference: Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* pp. 157–158.

GUIDELINE ANSWERS FOR QUESTIONS RELATING TO PORTFOLIO MANAGEMENT.

109. D
LOS: Study Session 18–1–A–a

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., pp. 16-22.

110. C
LOS: Study Session 18–1–A–d

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., pp. 24-27.

111. A
LOS: Study Session 18–1–B–b

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., p. 44.

112. B
LOS: Study Session 18–1–E–d

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., pp. 295–298.

113. A
LOS: Study Session 18–1–B–f

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., pp. 63-64.

114. A
LOS: Study Session 18–1–C–c

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., pp. 71-73.

115. D
LOS: Study Session 18–1–E–h

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6^{th} ed., pp. 305-306.

116. C
LOS: Study Session 18–1–B–c

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 53–57.

117. C
LOS: Study Session 18–2–g

Total dollar return = [1 + (96 −100 + 7) ÷ 100] × (1 + 0.06) −1 = 0.0918 = 9.2%.

Reference: Shapiro, *Foundations of Multinational Financial Management*, 3rd ed., in *2002 CFA Level I Candidate Readings*, pp. 145–146.

118. B
LOS: Study Session 18–1–D–a

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., p. 259.

119. A
LOS: Study Session 18–1–D–c, d

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 267–271.

120. A
LOS: Study Session 18–1–E–c

Reference: Reilly, Brown, *Investment Analysis and Portfolio Management*, 6th ed., pp. 291–292.