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in Kamesh Bhatt

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- 1. If a stock decreases from \$90 to \$80, the continuously compounded rate of return for the period is:
 - (A) -0.1250.
 - (B) -0.1000.
 - (C) -0.1178.
- 2. An investor expects a stock currently selling for \$20 per share to increase to \$25 by year end. The dividend last year was \$1 but he expects this year's dividend to be \$1.25. What is the expected holding period return on this stock?
 - (A) 24.00%.
 - (B) 28.50%.
 - (C) 31.25%.
- 3. Selmer Jones has just inherited some money and wants to set some of it aside for a vacation in Hawaii one year from today. His bank will pay him 5% interest on any funds he deposits. In order to determine how much of the money must be set aside and held for the trip, he should use the 5% as a:
 - (A) discount rate.
 - (B) opportunity cost.
 - (C) required rate of return.
- 4. An investor makes the following investments: She purchases a share of stock for \$50.00. After one year, she purchases an additional share for \$75.00. After one more year, she sells both shares for \$100.00 each. There are no transaction costs or taxes. During year one, the stock paid a \$5.00 per share dividend. In year 2, the stock paid a \$7.50 per share dividend. The investor's required return is 35%. Her money-weighted return is closest to:
 - (A) 48.9%.(B) 16.1%.

(C) -7.5%.



QUANTITATIVE METHODS **MOCK TEST**



Time: 45 Mins

- 5. An investor buys a non-dividend paying stock for \$100 at the beginning of the year with 50% initial margin. At the end of the year, the stock price is \$95. Deflation of 2% occurred during the year. Which of the following return measures for this investment will be greatest?
 - (A) Leveraged return.
 - (B) Real return.
 - (C) Nominal return.
- 6. A company reports its past six years' earnings growth at 10%, 14%, 12%, 10%, -10%, and 12%. The company's average compound annual growth rate of earnings is closest to:
 - (A) 8.0%.
 - (B) 7.7%.
 - (C) 8.5%.
- 7. Cameron Ryan wants to make an offer on the condominium he is renting. He takes a sample of prices of condominiums in his development that closed in the last five months. Sample prices are as follows (amounts are in thousands of dollars): \$125, \$175, \$150, \$155 and \$135. The sample standard deviation is closest to:
 - (A) 370.00.
 - (B) 19.24.
 - (C) 38.47.
- 8. An analyst gathers the following data about the mean monthly returns of three securities:

Security	Mean Monthly Return	Standard Deviation
X	0.9	0.7
Y	1.2	4.7
Z	1.5	5.2

W

Which security has the highest level of relative risk as measured by the coefficient of variation?

- (A) X.
- (B) Y.
- (C) Z.

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- 9. An analyst takes a sample of yearly returns of aggressive growth funds resulting in the following data set: 25, 15, 35, 45, and 55. The mean absolute deviation (MAD) of the data set is closest to:
 - (A) 16.
 - (B) 12.
 - (C) 20.
- 10. Trina Romel, mutual fund manager, is taking over a poor-performing fund from a colleague. Romel wants to calculate the return on the portfolio. Over the last five years, the fund's annual percentage returns were: 25, 15, 12, -8, and -14.

Determine if the geometric return of the fund will be less than or greater than the arithmetic return and calculate the fund's geometric return:

Geometric Return Geometric compared to Arithmetic

- (A) 12.86% greater than
- (B) 4.96% greater than
- (C) 4.96% less than
- 11. A portfolio is equally invested in Stock A, with an expected return of 6%, and Stock B, with an expected return of 10%, and a risk-free asset with a return of 5%. The expected return on the portfolio is:
 - (A) 7.0%.
 - (B) 7.4%.
 - (C) 8.0%.
- 12. Consider the following set of stock returns: 12%, 23%, 27%, 10%, 7%, 20%,15%. The third quartile is:
 - (A) 20.0%.
 - (B) 21.5%.
 - (C) 23%.

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- 13. A portfolio's monthly returns follow a distribution with a kurtosis measure of 4.2. Relative to a portfolio with normally distributed returns, this portfolio has a:
 - (A) higher probability of extreme upside returns and higher chance of extreme downside returns.
 - (B) lower probability of extreme upside returns and higher chance of extreme downside returns.
 - (C) higher probability of extreme upside returns and lower chance of extreme downside returns.
- 14. For a unimodal distribution with negative skewness:
 - (A) the mean is greater than the mode.
 - (B) the median is greater than the mean.
 - (C) the mode is less than the median.
- 15. There is a 60% chance that the economy will be good next year and a 40% chance that it will be bad. If the economy is good, there is a 70% chance that XYZ Incorporated will have EPS of \$5.00 and a 30% chance that their earnings will be \$3.50. If the economy is bad, there is an 80% chance that XYZ Incorporated will have EPS of \$1.50 and a 20% chance that their earnings will be \$1.00. What is the firm's expected EPS?
 - (A) \$3.29.
 - (B) \$5.95.
 - (C) \$2.75.
- 16. An analyst announces that an increase in the discount rate next quarter will double her earnings forecast for a firm. This is an example of a:
 - (A) use of Bayes' formula.
 - (B) joint probability.
 - (C) conditional expectation.



- 17. An investor is considering purchasing ACQ. There is a 30% probability that ACQ will be acquired in the next two months. If ACQ is acquired, there is a 40% probability of earning a 30% return on the investment and a 60% probability of earning 25%. If ACQ is not acquired, the expected return is 12%. What is the expected return on this investment?
 - (A) 18.3%.
 - (B) 16.5%.
 - (C) 12.3%.
- 18. Tully Advisers, Inc., has determined four possible economic scenarios and has projected the portfolio returns for two portfolios for their client under each scenario. Tully's economist has estimated the probability of each scenario as shown in the table below. Given this information, what is expected return on Portfolio A?

Scenario	Probability	Return on Portfolio A	Return on Portfolio B
А	15%	17%	19%
В	20%	14%	18%
С	25%	12%	10%
D	40%	8%	9%

- (A) 12.55%.
- (B) 12.75%.
- (C) 11.55%.
- 19. For two random variables, P(X = 20, Y = 0) = 0.4, and P(X = 30, Y = 50) = 0.6. Given that E(X) is 26 and E(Y) is 30, the covariance of X and Y is:
 - (A) 120.00.
 - (B) 125.00.
 - (C) 25.00.

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- 20. For assets A and B we know the following: E(RA) = 0.10, E(RB) = 0.10, Var(RA) = 0.18, Var(RB) = 0.36 and the correlation of the returns is 0.6. What is the variance of the return of a portfolio that is equally invested in the two assets?
 - (A) 0.1102.
 - (B) 0.1500.
 - (C) 0.2114.
- The joint probability function for returns on an equity index (RI) and returns on a stock (RS) is given 21. in the following table:

	Returns on Index (R _i)		
Return on Stock (R _s)	R _I = 0.16	R _i = 0.02	R _i = -0.10
R _s = 0.24	0.25	0.00	0.00
R _s = 0.03	0.00	0.45	0.00
R _s = -0.15	0.00	0.00	0.30

Covariance between stock returns and index returns is closest to:

- (A) 0.019.
- (B) 0.014.
- (C) 0.029.
- Which of the following statements is most accurate regarding the dataset and samples used in 22. bootstrap resampling?
 - (A) A partial dataset is used, and the samples are different sizes.
 - (B) The full dataset is used, and the samples are all the same size.
 - (C) A partial dataset is used, and the samples are all the same size.
- Bill Phillips is developing a Monte Carlo simulation to value a complex and thinly traded security. 23. Phillips wants to model one input variable to have negative skewness and a second input variable to have positive excess kurtosis. In a Monte Carlo simulation, Phillips can appropriately use:
 - (A) neither of these variables.
 - (B) both of these variables.
 - (C) only one of these variables.

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- 24. In bootstrap resampling, a single observation from a full dataset:
 - (A) may appear in multiple samples.
 - (B) may appear either in exactly one sample or in no samples.
 - (C) must appear in one and only one sample.
- 25. Which of the following statements describes a limitation of Monte Carlo simulation?
 - (A) Outcomes of a simulation can only be as accurate as the inputs to the model.
 - (B) Simulations do not consider possible input values that lie outside historical experience.
 - (C) Variables are assumed to be normally distributed but may actually have non normal distributions.
- 26. Which of the following is *least likely* a step in stratified random sampling?
 - (A) The population is divided into strata based on some classification scheme.
 - (B) The size of each sub-sample is selected to be the same across strata.
 - (C) The sub-samples are pooled to create the complete sample.
- 27. Which of the following statements about parametric and nonparametric tests is least accurate?
 - (A) Nonparametric tests rely on population parameters.
 - (B) The test of the difference in means is used when you are comparing means from two independent samples.
 - (C) The test of the mean of the differences is used when performing a paired comparison.
- 28. A survey is taken to determine whether the average starting salaries of CFA charterholders is equal to or greater than \$54,000 per year. Assuming a normal distribution, what is the test statistic given a sample of 75 newly acquired CFA charterholders with a mean starting salary of \$57,000 and a standard deviation of \$1,300?
 - (A) -19.99.
 - (B) 19.99.
 - (C) 2.31.

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- 29. A test of whether a mutual fund's performance rank in one period provides information about the fund's performance rank in a subsequent period is best described as a:
 - (A) mean-rank test.
 - (B) nonparametric test.
 - (C) parametric test.
- 30. If an analyst wants to perform hypothesis testing using a chi-square test, which of the following values is he most likely assessing?
 - (A) The value of a population mean.
 - (B) The value of a population variance.
 - (C) Whether two population variances are equal.