Chọn đáp án đúng và ghi A, B, C hoặc D vào dải đáp án A3.

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Câu 1
Which of the following best defines an event in probability?
A. The complete set of all possible outcomes.
B. An outcome that must always occur.
C. A single outcome or a collection of outcomes from a random process.
D. A numerical measure of total risk.

Câu 2
Holding all other factors constant, which change will make a confidence interval for a population mean narrower?
A. Increasing the sample size.
B. Using a larger critical value.
C. Increasing the confidence level.
D. Increasing the population standard deviation.

Câu 3
Whydoes combining assets with correlations below +1 generally reduce portfolio risk?
A. The assets' returns do not move perfectly together, so some fluctuations offset each other.
B. Every asset automatically earns the risk-free rate.
C. Expected portfolio return becomes zero.
D. All systematic risk is eliminated.

Câu 4
Aportfolio has a significantly positive HML beta in the Fama-French three-factor model. What does this most likely indicate?
A. The portfolio follows a momentum strategy.
B. The portfolio has no exposure to market risk.
C. The portfolio has greater exposure to small stocks than to large stocks.
D. The portfolio has greater exposure to value stocks than to growth stocks.

Câu 5
Amanager's positive CAPM alpha becomes statistically insignificant after applying the Fama-French three-factor model. What is the most likely explanation?
A. The risk-free rate was incorrectly excluded from CAPM.
B. The apparent abnormal return was explained by systematic size or value factor exposure.
C. The portfolio's standard deviation became zero.
D. The manager eliminated all market risk.

Câu 6
Under modern portfolio theory, why might two rational investors select different portfolios from the efficient frontier?
A. They may have different levels of risk aversion.
B. One of the investors must be irrational.
C. They necessarily estimate different risk-free rates.
D. Efficient portfolios have identical risk and return.

Câu 7
Which statement best describes a 95% confidence level?
A. The population has a 95% probability of being normally distributed.
B. The sample mean must equal the population mean 95% of the time.
C. The interval-estimation procedure will contain the true parameter in approximately 95% of repeated samples.
D. There is a 95% probability that every observation lies inside the interval.

Câu 8
What does a high tracking error indicate about an actively managed portfolio?
A. Its beta must be greater than one.
B. It has no active risk.
C. It consistently earns a return above its benchmark.
D. Its returns frequently deviate substantially from its benchmark returns.

Câu 9
Whichmeasure of risk is used on the horizontal axis of the Security Market Line?
A. Tracking error.
B. Beta.
C. Standard deviation.
D. Variance of residual returns.

Câu 10
What is the sample space of a random process?
A. Only the most likely outcome.
B. The set of mutually exclusive events only.
C. The set of all possible outcomes.
D. The probability assigned to one event.

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Câu 11
A portfolio has a positive Jensen's alpha. What does this indicate under the assumed asset-pricing model?
A. The portfolio earned more than the return required for its systematic risk.
B. The portfolio has no total risk.
C. The portfolio's beta must be negative.
D. The portfolio earned less than the risk-free rate.

Câu 12
What is the principal diversification implication when two assets have a correlation of +1?
A. Portfolio risk is necessarily zero.
B. Their expected returns must be identical.
C. The assets form a risk-free portfolio at equal weights.
D. Combining the assets provides no reduction below the weighted average of their individual risks.

Câu 13
Whatdoes a higher positive information ratio generally indicate?
A. More total return earned per unit of standard deviation.
B. More active return earned per unit of tracking-error risk.
C. More excess return earned per unit of beta.
D. A lower expected return than the benchmark.

Câu 14
For which type of portfolio is the Treynor measure generally most appropriate?
A. A portfolio evaluated only against a minimum acceptable return.
B. A single undiversified stock for which total risk is relevant.
C. A well-diversified portfolio for which beta is the relevant risk measure.
D. A risk-free portfolio with a beta of zero.

Câu 15
What does Value at Risk primarily estimate?
A. A loss threshold over a specified period at a given confidence level under normal conditions.
B. The largest loss that can ever occur under all conditions.
C. The expected return of a portfolio.
D. The amount of diversifiable risk in a portfolio.

Câu 16
What does the slope of the Security Market Line represent?
A. The portfolio's tracking error.
B. The market risk premium.
C. The risk-free rate.
D. The market's standard deviation.

Câu 17
Which statement best describes two independent events?
A. The occurrence of one event guarantees the other.
B. The two events cannot occur simultaneously.
C. The two events must have equal probabilities.
D. The occurrence of one event does not affect the probability of the other.

Câu 18
Why should the square-root-of-time rule for scaling volatility and VaR be used cautiously?
A. It is valid only when returns are perfectly negatively correlated.
B. It relies on assumptions such as independent and identically distributed returns.
C. It assumes that portfolio value is always zero.
D. It converts systematic risk into diversifiable risk.

Câu 19
In investment analysis, standard deviation is commonly interpreted as a measure of:
A. Total return volatility.
B. Expected return only.
C. Market liquidity.
D. Systematic risk only.

Câu 20
Under what condition can two risky assets potentially be combined to create a zero-variance portfolio?
A. Both assets have identical standard deviations regardless of weights.
B. Their correlation is −1 and appropriate portfolio weights are selected.
C. Both assets have betas greater than one.
D. Their correlation is +1 and their expected returns are equal.

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Câu 21
Astock generated returns of 6%, 17%, 3%, 4%, 4% over five periods. Calculate the population standard deviation of the stock's returns.
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 5.19
B. 5.29
C. 5.25
D. 5.09

Câu 22
Aportfolio invests 50% in Stock A and 50% in Stock B. The standard deviations of Stocks A and B are 20% and 14%, respectively, and their return correlation is 0.50. What is the portfolio's standard deviation?
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 11.10
B. 14.06
C. 13.02
D. 14.80

Câu 23
Astock generated monthly returns of 8%, 16%, 3%, -7%, -7%. First calculate the sample standard deviation of the monthly returns and then annualize it using σannual = σmonthly × √12. What is the annualized standard deviation?
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 25.76
B. 34.35
C. 30.91
D. 39.50

Câu 24
Hard
Events A and B are independent.
P(A) = 0.26
P(B) = 0.70
Calculate the probability that exactly one of the two events occurs.
Enter a decimal rounded to two decimal places.
A. 0.54
B. 0.60
C. 0.62
D. 0.51

Câu 25
Arandom variable X can take the values 1, 6, and 14 with probabilities 0.40, 0.20, and 0.40, respectively. What is the expected value of X?
Enter a number rounded to two decimal places.
A. 7.30
B. 7.20
C. 7.22
D. 5.76

Câu 26
Medium
For two events A and B:
P(A) = 0.48
P(B) = 0.52
P(A ∩ B) = 0.26
Calculate P(A B). Enter a decimal rounded to two decimal places.
A. 0.70
B. 0.63
C. 0.74
D. 0.59

Câu 27
Astock has possible returns of -20%, 2%, and 18% with probabilities 0.30, 0.20, and 0.50, respectively. What is the variance of the stock's return distribution? Express returns in percentage points when calculating the variance.
Enter the variance rounded to two decimal places.
A. 271.20
B. 271.30
C. 271.28
D. 271.24

Câu 28
Aportfolio has a market value of $40 million and a daily return standard deviation of 1.82%. Assume the expected daily return is zero. Using a 99% confidence level and a critical z-value of 2.326, what is the portfolio's one-day delta-normal VaR? Report VaR as a positive dollar loss.
Enter the positive dollar loss as a whole number without the $ sign or commas.
A. 1490129
B. 1693334
C. 1693326
D. 1693328

Câu 29
Astockhas possible returns of -15%, 15%, and 20% with probabilities 0.15, 0.55, and 0.30, respectively. Calculate the population skewness of the return distribution using Skewness = $\Sigma[p_i(r_i - \mu)^3]/\sigma^3$.
Enter the population skewness rounded to two decimal places.
A. -1.80
B. -1.70
C. -1.74
D. -1.90

Câu 30
Abank estimates that 8% of its borrowers will default. Its warning model flags 87% of borrowers who subsequently default and incorrectly flags 21% of borrowers who do not default. If a borrower is flagged, what is the probability that the borrower will default?
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 27.80
B. 22.51
C. 29.13
D. 26.48

Chọn đáp án đúng và ghi A, B, C hoặc D vào dải đáp án A3.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Câu 31

Aportfolio invests 40% in Stock A and 60% in Stock B. The standard deviations of Stocks A and B are 11% and 11%, respectively. If the portfolio's standard deviation is 4.40%, what is the implied correlation coefficient between the returns of Stocks A and B?
Enter the correlation coefficient rounded to two decimal places.
A. -0.84
B. -0.56
C. -0.81
D. -0.75

Câu 32

The probability of economic expansion is 50%, while the probability of recession is 50%. During expansion, the probabilities of strong and weak sales are 75% and 25%, with respective EPS values of £3.70 and £2.80. During recession, the probabilities of strong and weak sales are 20% and 80%, with respective EPS values of £0.90 and £1.20. What is the company's expected EPS?
Enter the EPS amount as a number without the £ sign, rounded to two decimal places.
A. 2.31
B. 2.03
C. 2.13
D. 2.54

Câu 33

Easy
Events A and B are mutually exclusive.
P(A) = 0.40
P(B) = 0.26
Calculate P(A B). Enter a decimal rounded to two decimal places.
A. 0.66
B. 0.79
C. 0.74
D. 0.56

Câu 34

An analyst assigns probabilities of 33%, 41%, and 26% to bull, normal, and bear market conditions, respectively. The probability of receiving a negative market signal is 5% during a bull market, 44% during a normal market, and 89% during a bear market. If a negative signal is received, what is the probability that the market is in the bear state?
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 58.35
B. 53.97
C. 54.03
D. 59.43

Câu 35

Aportfolio has a market value of $71 million, an expected daily return of 0.09%, and a daily return standard deviation of 1.65%. Using a 99% confidence level and a critical z-value of 2.326, what is the portfolio's one-day delta-normal VaR? Use VaR = (zσ − μ) × portfolio value and report VaR as a positive dollar loss.
Enter the positive dollar loss as a whole number without the $ sign or commas.
A. 2661019
B. 2661009
C. 2527959
D. 2980330

Câu 36

Afinancial institution estimates that 9% of transactions are fraudulent. Its detection system identifies 86% of fraudulent transactions but incorrectly flags 4% of legitimate transactions. If a transaction is flagged, what is the probability that it is fraudulent?
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 61.21
B. 68.01
C. 68.05
D. 67.97

Câu 37

Acompany forecasts four possible EPS outcomes. The first three probabilities are 15%, 25%, and 30%, with the remaining probability assigned to the fourth outcome. The corresponding EPS values are £4.50, £3.50, £2.10, and £1.40. What is the expected EPS?
Enter the EPS amount as a number without the £ sign, rounded to two decimal places.
A. 2.60
B. 2.50
C. 2.54
D. 2.39

Câu 38

Ron's Stores forecasts three possible EPS outcomes. The probabilities are 30%, 35%, and 35%, and the corresponding EPS values are £4.10, £2.80, and £1.20. What is the expected EPS?
Enter the EPS amount as a number without the £ sign, rounded to two decimal places.
A. 2.31
B. 2.73
C. 2.63
D. 1.97

Câu 39

Astock generated returns of 3%, 11%, 18%, 5%, -8%, -6% over six periods. Treating these observations as a sample, calculate the sample standard deviation of the stock's returns.
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 12.39
B. 9.91
C. 9.12
D. 8.92

Câu 40

Aportfolio invests 70% in Stock A and 30% in Stock B. The standard deviations of Stocks A and B are 9% and 17%, respectively. The correlation between their returns is 0.20. Calculate the portfolio's standard deviation.
Enter the percentage as a number without the % sign, rounded to two decimal places.
A. 8.82
B. 8.86
C. 7.97
D. 8.80