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Exam : **8006**

Title : PRM Certification - Exam I: Finance Theory, Financial Instruments, Financial Markets – 2015 Edition

Version : DEMO

1.Calculate the number of S&P futures contracts to sell to hedge the market exposure of an equity portfolio value at $1m and with a of 1.5. The S&P is currently at 1000 and the contract multiplier is 250.
A. 4
B. 8
C. 6
D. 2
Answer: C
Explanation:
Since the equity portfolio has a beta of 1.5, we need to sell short enough number of futures contracts as to have $1 x 1.5 = $1.5m short in notional. The value of one S&P futures contract is 1000 x 250 = $250,000, and therefore in order to be short $1.5m, we need to sell 6 contracts.

2.Calculate the fair no-arbitrage spot price of oil if the price of a one year forward is $75, the discrete one year interest rates are 6%, and annual storage costs are $4 per barrel paid at the end of the year.
A. $70.75
B. $74.53
C. $71
D. $66.98
Answer: D
Explanation:
If $x be the spot price of oil, then in order for the forward price to be $75, the following relationship must hold: ($x + $4/(1.06))*(1 + 6%) = $75. Solving, we get x = $66.98

3.Euro-dollar deposits refer to
A. A deposit denominated in the ECU
B. A US dollar deposit outside the US
C. A Euro deposit convertible into dollars upon maturity
D. A Euro deposit in the USA
Answer: B
Explanation:
Eurodollar deposits refer to US dollar denominated deposits outside the US, for example in a banking center such as London, and held by a non-US bank or a foreign branch of a US bank. Choice 'b' is the correct answer.

4.If the 3 month interest rate is 5%, and the 6 month interest rate is 6%, what would be the contract rate applicable to a 3 x 6 FRA?
A. 6%
B. 6.9%
C. 5.5%
D. 5%
Answer: B
Explanation:
The correct answer is Choice 'b', as this question is merely asking for the forward rate based on known spot rates. The forward rate applicable to the three month period commencing in 3 months time is given by

[(1 + 6%*6/12)/(1 + 5%*3/12) - 1]*4 = 6.91%. Thus Choice 'b' is the correct answer.
Here is a step by step way to think about it: $1 invested now at 6% for 6 months grows to (1 + 6%*6/12)=1.03. At the same time, using the 3 month rate, $1 invested now at 5% for 3 months grows to (1 + 5%*3/12)=1.0125. Effectively, this means that the 1.0125 at the end of 3 months grow to 1.03 at the end of 6 months, implying the rate of interest during the 3 months from 3 to 6 months is (1.03/1.0125 - 1)*4 = 6.91%.

5.Which of the following statements is INCORRECT according to CAPM:
A. expected returns on an asset will equal the risk free rate plus a compensation for the additional risk measured by the beta of the asset
B. the return expected by investors for holding the risky asset is a function of the covariance of the risky asset to the market portfolio
C. securities with a higher standard deviation of returns will have a higher expected return
D. portfolios on the efficient frontier have different Sharpe ratios
Answer: C
Explanation:
The return on an asset is a function of the covariance of the asset's return to the returns of the market portfolio. They do not depend upon the standard deviation of the asset itself. Therefore Choice 'b' is correct and Choice 'c' is incorrect.
The expected returns on an asset are equal to the risk free rate plus the beta times the market risk premium, therefore Choice 'a' is correct.
Portfolios on the efficient frontier will all have a different Sharpe ratio, which is the ratio of excess returns to portfolio volatility.
Choice 'c' is the correct answer (note that the question is asking for an identification of the INCORRECT statement).