Quiz 24 for Nov 28

Started: Nov 17 at 12:23am

Quiz Instructions

Complete this quiz by 11:00 a.m. on Monday November 28.

Question 1	1 pts

The continuously-compounded interest rate is $r = 0.02$, and a non-dividend paying stock has a current price of $55 and a rate of return volatility of $s = 0.40$. What is the Black-Scholes-Merton value of a European put option written on this stock if the option has a time until maturity of 3/4 year and an exercise price of $50?

State your answer in dollars to the nearest cent, e.g. 3.67 .

4.6486

Question 2	1 pts

An option dealer has a portfolio of different options written on the same stock. The portfolio is currently worth $10 million and has a delta equal to $\Delta = -0.2$ million a gamma equal to $\Gamma = 0.06$ million. It the stock price currently equals $30, what will be the portfolio's value if the stock declines to $28?

State your answer in millions of dollars to the second decimal place, e.g. 8.74 .

10.52

Question 3

1 pts

Asset A and Asset B have the same current price, S_0, and the same rate of return volatility, σ. However, Asset A pays no dividends while Asset B has a dividend yield of $\delta > 0$. Then if European options with identical exercise prices and times until maturity are written on these two assets

○ the call option written on Asset A will be worth less than the call option written on Asset B, and the put option written on Asset A will be worth less than the put option written on Asset B.

○ the call option written on Asset A will be worth less than the call option written on Asset B, and the put option written on Asset A will be worth more than the put option written on Asset B.

◉ the call option written on Asset A will be worth more than the call option written on Asset B, and the put option written on Asset A will be worth less than the put option written on Asset B.

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Question 4

1 pts

The current continuously-compounded riskfree interest rate is $r = 0.05$. A futures contract currently has a futures price of $f_{0,T}= \$48$, and the futures price's volatility equals $\sigma = 0.3$. A call option written on this futures price has an exercise price of $45 and a time until maturity of 1 year. What is the Black-Scholes-Merton value of this call option on the futures price?

State your answer in dollars to the nearest cent, e.g., 3.12 .

6.8215

Question 5   1 pts

Ask one or more questions or make one or more comments regarding the material covered in this class.

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