

Complementary Problems

Option - theory

1. A ____ grants the owner the right to purchase a specified financial instrument for a specified price within a specified period of time.
 - a. call option
 - b. put option
 - c. sale of a futures contract
 - d. purchase of a futures contract

2. A call option is "in the money" when the
 - a. market price of the underlying security exceeds the exercise price.
 - b. market price of the underlying security equals the exercise price.
 - c. market price of the underlying security is less than the exercise price.
 - d. premium on the option is less than the exercise price.

3. A put option is "out of the money" when the
 - a. market price of the security exceeds the exercise price.
 - b. market price of the security equals the exercise price.
 - c. market price of the security is less than the exercise price.
 - d. premium on the option is less than the exercise price.

4. When the market price of the underlying security exceeds the exercise price, the
 - a. call option is in the money.
 - b. put option is in the money.
 - c. call option is at the money.
 - d. call option is out of the money.

5. When the exercise price exceeds the market price of the underlying security, the
 - a. call option is in the money.
 - b. put option is in the money.
 - c. call option is at the money.
 - d. put option is out of the money.

6. Sellers (writers) of call options can offset their position at any point in time by
 - a. selling a put option on the same stock.
 - b. buying identical call options.
 - c. selling additional call options on the same stock.
 - d. all of the above
 - e. A and B

1. A speculator buys a call option for \$3, with an exercise price of \$50. The stock is currently priced at \$49, and rises to \$55 on the expiration date. The speculator will exercise the option on the expiration date (if it is feasible to do so). What is the speculator's profit per unit?

2. A speculator purchases a put option for a premium of \$4, with an exercise price of \$30. The stock is presently priced at \$29. What is the stock price at which the speculator would break even?
3. Assume a pension fund purchased stock at \$53. Call options at a \$50 exercise price presently have a \$4 premium per share. The pension fund sells a call option on the stock it owns. If the call option is exercised when the price of the stock is \$56, what is the gain or loss per share to the pension fund (including its gain from holding the stock as well)?
4. Assume an insurance company purchases a call option on an S&P 500 Index futures contract for a premium of 3500, with an exercise price of 1800. The value of an S&P 500 futures contract is 250 times the index. If the index on the futures contract increases to 1830, what is the gain on the sale of the futures contract?
5. A speculator purchased a call option with an exercise price of \$31 for a premium of \$4. The option was exercised a few days later when the stock price was \$34. What was the return to the speculator?

Option Strategies

1. **Short Straddle:** sell 1 call ($X1=100$) & premium 3, sell 1 put ($X1=100$) & premium 5, same expiry.
2. **Short Strangle:** sell 1 call ($X2=120$) & premium 3, sell 1 put ($X1=100$) & premium 3, same expiry.
3. **Iron Condor:** Buy 1 call ($X1=100$), sell 1 call ($X2=110$), buy 1 put ($X4=130$) and sell 1 put ($X3=120$), total premium = 0, same expiry.
4. **Call backspread:** sell 1 call ($X1=100$) & premium 3, buy 2 calls ($X2=120$) & premium 4, same expiry