Old Exam Questions
Option Markets

READ FIRST: The following questions are reproduced from my previous exams. Exam formats have differed over time, so you may notice some differences in formatting or question style. The intent is that these questions will help you to practice, but it is ***NOT*** intended to replace your own study habits.

1. A put with a strike price of $25 trades for $6, while the underlying stock trades for $30. What is the intrinsic value of the option?
   A. -$5
   B. $0
   C. $5
   D. $6
   E. $11

2. You are entering into a synthetic long stock position. You buy a call with a strike price of $60, while you write a put with a strike price of $40. The underlying stock currently trades at $50. Which of the following statements is true?
   A. Your payoff is negative when the stock price is below $40 or above $60
   B. Your payoff is positive when the stock price is below $40 and above $60
   C. Your payoff is positive when the stock price is between $40 and $60 and $0 otherwise
   D. Your payoff is positive when the stock price is greater than $60 and $0 otherwise
   E. None of these are true

3. You want to know the stock price for Almond Computers. Your internet is down, so you are stuck using a newspaper with option quotes to figure it out. You see that a 1 month call option with a strike price of $50 is selling for $4.25. At the same time, a put option with the same maturity and strike price is selling for $6.75. You are also able to find that you could earn a 12.69% annual return on a 1 month T-bill. What would you estimate is the stock price?
   A. $47
   B. $47.50
   C. $49.50
   D. $50
   E. $52.50

4. You are using a call back spread strategy on Word Solutions, Inc. You write a call with a strike price of $30 and purchase 3 calls with a strike price of $50. What is your payoff if the underlying stock's price is $70 at expiration?
   A. -$40
   B. -$20
   C. $0
   D. $20
   E. $60

5. You plan to engage in a bear put spread strategy. In order to do so, you buy a put with a strike price of $50 and write a put with a strike price of $40. If the underlying stock price is $45 at expiration, what would be the payoff from this position?
   A. -$5
   B. $0
   C. $5
   D. $10
   E. A different value

6. You are looking to purchase a call option on an individual stock that expires in 6 months. Based on our class discussion, which of the following best represents the set of option expirations you would have available to you?
   A. Every Friday and the end of the month
   B. The Saturday following the third Friday
   C. The third Friday
   D. The third Friday and the end of the month

7. You are setting up an iron collar strategy. You purchase a put option with a strike price of $60. At the same time, you write a call option with a strike price of $40. What would be the payoff of this position if the underlying stock price is ultimately $55?
   A. -$10
   B. $5
   C. $20
   D. $60
   E. A different value

8. You are interested in purchasing a put option on Clear Water Company with a strike price of $66. You'd like the option to have a maturity of 6 months. Unfortunately, interest rates have gone crazy lately, and the prevailing market interest rate is 21% (for both risky and risk free debt). You know that a call option with the same strike price and expiration is available for $4. If the stock currently trades at $50, what would you pay for this put option?
    A. $2
    B. $6
    C. $10
    D. $14
    E. A different value

9. According to our class discussion, if we are looking to invest in a short term option (maturity shorter than 1 month) on the S&P 500, we would be able to choose from what expiration date(s)?
    A. Every Monday, Wednesday, and Friday, and the end of the month
    B. The Saturday following the third Friday of the month
    C. The third Friday of the month
    D. The third Friday of the month and the end of the month

10. You are bullish on the market, so you decide to enter into a long combo position. You buy two calls with a strike price of $70, while simultaneously writing two puts with the same strike price. What is the payoff from this position if the underlying stock trades at $60 at expiration?
    A. -$20
    B. -$10
    C. $10
    D. $20
    E. A different value

11. Why would we use a protective put instead of a stop loss order?
    A. Stop orders are stupid
    B. Stop orders prevent us from taking advantage of any potential upswings
    C. The put is cheaper
    D. The put sets a guaranteed minimum price

12. You are entering into a synthetic long stock position. You purchase a European call with an exercise price of $60. At the same time, you write a European put option with an exercise price of $60. What is the payoff of your position if the underlying stock is trading at $55 at expiration?
    A. -$10
    B. -$5
    C. $5
    D. $10
    E. A different value

13. You are entering into a covered combination on GWH Consulting's stock. You hold 1 share of its stock, you write a call with a strike price of $50, and you write a put with a strike price of $40. If the stock ultimately trades for $60 at expiration, what would be the payoff of this strategy?
    A. -$10
    B. $0
    C. $10
    D. $50
    E. A different value

14. You are interested in investing in Fax News's stock. Unfortunately, some idiot locked down all web browsing on campus except for the CBOE's site and stole your car so you can't access any other information. You were able to find the following option prices:

Option Type	Maturity	Strike Price	Market Price
Call	6 months	$38	$16
Call	6 months	$42	$4
Put	6 months	$42	$5
Put	9 months	$42	$7

If the current T-bill rate is 10.25%, what would you estimate is the stock price?
    A. $39
    B. $40
    C. $41
    D. $42
    E. A different value

15. When looking at the CBOE's listings of S&P 500 index options, we saw that options expiring over one year from today would generally have what expiration(s) available?
    A. Every Friday, and the end of the month
    B. Every Wednesday and Friday, and the end of the month
    C. Third Friday of the month
    D. Third Friday of the month, and the end of the month

16. You are constructing an iron condor position on ReCyte, Inc. You purchase a call option with a strike price of $60, while writing a call option with an exercise price of $50. At the same time, you buy a put option with a strike price of $25 and write a put with an exercise price of $35. All of these options expire in 6 months. What is the payoff of your position if the underlying stock is trading at $55 at that time?
    A. -$20
    B. -$10
    C. -$5
    D. $0
    E. A different value

17. You are interested in investing in Nerd Battalion Industries. Unfortunately, you only have access to an option price database, so you have to come up with the value some other way.

Option Type	Maturity	Strike Price	Market Price
Call	4 months	$33	$16
Call	6 months	$44	$4
Put	4 months	$33	$5
Put	4 months	$44	$18

You know that the current 1 year Treasury rate is 33.1%. What is the value of the firm's stock?
    A. $28
    B. $33
    C. $35.80
    D. $41
    E. A different value

18. Why might a pig farmer get involved in the pork belly option market?
    A. Find labor
    B. Hedging
    C. Kicks and giggles
    D. Speculation

19. When looking at the CBOE, we saw that we generally had significantly more choice of expiration date when considering __________ options.
    A. Call
    B. Index
    C. Individual Stock
    D. Put
    E. All of these had the same expirations available

20. You are entering into a bear put spread position on Husky Demolitions. You purchase a put option with a strike price of $60, while you write a put with a strike price of $40. If the stock price at expiration is $45, what is your total payoff from this position?
    A. -$5
    B. $5
    C. $15
    D. $20
    E. A different value

21. Why might we choose a stop loss order versus a protective put?
    A. Allows stock to potentially increase
    B. Cheaper
    C. Guaranteed execution price
    D. Limit our losses on the underlying stock
    E. All of these are advantages of a stop loss order

22. You are setting up a bull call spread on Tide Rollers, Inc. You purchase a call option with a strike price of $30. You also write a call with a strike price of $40. If the stock price is $45 at expiration, what is your total payoff from this position?
    A. $5
    B. $10
    C. $15
    D. $20
    E. A different value

23. [Quantitative] You are entering into a long iron butterfly strategy. You write a call with a strike price of $80, you purchase both a call and a put with $70 exercise prices, and you write a put with a $60 strike price. If the underlying stock is trading at $65 at expiration, what is your payoff from this position?
    A. -$5
    B. $0
    C. $5
    D. $10
    E. A different value

24. [Conceptual] Which of the following options would have the most available expirations?
    A. Call on Apple (AAPL) with 1 month to expiration
    B. Call on S&P 500 with 2 months to expiration
    C. Put on Apple (AAPL) with 8 month to expiration
    D. Put on S&P 500 with 9 months to expiration
    E. These would all have the same expirations available

25. [Quantitative] You are analyzing a 4 month call option on ColaRiver, Inc. ColaRiver's stock currently sells for $100 per share. The exercise price of the call option is $110. You know that a put option with a strike price of $100 sells for $2, while a put option with a strike price of $110 sells for $13. If the annual T-bill rate is 33.1%, what should the price of the call be?
    A. $13
    B. $13.64
    C. $14.21
    D. $14.94
    E. A different value

26. [Conceptual] Generally, _________ options are cash settled, while ________ options are settled through physical delivery.
    A. Index; Individual stock
    B. Individual stock; Index
    C. Both are cash settled
    D. Both are physically delivered

27. [Quantitative] You are attempting to calculate the value of a put option using the Black Scholes model. You have already calculated $N(d_1) = .65$ and $N(d_2) = .42$. The put expires in 6 months and the current annual T-bill rate is 11%. If the stock price is $45 and the exercise price is $50, what is the price of the option?
    A. $8.91
    B. $10.27
    C. $11.70
    D. $12.10
    E. A different value

28. [Quantitative] You are entering into a short put butterfly spread. You write one put with a $10 exercise price and a second with an exercise price of $20. At the same time, you purchase two puts with an exercise price of $15. If the underlying stock is trading at $12 at expiration, what is your payoff from this portfolio?
    A. -$5
    B. -$4
    C. -$3
    D. -$2
    E. A different value

29. [Conceptual] You have constructed a synthetic short stock position. You write a call option with a strike price of $60, and you purchase a put option with the same strike price. Which of the following is true of the potential payoffs of this position? (HINT: “unlimited” implies that the value can go to infinity, while “limited” implies a finite bound)
    A. Limited loss and limited profit
    B. Limited loss and unlimited profit
    C. Unlimited loss and limited profit
    D. Unlimited loss and unlimited profit