***Financial Markets and Institutions, 7e* (Saunders)**

**Chapter 10 Derivative Securities Markets**

1) A credit forward is a forward agreement that hedges against an increase in default risk on a loan after the loan has been created by a lender.

Answer: TRUE

Difficulty: 1 Easy

Topic: Derivative Securities: Chapter Overview

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

2) Forward contracts are marked to market daily.

Answer: FALSE

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

3) Futures or option exchange members who take positions on contracts for only a few moments are called scalpers.

Answer: TRUE

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-02 Understand how a futures transaction is conducted.

Accessibility: Keyboard Navigation

4) The purchaser of a T-bond futures contract priced at 101-16 at the time of sale agrees to deliver $100,000 face value Treasury bonds in exchange for receiving $101,500 at contract maturity.

Answer: FALSE

Difficulty: 2 Medium

Topic: Forwards and Futures

Bloom's: Understand

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-03 Identify information that can be found in a futures quote.

Accessibility: Keyboard Navigation

5) A negotiated non-standardized agreement between a buyer and seller (with no third-party involvement) to exchange an asset for cash at some future date with the price set today is called a forward agreement.

Answer: TRUE

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

6) Marking to market of futures contracts is the process of realizing gains and losses each day as the futures contract changes in price.

Answer: TRUE

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

7) European-style options are options that may only be exercised at maturity.

Answer: TRUE

Difficulty: 1 Easy

Topic: Options

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

8) In a futures contract, if funds in the margin account fall below the maintenance margin requirement, a margin call is issued.

Answer: TRUE

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

9) You would expect the price quote for a put option to be at least $10 if the put had an exercise price of $40 and the underlying stock was selling for $50.

Answer: FALSE

Difficulty: 2 Medium

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

10) A clearinghouse backs the buyer's and seller's position in a forward contract.

Answer: FALSE

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-02 Understand how a futures transaction is conducted.

Accessibility: Keyboard Navigation

11) American options can only be exercised at maturity.

Answer: FALSE

Difficulty: 1 Easy

Topic: Options

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

12) If you think that interest rates are likely to rise substantially over the next several years, you might sell a T-bond futures contract or buy an interest rate cap to take advantage of your expectations.

Answer: TRUE

Difficulty: 2 Medium

Topic: Forwards and Futures; Caps, Floors, and Collars

Bloom's: Understand; Evaluate

AACSB: Reflective Thinking

Learning Goal: 10-03 Identify information that can be found in a futures quote.; 10-08 Understand caps, floors, and collars.

Accessibility: Keyboard Navigation

13) Writing a put option results in a potentially limited gain and a potentially unlimited loss.

Answer: TRUE

Difficulty: 2 Medium

Topic: Options

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

14) The buyer of a call option on stock benefits if the underlying stock price rises or if the volatility of the stock's price increases.

Answer: TRUE

Difficulty: 2 Medium

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

15) An in the money American call option increases in value as expiration approaches, but an out of the money American call option decreases in value as expiration approaches.

Answer: FALSE

Difficulty: 2 Medium

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

16) Of the following, the most recent derivative security innovations are

A) foreign currency futures.

B) interest rate futures.

C) stock index futures.

D) stock options.

E) credit derivatives.

Answer: E

Difficulty: 1 Easy

Topic: Derivative Securities: Chapter Overview

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

17) By convention, a swap buyer on an interest rate swap agrees to

A) periodically pay a fixed rate of interest and receive a floating rate of interest.

B) periodically pay a floating rate of interest and receive a fixed rate of interest.

C) swap both principal and interest at contract maturity.

D) back both sides of the swap agreement.

E) act as the dealer in the swap agreement.

Answer: A

Difficulty: 2 Medium

Topic: Swaps

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

18) An increase in which of the following would increase the price of a call option on common stock, ceteris paribus?

I. Stock price

II. Stock price volatility

III. Interest rates

IV. Exercise price

A) II only

B) II and IV only

C) I, II, and III only

D) I, III, and IV only

E) I, II, III, and IV

Answer: C

Difficulty: 3 Hard

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

19) Which of the following is true?

A) Forward contracts have no default risk.

B) Futures contracts require an initial margin requirement be paid.

C) Forward contracts are marked to market daily.

D) Forward contract buyers and sellers do not know who the counterparty is.

E) Futures contracts are only traded over the counter.

Answer: B

Difficulty: 2 Medium

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

20) A professional futures trader who buys and sells futures for his own account throughout the day but typically closes out his positions at the end of the day is called a

A) floor broker.

B) day trader.

C) position trader.

D) specialist.

E) hedger.

Answer: B

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-02 Understand how a futures transaction is conducted.

Accessibility: Keyboard Navigation

21) You have agreed to deliver the underlying commodity on a futures contract in 90 days. Today the underlying commodity price rises and you get a margin call. You must have

A) a long position in a futures contract.

B) a short position in a futures contract.

C) sold a forward contract.

D) purchased a forward contract.

E) purchased a call option on a futures contract.

Answer: B

Difficulty: 2 Medium

Topic: Forwards and Futures

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.; 10-03 Identify information that can be found in a futures quote.

Accessibility: Keyboard Navigation

22) You find the following current quote for the March T-bond contract: $100,000; Pts 32nd, of 100 percent.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Open | High | Low | Settle | Open Interest |
| 89-12 | 89-24 | 88-22 | 89-22 | 55,210 |

You went long in the contract at the open. Which of the following is/are true?

I. At the end of the day, your margin account would be increased.

II. 55,210 contracts were traded that day.

III. You agreed to deliver $100,000 face value T-bonds in March in exchange for $89,120.

IV. You agreed to purchase $100,000 face value T-bonds in March in exchange for $89,375.

A) I, II, and III only

B) I, II, and IV only

C) I and III only

D) I and IV only

E) IV only

Answer: D

Difficulty: 3 Hard

Topic: Forwards and Futures

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-03 Identify information that can be found in a futures quote.

Accessibility: Keyboard Navigation

23) A contract that gives the holder the right to sell a security at a preset price only immediately before contract expiration is a(n)

A) American call option.

B) European call option.

C) American put option.

D) European put option.

E) knockout option.

Answer: D

Difficulty: 1 Easy

Topic: Options

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

24) A higher level of which of the following variables would make a put option on common stock more valuable, ceteris paribus?

I. Stock price

II. Stock price volatility

III. Interest rates

IV. Exercise price

A) II only

B) II and IV only

C) I, II, and III only

D) I, III, and IV only

E) I, II, III, and IV

Answer: B

Difficulty: 3 Hard

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

25) A speculator may write a put option on stock with an exercise price of $15 and earn a $3 premium only if he thought

A) the stock price would stay above $12.

B) the stock volatility would increase.

C) the stock price would fall below $18.

D) the stock price would stay above $15.

E) the stock price would rise above $18 or fall below $12.

Answer: A

Difficulty: 3 Hard

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

26) You have taken a stock option position and, if the stock's price drops, you will get a level gain no matter how far prices fall, but you could go bankrupt if the stock's price rises. You have\_\_\_\_\_\_\_\_.

A) bought a call option.

B) bought a put option.

C) written a call option.

D) written a put option.

E) written a straddle.

Answer: C

Difficulty: 3 Hard

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

27) You have taken a stock option position and, if the stock's price increases, you could lose a fixed small amount of money, but if the stock's price decreases, your gain increases. You must have \_\_\_\_\_\_\_\_.

A) bought a call option

B) bought a put option

C) written a call option

D) written a put option

E) purchased a straddle

Answer: B

Difficulty: 3 Hard

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

28) In a bear market, which option positions make money?

I. Buying a call.

II. Writing a call.

III. Buying a put.

IV. Writing a put.

A) I and II

B) I and III

C) II and IV

D) II and III

E) I and IV

Answer: D

Difficulty: 2 Medium

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

29) The higher the exercise price, the \_\_\_\_\_\_\_\_ the value of a put and the \_\_\_\_\_\_\_\_ the value of a call.

A) higher; higher

B) lower; lower

C) higher; lower

D) lower; higher

Answer: C

Difficulty: 2 Medium

Topic: Options

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

30) Measured by the amount outstanding, the largest type of derivative market in the world is the

A) futures market.

B) forward market.

C) swap market.

D) options market.

E) credit forward market.

Answer: C

Difficulty: 1 Easy

Topic: Swaps

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

31) A stock has a spot price of $55. Its May options are about to expire. One of its puts is worth $5 and one of its calls is worth $10. The exercise price of the put must be \_\_\_\_\_\_\_\_ and the exercise price of the call must be \_\_\_\_\_\_\_\_.

A) $50; $45

B) $55; $55

C) $60; $45

D) $60; $50

E) One cannot tell from the information given.

Answer: C

Difficulty: 2 Medium

Topic: Options

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

32) An agreement between two parties to exchange a series of specified periodic cash flows in the future based on some underlying instrument or price is a(n)

A) forward agreement.

B) futures contract.

C) interest rate collar.

D) option contract.

E) swap contract.

Answer: E

Difficulty: 2 Medium

Topic: Swaps

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

33) An investor has unrealized gains in 100 shares of Amazin stock for which he does not wish to pay taxes. However, he is now bearish upon the stock for the short term. The stock is at $76 and he buys a put with a strike of $75 for $300. At expiration the stock is at $68. What is the net gain or loss on the entire stock/option portfolio?

A) $700

B) −$800

C) −$400

D) −$200

E) −$100

Answer: C

Explanation: [[($68 − $76) × 100] + (($75 − $68) × 100)] − $300 = − $400

Difficulty: 3 Hard

Topic: Options

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-05 Examine information found in an options quote.

Accessibility: Keyboard Navigation

34) New futures contracts must be approved by

A) the CFTC.

B) the SEC.

C) the Warren Commission.

D) the NYSE.

E) the Federal Reserve.

Answer: A

Difficulty: 1 Easy

Topic: Regulation of Futures and Options Markets

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-06 Know the main regulators of futures and options markets.

Accessibility: Keyboard Navigation

35) An investor is committed to purchasing 100 shares of World Port Management stock in six months. She is worried the stock price will rise significantly over the next six months. The stock is at $45 and she buys a six-month call with a strike of $50 for $250. At expiration the stock is at $54. What is the net economic gain or loss on the entire stock/option portfolio?

A) −$500

B) −$750

C) −$900

D) $400

E) $500

Answer: B

Explanation: [[($45 − $54) × 100] + (($54− $50) × 100)] − $250 = − $750

Difficulty: 2 Medium

Topic: Options

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-05 Examine information found in an options quote.

Accessibility: Keyboard Navigation

36) A bank with short-term floating-rate assets funded by long-term fixed-rate liabilities could hedge this risk by

I. buying a T-bond futures contract.

II. buying options on a T-bond futures contract.

III. entering into a swap agreement to pay a fixed rate and receive a variable rate.

IV. entering into a swap agreement to pay a variable rate and receive a fixed rate.

A) I and III only

B) I, II, and IV only

C) II and IV only

D) III only

E) IV only

Answer: B

Difficulty: 3 Hard

Topic: Forwards and Futures; Options; Swaps

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-03 Identify information that can be found in a futures quote.; 10-07 Describe how swaps work.; 10-05 Examine information found in an options quote.

Accessibility: Keyboard Navigation

37) A bank with long-term fixed-rate assets funded with short-term rate-sensitive liabilities could do which of the following to limit their interest rate risk?

I. Buy a cap.

II. Buy an interest rate swap.

III. Buy a floor.

IV. Sell an interest rate swap.

A) I and II only

B) III only

C) I and IV only

D) II and III only

E) III and IV only

Answer: A

Difficulty: 3 Hard

Topic: Caps, Floors, and Collars; Swaps

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-08 Understand caps, floors, and collars.; 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

38) An interest rate floor is designed to protect an institution from

I. falling interest rates.

II. falling bond prices.

III. increased credit risk on loans.

IV. swap counterparty credit risk.

A) I and IV

B) II and III

C) I and III

D) II and IV

E) I only

Answer: E

Difficulty: 2 Medium

Topic: Caps, Floors, and Collars

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-08 Understand caps, floors, and collars.

Accessibility: Keyboard Navigation

39) An interest rate collar is

A) writing a floor and writing a cap.

B) buying a cap and writing a floor.

C) an option on a futures contract.

D) buying a cap and buying a floor.

E) None of these choices are correct.

Answer: B

Difficulty: 3 Hard

Topic: Caps, Floors, and Collars

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-08 Understand caps, floors, and collars.

Accessibility: Keyboard Navigation

40) My bank has a larger number of adjustable-rate mortgage loans outstanding. To protect our interest rate income on these loans, the bank could

I. enter into a swap to pay fixed and receive variable.

II. enter into a swap to pay variable and receive fixed.

III. buy an interest rate floor.

IV. buy an interest rate cap.

A) I and III only

B) I and IV only

C) II and III only

D) II and IV only

Answer: C

Difficulty: 2 Medium

Topic: Caps, Floors, and Collars; Swaps

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-08 Understand caps, floors, and collars.; 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

41) A contract wherein the buyer agrees to pay a specified interest rate on a loan that will be originated at some future time is called a(n)

A) forward rate agreement.

B) futures loan.

C) option on a futures contract.

D) interest rate swap contract.

E) currency swap contract.

Answer: A

Difficulty: 1 Easy

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

42) Two competing fully electronic derivatives markets in the United States are

A) CME Globex and Eurex.

B) Philadelphia Exchange and AMEX.

C) NYSE and ABS.

D) CME and Pacific Exchange.

E) D-Trade and IMM.

Answer: A

Difficulty: 2 Medium

Topic: Forwards and Futures

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-02 Understand how a futures transaction is conducted.

Accessibility: Keyboard Navigation

43) Your firm enters into a swap agreement with a notional principal of $40 million wherein the firm pays a fixed rate of interest of 5.50 percent and receives a variable rate of interest equal to LIBOR plus 150 basis points. If LIBOR is currently 3.75 percent, the NET amount your firm will receive (+) or pay (−) on the next transaction date is

A) − $2,200,000.

B) $2,625,000.

C) $125,000.

D) − $100,000.

E) − $875,000.

Answer: D

Explanation: ((3.75% + 1.50%) − 5.50%) × $40 million = − $100,000

Difficulty: 2 Medium

Topic: Swaps

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

44) Refer to the Listed Stock Option Price Quote from February and assume it is now January:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| IRQ | | | | Underlying stock price $45.23 | | | | | |
| Expiration | STRIKE | Call | | | | Put | | | |
|  |  | LAST | VOLUME | | OPEN  INTEREST | | LAST | VOLUME | OPEN  INTEREST | |
| Mar | 50 | ? | 102 | | 12,578 | | 6.55 | 80 | 11,175 | |
| Jun | 50 | 2.25 | 35 | | 1,062 | | ? | 48 | 909 | |

Based on the option quote, the March call should cost

A) more than $477.

B) more than $102.

C) less than $665 but more than $477.

D) less than $225.

E) $0.

Answer: D

Explanation: The March call price must be less than the June call price quote \* 100.

Difficulty: 2 Medium

Topic: Options

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 10-05 Examine information found in an options quote.

Accessibility: Keyboard Navigation

45) Refer to the Listed Stock Option Price Quote from February and assume it is now January:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| IRQ | | | | Underlying stock price $45.23 | | | | | |
| Expiration | STRIKE | Call | | | | Put | | | |
|  |  | LAST | VOLUME | | OPEN  INTEREST | | LAST | VOLUME | OPEN  INTEREST | |
| Mar | 50 | ? | 102 | | 12,578 | | 6.55 | 80 | 11,175 | |
| Jun | 50 | 2.25 | 35 | | 1,062 | | ? | 48 | 909 | |

Based on the option quote, the June put should cost

I. more than $477.

II. more than $665.

III. more than the March and June 60 calls.

IV. more than the March 60 call but no more than the June 60 call.

A) I only

B) I, II, and IV only

C) I, II, and III only

D) I and III only

E) IV only

Answer: C

Explanation: The June put price must be greater than the intrinsic value of ($50 − $45.23) \* 100 and must be worth more than the March put price and both the March and June 60 calls.

Difficulty: 3 Hard

Topic: Options

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 10-05 Examine information found in an options quote.

Accessibility: Keyboard Navigation

46) Refer to the Listed Stock Option Price Quote from February and assume it is now January:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| IRQ | | | | Underlying stock price $45.23 | | | | | |
| Expiration | STRIKE | Call | | | | Put | | | |
|  |  | LAST | VOLUME | | OPEN  INTEREST | | LAST | VOLUME | OPEN  INTEREST | |
| Mar | 50 | ? | 102 | | 12,578 | | 6.55 | 80 | 11,175 | |
| Jun | 50 | 2.25 | 35 | | 1,062 | | ? | 48 | 909 | |

If you buy the March put and don't exercise before contract maturity, you will make a profit if the stock price at maturity \_\_\_\_\_\_\_\_ from today's price.

A) increases by more than 9.65 percent

B) increases by more than 4.57 percent

C) decreases by more than 3.94 percent

D) decreases by more than 11.99 percent

E) does not decrease by more than 5.64 percent

Answer: C

Explanation: [(50 − 6.55)/45.23] − 1

Difficulty: 3 Hard

Topic: Options

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-05 Examine information found in an options quote.

Accessibility: Keyboard Navigation

47) A bank has made a risky loan to a midsize consumer goods manufacturer. With the weaker economy, the borrower is expected to have trouble repaying the loan. The bank decides to purchase a digital default option. Which one of the following payout patterns does a digital option provide?

A) The option seller pays a stated amount to the option buyer, usually the par on the loan or bond, in the event of a default on the underlying credit.

B) The option seller pays the buyer if the default risk premium or yield spread on a specified benchmark bond of the borrower increases above some exercise spread.

C) If the option buyer makes fixed periodic payments to the option seller, the seller will pay the option buyer if a credit event occurs.

D) If the option buyer makes periodic payments to the seller and delivers the underlying bond or loan, the seller pays the par value of the security.

E) If interest rates change, the option seller will begin making fixed-rate payments to the option buyer.

Answer: A

Difficulty: 3 Hard

Topic: Options

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

48) A bank lender is concerned about the creditworthiness of one of its major borrowers. The bank is considering using a swap to reduce its credit exposure to this customer. Which type of swap would best meet this need?

A) Interest rate swap

B) Currency swap

C) Equity linked swap

D) Credit default swap

E) DIF swap

Answer: D

Difficulty: 1 Easy

Topic: Swaps

Bloom's: Understand; Evaluate

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

49) The type of swap most closely linked to the subprime mortgage crisis is the \_\_\_\_\_\_\_\_.

A) interest rate swap

B) currency swap

C) equity linked swap

D) credit default swap

E) DIF swap

Answer: D

Difficulty: 1 Easy

Topic: Swaps

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

50) What determines the success or failure of an exchange-traded derivative contract? Why were currency and interest rate futures introduced in the early and late 1970s, respectively?

Answer: The success of derivative contracts depends upon trading volume (or trader interest), which is in turn dependent on price volatility in the underlying security or commodity value. Currency futures were introduced in the early 1970s in response to the collapse of fixed exchange rates as Bretton Woods collapsed. Exchange rates quickly proved themselves very volatile. Interest rate futures were needed once the Federal Reserve stopped targeting interest rates and began targeting non-borrowed reserves in 1979, allowing interest rates to float and interest rate volatility to increase.

Difficulty: 3 Hard

Topic: Derivative Securities: Chapter Overview

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

51) A U.S. firm has a European subsidiary that earns euros. The subsidiary has borrowed dollars at a floating rate of interest. What kind of risk does the subsidiary have? What kind of swap could be used to limit the subsidiary's risk? Be specific.

Answer: The subsidiary faces both currency risk and probably interest rate risk. If the euro drops in value, the subsidiary will have to use more euros to repay the dollar debt. If interest rates rise, the subsidiary's financing costs will also rise. The subsidiary may be able to set up a currency/rate swap whereby the subsidiary pays euros at a fixed rate of interest and receives dollars at a variable rate of interest. This would reduce both types of risks.

Difficulty: 3 Hard

Topic: Swaps

Bloom's: Understand; Evaluate

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

52) When would a forward contract be better for hedging than a futures contract?

Answer: A forward contract is better suited for a nonstandard agreement where specific terms need to be negotiated or when there are no suitable futures contracts available (e.g., hedging an LDC currency). Forwards also avoid the daily liquidity problems that marking to market on futures contracts can cause. Forward contracts are generally not marketable, so the participant should be sure the contract is needed and must be willing to take or make delivery. Forwards require each party to assess the creditworthiness of the counterparty, so one needs enough information about the other party to assess the likelihood of default. Default risk is not an issue for futures contracts.

Difficulty: 2 Medium

Topic: Forwards and Futures

Bloom's: Understand; Evaluate

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.

Accessibility: Keyboard Navigation

53) When might an option on a futures contract be preferable to an option on the underlying instrument?

Answer: In general, the option on the futures will be preferable if it is cheaper and/or easier to deliver the futures contract rather than the underlying instrument. This can occur when the futures contract is more liquid than the underlying instrument, or if delivery of the underlying instrument is more difficult and costly.

Difficulty: 1 Easy

Topic: Options

Bloom's: Understand; Evaluate

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

54) How does a futures or option clearinghouse assist traders?

Answer: The clearinghouse interposes itself between every buyer and seller. For example, an option buyer buys from the clearinghouse; an option seller sells to the clearinghouse. Should one party not perform as promised, the clearinghouse performs instead. Thus, market participants do not need to evaluate the creditworthiness of the counterparty since the clearinghouse guarantees all trades. The clearinghouse nets all transactions so that once a long participant sells the same contract, the clearinghouse nets their position to zero.

Difficulty: 2 Medium

Topic: Forwards and Futures; Options; Regulation of Futures and Options Markets

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-02 Understand how a futures transaction is conducted.; 10-04 Recognize what option contracts are.; 10-06 Know the main regulators of futures and options markets.

Accessibility: Keyboard Navigation

55) Buying an "at-the-money" call option and writing an "at-the-money" put option are two ways to make money when prices rise. When would each be the preferable strategy?

Answer: If spot prices rise by a lot, then buying the call is preferable. If spot prices rise by only a little, then writing the put is preferable. In general, in low-volatility markets writing options will be the preferred strategy, but in high-volatility markets buying options will give larger gains and avoid catastrophic losses. Buying options is also the more risk-averse strategy.

Difficulty: 3 Hard

Topic: Options

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

56) A stock is priced at $27. An American call option on this stock with a $25 strike must be worth at least how much? Numerically show why.

Answer: It must be worth at least $2 per share or $200 per contract. Suppose the premium is instead only $1 (per share). You could buy the call for $1 and sell the stock short simultaneously at $27, exercise the call immediately, and buy the stock for $25. Your "all in" cost of the stock (per share) is $25 + $1 = $26, and you sell the stock for $27, a $1 gain that involves no risk and no investment (although you will have to post margin on the short sale). As everyone does this, the option's price will rise until the option premium is at least equal to the difference between the stock price and the exercise price.

Difficulty: 2 Medium

Topic: Options

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

57) FNMA has direct holdings of 30-year fixed-rate mortgages financed by three- to five-year agency securities sold to the public.

What kind of interest rate swap could FNMA use to limit their interest rate risk? Explain.

Answer: FNMA's risk is from rising interest rates because the bonds mature more quickly than the mortgages (the mortgage duration is greater). Rising interest rates will increase FNMA's funding cost, but the mortgage income will stay the same. To offset this risk, FNMA could agree to pay a fixed rate of interest on a given notional principal and receive a variable rate of interest. If rates rose, FNMA would receive more interest income, but pay out the same fixed rate on the swap. The swap gain could then offset any loss on the balance sheet.

Difficulty: 2 Medium

Topic: Swaps

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-07 Describe how swaps work.

Accessibility: Keyboard Navigation

58) FNMA has direct holdings of 30-year fixed-rate mortgages financed by three- to five-year agency securities sold to the public.

What kind of interest rate option could FNMA use to limit the interest rate risk? Explain how this would work. Explain how a collar could also be used.

Answer: A cap could be used since FNMA's risk is from rising interest rates. Caps generate income to the buyer if interest rates rise above some minimum value. For example, a 10 percent cap pays the holder i - 10% times the notional principal if i > 10%. This additional income could be used to offset higher funding costs of the agency securities when rates rose. Buying caps can be expensive. To help offset the purchase price of the cap, FNMA could also sell a floor. The income from selling the floor would help offset the price of the cap. Buying a cap and selling a floor is termed a "collar."

Difficulty: 2 Medium

Topic: Caps, Floors, and Collars

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-08 Understand caps, floors, and collars.

Accessibility: Keyboard Navigation

59) Using the Black-Scholes model, explain what happens to the value of a call as S, T, and σ2 change. Why is the relationship between risk and price different for options than for other securities?

1. As S increases, C (the call premium) increases because the right to buy at the fixed price E has more value as the sale price S rises.

2. As T increases, C increases and as T decreases, C decreases. The less time remaining on the option, the lower its value since there is less time during which the option right is available.

3. As σ increases, C increases.

Answer: Unlike virtually all other securities, risk and price move in the same direction. The reason is the option feature of the contract. If bad outcomes occur, you do not exercise the option, but you do exercise if the good outcomes occur. Greater risk increases the odds of seeing either the very good or very bad outcomes, but, because you get all the gain from a stock price run-up and none of the loss of a stock decline, this means that risk increases the option's value.

Difficulty: 3 Hard

Topic: Black-Scholes Option Pricing Model

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

60) When would an option hedge be better than a futures or forward hedge?

Answer: An option hedge is better than a futures or forward hedge when you want the choice of whether or not to use the derivative instrument and you are willing to pay to have that choice. Futures and forward hedges limit losses, but also limit profit opportunities. Because options are a right, rather than a commitment, using options to hedge preserves the upside potential foregone with other hedging methods. Options require the payment of a nonrefundable premium to acquire, whereas forward, futures, and swaps do not have this outright cost.

Difficulty: 2 Medium

Topic: Forwards and Futures; Options

Bloom's: Understand; Evaluate

AACSB: Reflective Thinking

Learning Goal: 10-01 Distinguish between forward and future contracts.; 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

61) Suppose a stock is priced at $50. You are bullish on the stock and are considering buying March calls with an exercise price of $45 and $55, respectively. The 45 call is priced at $8.50 and the 55 call is quoted at $2.75. What should you consider in deciding which to purchase if you do not plan on exercising prior to maturity? Be specific.

Answer: The 45 is in the money and could be exercised right away, although the exerciser would lose the ($8.50 − $5) = $3.50 time value of the call by exercising. The stock has to move up to $58.50 before the call buyer recovers the purchase price. Buying the 55 call is cheaper; the quote is $2.75 (or $275). This is because the call is currently out of the money. If you buy the 55 call, the stock price has to move up to $57.75 ($55 + $2.75) before you make a profit. You have a lower breakeven than with the more expensive in the money call, but your profit is considerably less ($10 per share to be exact) with the out of the money call. You can also lose much less with the out of the money call ($275 versus $850). There is no definitive answer as to which is better; it depends on your perception of how the stock price will move (and the underlying stock volatility) and your own risk return trade-off.

Difficulty: 3 Hard

Topic: Options

Bloom's: Evaluate; Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation

62) A stock is priced at $33.25. The stock has call options with an exercise price of $35 that expire in 60 days. The underlying stock price volatility is 39 percent per year and the annual risk-free rate is 4.5 percent. According to the Black-Scholes option pricing model, what is the most you should be willing to pay for this call option?





Using the Normsdist function in Excel to find N(dx)

C0 = ($33.25 × 0.42131) - [$35e−0.045(60/365) × 0.3607]= $1.4781 or $147.81 per contract

Answer: Note to Instructor: This is an Appendix question and it requires either a cumulative normal density table or access to the Excel function Normsdist to find N(dx).

Difficulty: 3 Hard

Topic: Black-Scholes Option Pricing Model

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 10-04 Recognize what option contracts are.

Accessibility: Keyboard Navigation