Student name:\_\_\_\_\_\_\_\_\_\_

**MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.  
1)** The owner of a warrant has the:

1) \_\_\_\_\_\_

A) obligation to sell securities directly to the issuer at a fixed price for a stated period of time.   
 B) right to purchase securities directly from the issuer at a fixed price for a stated period of time.  
 C) obligation to purchase securities directly from the issuer at a fixed price for a stated period of time.  
 D) right to sell securities directly to the issuer at a fixed price for a stated period of time.  
 E) right to sell securities directly to the issuer at the prior day’s closing price for a stated period of time.

**2)** Warrants are most often issued in combination with new:

2) \_\_\_\_\_\_

A) publicly placed shares of common stock.   
 B) privately placed shares of common stock.  
 C) publicly placed bonds.  
 D) privately placed bonds.  
 E) shares of preferred stock.

**3)** The lower limit of a warrant’s value is defined as:

3) \_\_\_\_\_\_

A) zero.   
 B) MIN(0, Exercise price − Stock price).  
 C) MAX(0, Stock price − Exercise price).  
 D) MAX(0, Exercise price − Stock price).  
 E) MIN(0, Stock price − Exercise price).

**4)** The upper limit of a warrant’s value is best defined as the:

4) \_\_\_\_\_\_

A) exercise price.   
 B) MAX(0, Stock price − Exercise price).  
 C) underlying stock price.  
 D) MAX(0, Exercise price − Stock price).  
 E) MIN(0, Stock price − Exercise price).

**5)** The value of a warrant is *least* likely to be affected by the:

5) \_\_\_\_\_\_

A) exercise price.   
 B) underlying stock price.  
 C) risk-free interest rate.  
 D) variance of underlying stock returns.  
 E) market rate of return.

**6)** Snowplow issued warrants with an exercise price of $43. The firm’s common stock is currently trading for $42 per share. The warrants are:

6) \_\_\_\_\_\_

A) in the money.   
 B) out of the money.  
 C) valuable.  
 D) not very valuable.  
 E) both in the money and valuable.

**7)** Which one of the features noted below applies to call options but not to warrants?

7) \_\_\_\_\_\_

A) Market value that changes   
 B) Value based on underlying asset  
 C) Absolute minimum value of zero  
 D) Issued by individuals  
 E) Exercise price

**8)** Which one of the following actions occurs whenever a warrant is exercised?

8) \_\_\_\_\_\_

A) The issuer receives the greater of the exercise price or the stock price.   
 B) The number of shares outstanding increases.  
 C) Currently outstanding shares are exchanged between individual shareholders.  
 D) A new warrant is issued to replace the exercised warrant.  
 E) The issuer pays the lower of the exercise price or the stock price.

**9)** Which of the following features is generally true of Warrants? They:

9) \_\_\_\_\_\_

A) cannot be detached.   
 B) expire within 30 days.  
 C) remain attached to their original security until the expiration date.  
 D) increase in value when the underlying stock price decreases.  
 E) have longer maturity periods than calls.

**10)** With respect to warrants and call options, which one of the following statements generally is correct?

10) \_\_\_\_\_\_

A) The issue procedures for both are quite similar.   
 B) When a call option is exercised, the firm must issue new stock.  
 C) When a warrant is exercised, existing stock changes hands.  
 D) Exercise of a call option does not affect share value but warrant exercise does.  
 E) The issuance of a call option generally decreases share value.

**11)** Which one of the following events would harm the financial position of a warrant holder?

11) \_\_\_\_\_\_

A) A 3-for-1 stock split   
 B) A 20 percent stock dividend  
 C) A large cash dividend  
 D) A listing of the warrants on the NYSE  
 E) A reverse stock split

**12)** The gain from exercising a warrant is \_\_\_\_\_ the gain from exercising a comparable call option.

12) \_\_\_\_\_\_

A) less than   
 B) generally greater than  
 C) always greater than  
 D) equal to  
 E) either equal to or greater than

**13)** When warrants are exercised, new shares are created. This:

13) \_\_\_\_\_\_

A) increases the total number of shares but does not affect share value.   
 B) increases the total number of shares and can reduce the value per share.  
 C) does not change the number of shares outstanding, similar to options.  
 D) increases share value because cash is paid into the firm at the time of warrant exercise.  
 E) increases the number of shares outstanding while maintaining the current price per share.

**14)** The gain on a call is calculated as follows:

14) \_\_\_\_\_\_

A) [Firm’s value net of debt + Exercise price(*N*w)]/(*N + N*w).   
 B) [Firm’s value net of debt + Exercise price(*N*w)]/*N.*  
 C) Firm’s value net of debt/*N* − Exercise price.  
 D) Firm’s value net of debt/(*N* + *N*w) − Exercise price.  
 E) (Firm’s value net of debt − Exercise price)/*N.*

**15)** The gain on a warrant is calculated as follows:

15) \_\_\_\_\_\_

A) {[Firm’s value net of debt + Exercise price(*N*w)]/(*N + N*w)} − Exercise price.   
 B) [Firm’s value net of debt + Exercise price*(N*w)]/*N* − Exercise price.  
 C) Firm’s value net of debt/*N* − Exercise price.  
 D) Firm’s value net of debt/(*N* + *N*w) − Exercise price.  
 E) (Firm’s value net of debt − Exercise price)/(*N* + *N*w)*.*

**16)** The gain on a warrant compared to the gain on a similar call is expressed as:

16) \_\_\_\_\_\_

A) (*N* + *N*w)/*N*.   
 B) *N*/(*N* + *N*w).  
 C) *N*w/(*N* + *N*w).  
 D) *N*w/*N.*  
 E) 1 + (*N*w/*N*).

**17)** A security issued by Strong Corporation can be exchanged for a fixed number of shares of stock. Accordingly, the security is:

17) \_\_\_\_\_\_

A) callable.   
 B) convertible.  
 C) protected.  
 D) putable.  
 E) inflated.

**18)** A convertible preferred stock is similar to a convertible bond except that:

18) \_\_\_\_\_\_

A) the conversion ratio is fixed.   
 B) the conversion price is fixed.  
 C) the time to maturity is infinite.  
 D) preferred stock converts to common stock while bonds convert to preferred stock.  
 E) preferred stock converts to bonds while bonds convert to common stock.

**19)** The holder of a $1,000 face value bond has the right to exchange the bond any time prior to maturity for shares of stock priced at $36 per share. The $36 is called the:

19) \_\_\_\_\_\_

A) conversion price.   
 B) stated price.  
 C) exercise price.  
 D) striking price.  
 E) par value.

**20)** Concerning convertible bonds, which one of these statements is *false*?

20) \_\_\_\_\_\_

A) The value of a convertible bond can be greater than its straight bond value.   
 B) The value of a convertible bond may be greater than its conversion value.  
 C) A convertible bond can be separated into two distinct securities.  
 D) The coupon rate on a nonconvertible bond will generally exceed the coupon rate on an otherwise identical convertible bond.  
 E) An increase in the conversion price lowers the conversion ratio.

**21)** The option value of a convertible bond equals the market value of the bond minus the:

21) \_\_\_\_\_\_

A) straight bond value.   
 B) conversion value.  
 C) conversion premium.  
 D) maximum of the straight bond value or conversion value.  
 E) minimum of the conversion value or the straight bond value.

**22)** A firm has experienced a significant increase in its share value. In retrospect, which one of the following securities would generally have provided the most benefit to the firm assuming the securities had been issued prior to the change in share value?

22) \_\_\_\_\_\_

A) Bonds with attached warrants   
 B) Convertible preferred stock  
 C) Straight bonds  
 D) Convertible bonds  
 E) Common stock

**23)** A firm has experienced a significant decrease in its share value. In retrospect, which one of the following securities would generally have provided the most benefit to the firm assuming the securities had been issued prior to the change in share value?

23) \_\_\_\_\_\_

A) Bonds with attached warrants   
 B) Convertible preferred stock  
 C) Straight bonds  
 D) Convertible bonds  
 E) Common stock

**24)** A convertible bond:

24) \_\_\_\_\_\_

A) generally has fewer restrictive covenants than an otherwise identical nonconvertible bond.   
 B) is generally issued with a higher coupon than a comparable non-convertible bond.  
 C) provides a greater benefit to its issuer than a straight bond if the underlying stock price rises in the future.  
 D) retains its option value even after the bond matures.  
 E) tends to increase agency costs.

**25)** Convertible bonds:

25) \_\_\_\_\_\_

A) are secured by shares of common stock.   
 B) require conversion on or before the bond’s maturity date.  
 C) grant the owner the option of receiving either cash or shares of stock on conversion.  
 D) are generally issued by firms that have lower bond ratings than the average firm.  
 E) are generally granted seniority over all other bonds.

**26)** Assume a firm issues convertible bonds at a time when the risk of the firm is difficult to properly assess. If the firm is subsequently determined to have low risk, then the:

26) \_\_\_\_\_\_

A) straight bond component of the convertible bond will have high value.   
 B) bond should be immediately converted.  
 C) conversion value will always exceed the straight bond value.  
 D) call option of the convertible bond will have high value.  
 E) firm will eliminate the conversion option.

**27)** Issuing convertible bonds or bonds with warrants is useful for a company of unknown risk because:

27) \_\_\_\_\_\_

A) risk affects the two value components of these securities in opposing ways.   
 B) if the firm turns out to be high risk, both the option premium and the straight bond value will be high.  
 C) generally only well-established, high-grade companies issue these instruments.  
 D) the equity value is dependent on current risks rather than future risks.  
 E) these securities generally carry significant restrictive covenants.

**28)** Transfer or expropriation of wealth from bondholders to stockholders is less likely to occur when:

28) \_\_\_\_\_\_

A) subordinated straight debt is issued because the senior bondholders provide protection for the subordinated bondholders.   
 B) convertible debt is issued because the equity component will reduce agency costs.  
 C) convertible debt is issued because the holders can more readily sue when a high-risk project is undertaken.  
 D) subordinated debt is issued because monitoring is much easier when subordinated straight debt is issued.  
 E) straight debt is issued because there is a clearer distinction between creditors and shareholders.

**29)** Assuming market efficiency, which one of the following statements is the *least* sensible explanation of why convertibles and warrants are issued?

29) \_\_\_\_\_\_

A) Cash flows from these securities best match the cash flows of the firm.   
 B) The firm is relatively large with a low level of financial leverage.  
 C) The securities are useful when it is costly to assess the risk of the issuing firm.  
 D) The securities may resolve agency problems associated with raising money.  
 E) The issuer has a low bond rating.

**30)** From the bondholder’s point of view, the optimum time to convert a convertible bond is when the bond’s conversion value is:

30) \_\_\_\_\_\_

A) less than the call price, but greater than the face value.   
 B) greater than the call price, but less than the straight debt's value.  
 C) equal to the face value.  
 D) less than the straight debt's value, but greater than the call price.  
 E) greater than the both the call value and straight bond value on the call date.

**31)** Empirical studies indicate that firms tend to call convertible bonds when the conversion value is:

31) \_\_\_\_\_\_

A) less than the conversion price.   
 B) greater than the straight bond value.  
 C) greater than the call price.  
 D) less than the face value.  
 E) equal to the straight bond value.

**32)** Transom issued warrants for one share per warrant with an exercise price of $42. On July 1, the common stock is selling for $45 per share. What are the lower and upper limits on the warrant value on this date?

32) \_\_\_\_\_\_

A) $0 and $45   
 B) $0 and $42  
 C) $3 and $4  
 D) $3 and $45  
 E) $42 and $45

**33)** Fire & Ice has 26,000 shares of stock outstanding. Each share has a .5 warrant attached. These warrants expire today. The market value of the firm's assets net of its debt is $390,000. One new share can be obtained for one warrant plus $18. Assuming all else held constant, what would you expect the market price per share to be tomorrow morning when the stock market opens?

33) \_\_\_\_\_\_

A) $15.00   
 B) $16.50  
 C) $16.00  
 D) $18.00  
 E) $17.50

**34)** Wijono Group has 450,000 shares outstanding with a market value of $32 per share. Each share has a .2 warrant attached. One warrant plus $30 can be exchanged for one new share of stock. What will be the value of the firm if all the warrants are exercised? Assume all else held constant.

34) \_\_\_\_\_\_

A) $16.3 million   
 B) $19.2 million  
 C) $14.4 million  
 D) $17.1 million  
 E) $42.3 million

**35)** Custom Cladding has 60,000 shares outstanding. Each share has one-third of a warrant attached. One warrant plus $25 can be exchanged for one new share of stock. The stock is currently selling for $27 per share. All else held constant, what will the stock price be if all the warrants are exercised?

35) \_\_\_\_\_\_

A) $26.38   
 B) $26.50  
 C) $25.00  
 D) $27.00  
 E) $26.67

**36)** Maritime Supply has 150,000 shares and 150,000 warrants outstanding. One new share can be purchased for every 10 warrants plus $25 per new share. The stock is currently selling for $28 per share. If all the warrants are exercised immediately, what would be the adjusted market price of the stock?

36) \_\_\_\_\_\_

A) $30.50   
 B) $25.13  
 C) $26.96  
 D) $28.00  
 E) $27.73

**37)** Skyfall Corporation has 75,000 shares and 50,000 warrants currently outstanding. A warrant holder can purchase one new share of stock in exchange for four warrants plus $20. The stock is currently selling for $20.60 per share. What would be the gain per new share from exercising the warrants, assuming all warrants are exercised?

37) \_\_\_\_\_\_

A) $.15   
 B) $.51  
 C) $.60  
 D) $2.40  
 E) $2.04

**38)** A firm has 1,000 shares of stock and 200 warrants outstanding. Assume the warrants are all exercised. The market value of the firm's assets is $40,000 and the market value of its debt is $12,000. Each warrant grants its owner the right to buy one new share at $26.80. What is the gain on one warrant?

38) \_\_\_\_\_\_

A) $.70   
 B) $1.00  
 C) $.36  
 D) $.56  
 E) $.71

**39)** Algarve Recruiting has 100,000 shares of stock outstanding. The firm's value net of debt is $2 million. Algarve has 1,000 warrants outstanding with an exercise price of $18, where each warrant entitles the holder to purchase one share of stock. Calculate the gain from exercising a single warrant.

39) \_\_\_\_\_\_

A) $1.87   
 B) $1.72  
 C) $1.45  
 D) $.38  
 E) $1.98

**40)** Trusted Property Management currently has 300,000 shares of common outstanding. Firm value net of debt is $3,450,000. The firm has warrants outstanding with an exercise price of $10. How many warrants must the firm have issued if the gain from exercising a single warrant is $1.25? Assume each warrant entitles its owner to one new share.

40) \_\_\_\_\_\_

A) 24,000   
 B) 45,000  
 C) 50,000  
 D) 80,000  
 E) 60,000

**41)** Abletree Corporation’s bonds have a face value of $1,000. Each bond can be exchanged by the boldholders for 50 shares of stock. The stock is selling for $25 per share. What is the conversion price?

41) \_\_\_\_\_\_

A) $25.00   
 B) $40.00  
 C) $20.00  
 D) $50.00  
 E) $15.00

**42)** Sapphire Software has 300,000 shares of stock outstanding at a market price of $38 per share. The holder of a $1,000 face value bond can exchange the bond at any time for 20 shares of stock. What is the conversion price?

42) \_\_\_\_\_\_

A) $40   
 B) $38  
 C) $57  
 D) $50  
 E) $20

**43)** The bonds issued by Mobility Systems have a face value of $1,000 and can be exchanged for 35 shares of stock. The stock has a market price of $22 per share. If Mobility declared a 3-for-1 stock split, what would the bonds’ conversion ratio and conversion price be?

43) \_\_\_\_\_\_

A) 75; $7.33   
 B) 105; $9.52  
 C) 105; $22.00  
 D) 35; $22.00  
 E) 105; $7.33

**44)** A bond with a face value of $1,000 can be converted into 33 shares of stock. What is the conversion value if the stock is selling for $29.80 per share?

44) \_\_\_\_\_\_

A) $30.30   
 B) $33.33  
 C) $983.40  
 D) $1,000  
 E) $0

**45)** The bonds issued by Onpoint Publishing have a face value of $1,000 and can be exchanged for 30 shares of stock. What is the conversion price if the stock is selling for $28.20 per share?

45) \_\_\_\_\_\_

A) $25.00   
 B) $33.33  
 C) $35.46  
 D) $28.20  
 E) $0

**46)** The bonds issued by Unfurled have a face value of $1,000 and can be exchanged for 20 shares of stock. The stock is selling for $49.40 per share. What is the conversion premium?

46) \_\_\_\_\_\_

A) 0%   
 B) 1.33%  
 C) 1.21%  
 D) −1.33%  
 E) 1.67%

**47)** Assume a bond had a conversion price of $40 and a conversion ratio of 25. What would be the conversion ratio and conversion price if the bond issuer declared a stock split of 4-for-1?

47) \_\_\_\_\_\_

A) 2.50; $400   
 B) 100; $10  
 C) 25; $40  
 D) 6.25; $160  
 E) 100; $25

**48)** A convertible bond is selling for $800, matures in 10 years, has a face value of $1,000, and a coupon rate of 10 percent. Similar nonconvertible bonds are priced to yield 14 percent. The conversion price is $32. The stock currently sells for $31.30 per share. What is the conversion premium?

48) \_\_\_\_\_\_

A) 0%   
 B) 1.67%  
 C) 2.50%  
 D) 3.33%  
 E) 2.24%

**49)** The bonds issued by Gibault Air Systems have a face value of $1,000 and can be exchanged for 20 shares of stock. Assume Gibault declares a 3-for-1 stock split. What conversion price will be needed following the stock split for the conversion value and the straight bond value to be equal assuming the bond continually sells at par?

49) \_\_\_\_\_\_

A) $16.67   
 B) $33.33  
 C) $50.00  
 D) $150.00  
 E) $66.67

**50)** A convertible bond is selling for $967, matures in 15 years, has a $1,000 face value, pays interest semiannually, and has a coupon rate of 8 percent. Similar non-convertible bonds are priced to yield 4.25 percent per six months. The conversion ratio is 20. The stock currently sells for $47.50 per share. Calculate the convertible bond's option value.

50) \_\_\_\_\_\_

A) $2.92   
 B) $7.27  
 C) $2.03  
 D) $8.95  
 E) $1.48

**51)** A convertible bond is selling for $1,222.70. It has 10 years to maturity, a $1,000 face value, a coupon rate of 10 percent, and semiannual interest payments. Similar non-convertible bonds are priced to yield 4 percent per six months. The conversion ratio is 40. The stock currently sells for $30.13 per share. Calculate the convertible bond's option value.

51) \_\_\_\_\_\_

A) $8.68   
 B) $22.70  
 C) $13.59  
 D) $17.50  
 E) $86.80

**52)** A convertible bond is valued at $1,062, has a conversion ratio of 25 and an option premium of $3. What is the conversion value if the straight bond value is equal to the bond’s par value?

52) \_\_\_\_\_\_

A) $1,062.00   
 B) $1,042.36  
 C) $1,059.00  
 D) $1,042.48  
 E) $1,065.00

**53)** Leung Industries has 400,000 shares of stock outstanding with a market price of $32 per share. The firm also has 10,000 bonds outstanding with a face value of $1,000 and a conversion price of $40. The bonds mature tomorrow. You currently own 25,000 shares of this stock but no bonds. What percent ownership in the firm should you expect to have after tomorrow?

53) \_\_\_\_\_\_

A) 3.52%   
 B) 3.85%  
 C) 4.25%  
 D) 6.25%  
 E) 3.13%

**54)** Jadhav Investments has 500 shares of stock and 100 bonds outstanding. The bonds have a face value of $1,000, are convertible into 5 shares of newly issued common stock, and mature today. What is the value of this firm to its shareholders if the total value of the firm is $184,500? What if the value is $225,000?

54) \_\_\_\_\_\_

A) $0; $125,000   
 B) $84,500; $112,500  
 C) $92,250; $112,500  
 D) $84,500; $125,000  
 E) $92,250; $125,000

**55)** A bond with a face value of $5,000 can be exchanged for 70 shares of stock. The bond has a coupon rate of 6.5 percent which equals the market rate of interest. Assume the option premium is $50. What is the market value of the bond if the stock is selling for $68.90 per share and the bond matures in exactly one year?

55) \_\_\_\_\_\_

A) $4,744.84   
 B) $4,873.00  
 C) $5,000.00  
 D) $4,940.00  
 E) $5,050.00

**56)** Carrillo Cable’s convertible bonds each have a face value of $1,000 and a market value of $1,041.25. Each bond can be exchanged 25 shares of stock. The stock is selling for $41.54 per share. The straight bond value is $1,010. What is the option value per bond?

56) \_\_\_\_\_\_

A) $0   
 B) $2.75  
 C) $3.08  
 D) $38.50  
 E) $.11

**57)** A convertible bond matures in 15 years, pays annual coupons, and has a coupon rate of 8 percent. The face value is $1,000 and the conversion ratio is 40. The stock currently sells for $22.80 per share. Similar nonconvertible bonds are priced to yield 9 percent. What is the minimal value of the convertible bond?

57) \_\_\_\_\_\_

A) $835.00   
 B) $919.39  
 C) $1,000.00  
 D) $1,070.11  
 E) $912.00

**58)** Phan Merchandising bonds have a face value of $1,000 and can be exchanged for 30 shares of stock. The stock is selling for $35 per share. Phan has an outstanding call option on the bonds at $1,040. If the bonds are called, the holders must either convert or surrender their bonds. What should be the current market value of one of these bonds if the option premium per bond is $15? Assume the bond coupon rate equals the market rate of interest at time of call.

58) \_\_\_\_\_\_

A) $1,040   
 B) $1,065  
 C) $1,025  
 D) $1,030  
 E) $1,035

**ESSAY. Write your answer in the space provided or on a separate sheet of paper.  
59)** Identify five factors that help determine the value of a warrant above its lower limit.

**60)** Explain how a noncallable convertible bond’s value is determined.

**61)** Explain why there is neither a “Free Lunch” nor an “Expensive Lunch” when convertible bonds are issued.

**62)** Why are warrants and convertibles issued?

**63)** Discuss the factors that management must consider before calling a convertible bond.

**Answer Key**Test name: Chapter 24

1) B

2) D

3) C

4) C

5) E

6) B

7) D

8) B

9) E

10) D

11) C

12) A

13) B

14) C

15) A

16) B

17) B

18) C

19) A

20) C

21) D

22) C

23) E

24) A

25) D

26) A

27) A

28) B

29) B

30) E

31) C

32) D

Lower limit = MAX[0,(Stock price − Exercise price)]  
 Lower limit = MAX[0,($45 − 42)]  
 Lower limit = $3  
   
 Upper limit = Stock price  
 Upper limit = $45

33) A

Market value per share = Total value/Number of shares  
 Market value per share = $390,000/26,000  
 Market value per share = $15  
   
 Since the exercise price exceeds the market price, the warrants will not be exercised.

34) D

Firm value = Original value + Exercise premium  
 Firm value = 450,000($32) + (450,000/5)($30)  
 Firm value = $17,100,000, or $17.1 million

35) B

Price = Total value/Total shares  
 Price = [60,000($27) + (60,000/3)($25)]/(60,000 + 60,000/3)  
 Price = $26.50

36) E

Market price = Total value/Total shares  
 Market price = [150,000($28) + (150,000/10)($25)]/[150,000 + (150,000/10)]  
 Market price = $27.73

37) B

Gain per share = (New total value/New total shares) − Exercise price  
 Gain per share = {[75,000($20.60) + (50,000/4)($20)]/[75,000 + 50,000/4]} − $20  
 Gain per share = $20.51 − 20  
 Gain per share = $.51

38) B

Gain = {[$40,000 − 12,000 + $26.80(200)]/(1,000 + 200)} − $26.80  
 Gain = $1.00

39) E

Gain = {[$2,000,000 + 1,000($18)]/(100,000 + 1,000)} − $18  
 Gain = $1.98

40) E

$1.25 = {[$3,450,000 + *N*w($10)]/(300,000 + *N*w)} − $10  
 Number of warrants = 60,000

41) C

Conversion price = $1,000/50  
 Conversion price = $20.00

42) D

Conversion price = $1,000/20  
 Conversion price = $50

43) B

New conversion ratio = 35(3)  
 New conversion ratio = 105  
   
 New conversion price = $1,000/105  
 New conversion price = $9.52

44) C

Conversion value = $29.80(33)  
 Conversion value = $983.40

45) B

Conversion price = Face value/Conversion ratio  
 Conversion price = $1,000/30  
 Conversion price = $33.33

46) C

Conversion premium= [($1,000/20)/$49.40] − 1  
 Conversion premium = .0121, or 1.21%

47) B

New conversion ratio = 25(4/1)  
 New conversion ratio = 100  
   
 New conversion price = [$40(25)]/100  
 New conversion price = $10

48) E

Conversion premium = $32/$31.30 − 1  
 Conversion premium = .0224, or 2.24%

49) A

Conversion value = Straight bond value = Par value  
 Conversion value = $1,000  
 Conversion price = Conversion value/Number of shares  
 Conversion price = $1,000/[20(3/1)]  
 Conversion price = $16.67

50) D

Straight bond value = [.08($1,000)/2]PVIFA4.25%, 30 + $1,000/1.042530  
 Straight bond value = $958.05  
   
 Conversion value = 20($47.50)  
 Conversion value = $950  
   
 Bond value = MAX[Straight bond value, Conversion value] + Option value  
 Option value = Bond value − MAX[Straight bond value, Conversion value]  
 Option value = $967 − MAX[$958.05, 950]  
 Option value = $8.95

51) D

Straight bond value = [.10($1,000)/2]PVIFA4%, 20 + $1,000/1.0420  
 Straight bond value = $1,135.90  
   
 Conversion value = 40($30.13)  
 Conversion value = $1,205.20  
   
 Bond value = MAX[Straight bond value, Conversion value] + Option value  
 Option value = Bond value − MAX[Straight bond value, Conversion value]  
 Option value = $1,222.70 − MAX[$1,135.90, 1,205.20]  
 Option value = $17.50

52) C

Bond value = MAX[Straight bond value, Conversion value] + Option premium  
 $1,062 = MAX[$1,000, Conversion value] + $3  
 Conversion value = $1,059

53) D

The bonds will be submitted for redemption and not converted because the conversion price exceeds the stock price.  
   
 Ownership % = 25,000/400,000  
 Ownership % = .0625, or 6.25%

54) B

If the bonds are converted, the bondholders' ownership position will be:  
   
 Bondholders' ownership % = [100(5)]/[500 + 100(5)]  
 Bondholders' ownership % = .50, or 50%  
   
 At a firm value of $184,500, the bonds will not be converted and the shareholders' value will be:  
   
 Shareholders' value = $184,500 − 100($1,000)  
 Shareholders' value = $84,500  
   
 At a firm value of $225,000, the bonds will be converted and the shareholders' value will be:  
   
 Shareholders' value = .50($225,000)  
 Shareholders' value = $112,500

55) E

Conversion value = $68.90(70)  
 Conversion value = $4,823.00  
   
 Market value = MAX[$5,000, $4,823.00] + $50  
 Market value = $5,050.00  
   
 Since the bond’s coupon rate is equal to the market rate of interest, the bond’s straight value will equal the face value.

56) B

$1,041.25 = MAX[$1,010, 25($41.54)] + Option value  
 Option value = $2.75

57) B

Straight bond value = .08($1,000)PVIFA9%,15 + $1,000/1.0915  
 Straight bond value = $919.39  
   
 Conversion value = 40($22.80)  
 Conversion value = $912.00  
   
 Assuming there is no option premium:  
   
 Bond value = MAX[Straight bond value, Conversion value]  
 Bond value = MAX[$919.39, 912.00]  
 Bond value = $919.39

58) B

Bond value = MAX(Conversion value, Call value] + Option premium  
 Bond value = MAX[(30($35), $1,040] + $15  
 Bond value = $1,065

59) 1.Variance of the underlying security’s returns  
 2.Time to expiration  
 3.Risk-free rate of interest  
 4.Underlying stock price  
 5.Exercise price

60) A convertible bond has two underlying values. The first is the bond’s value as a straight bond that pays periodic interest payments and repays the principal on the maturity date. The second value is the value obtained if the bond is converted into shares of stock. The convertible bond's market value will be the higher of these two values plus any option premium bestowed by the market.

61) Convertible bonds are not cheaper or more expensive in an efficient market. When you compare convertible bonds with straight bonds and common stock, you will find that no single alternative will dominate convertibles in both up and down markets.

62) Warrants and convertibles are issued to add flexibility to the financial structure of the firm, to help match cash flows, to protect against misjudging a firm’s risk level, and also to help reduce agency costs. Finally, the use of convertibles as backdoor equity is a popular theory.

63) When a firm calls a bond it generally does so by offering a call premium. Firms would not want to do this if the call price is going to exceed the convertible’s market value. The minimum market value of a convertible bond is the maximum of the bond’s straight bond price and its conversion value. The straight bond price is affected by market interest rates and the conversion value is affected by stock market prices, both of which fluctuate throughout every trading day. Since bondholders generally have 30 days to decide whether to convert a bond or surrender it at the call price, managers must forecast market movements for at least that long prior to making a call offer.