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

**Chapter 6 Bond Markets**

1) TIPS are a Treasury offering that protects investors from unexpected increases in inflation.

Answer: TRUE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

2) A callable bond is one where the issuer is required to retire a certain amount of the outstanding bonds each year to ensure that all the bond principal is paid by final maturity.

Answer: FALSE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

3) Treasury notes and bonds and municipal bonds are default risk free.

Answer: FALSE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

4) "On the run" Treasury notes and bonds are newly issued securities and "off-the-run" Treasuries are securities that have been previously issued.

Answer: TRUE

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

5) T-notes and T-bonds are issued in minimum denominations of $100, or multiples of $100.

Answer: TRUE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

6) The dirty price plus accrued interest is called the clean price of the security.

Answer: FALSE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

7) Accrued interest owed to the bond seller increases as the next coupon payment date approaches.

Answer: TRUE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

8) Revenue bonds are backed by the full revenue of the municipality.

Answer: FALSE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

9) In a Treasury bond quote with a $1,000 face value, you find the bid is equal to 100-24 and the ask is equal to 100-26. You could buy this bond for $1,008.125.

Answer: TRUE

Explanation: The value of the bond is (100 + 26/32) × (1,000/100) = $1,008.125

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

10) An unsecured bond that has no specific collateral other than the general creditworthiness of the issuing firm is called a debenture.

Answer: TRUE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

11) With TIPS, the security's coupon rate is changed every six months by the inflation rate as measured by the CPI.

Answer: FALSE

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

12) Bond ratings use a classification system to give investors an idea of the amount of default rate risk associated with the bond issue.

Answer: TRUE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

13) Bonds rated below Baa by Moody's or BBB by S&P are junk bonds.

Answer: TRUE

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

14) Eurobonds are bonds denominated in the issuer's home currency, but are issued outside their home country.

Answer: TRUE

Difficulty: 2 Medium

Topic: Eurobonds, Foreign Bonds, and Sovereign Bonds

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-04 Describe the types of securities traded in international bond markets.

Accessibility: Keyboard Navigation

15) Callable bonds have lower required yields than similar convertible bonds, ceteris paribus.

Answer: FALSE

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

16) Capital markets are markets where securities are traded.

Answer: TRUE

Difficulty: 1 Easy

Topic: Definition of bond markets

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-01 Describe the major bond markets.

Accessibility: Keyboard Navigation

17) Debt securities with maturities of 1-year or less are traded in capital markets.

Answer: FALSE

Difficulty: 1 Easy

Topic: Definition of bond markets

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-01 Describe the major bond markets.

Accessibility: Keyboard Navigation

18) Sovereign bonds are long-term debt issued by governments of foreign countries.

Answer: TRUE

Difficulty: 1 Easy

Topic: International aspects of bond markets

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-04 Describe the types of securities traded in international bond markets.

Accessibility: Keyboard Navigation

19) Sovereign bonds have high risk because the repayment cannot be forced by creditors.

Answer: TRUE

Difficulty: 1 Easy

Topic: International aspects of bond markets

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-04 Describe the types of securities traded in international bond markets.

Accessibility: Keyboard Navigation

20) "Off-the-run" Treasury securities are considered to be more risky.

Answer: TRUE

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

21) You buy a principal STRIP maturing in five years. The price quote per hundred of par for the STRIP is 75.75 percent. Using semiannual compounding, what is the promised yield to maturity on the STRIP?

A) 5.632 percent

B) 5.712 percent

C) 2.816 percent

D) 2.945 percent

E) 4.566 percent

Answer: A

Explanation: [(100/75.75)(1/(5 × 2)) − 1] × 2 = 5.632%

Using the financial calculator:

PV = −75.75

FV = 100

PMT = 0

N = 10

Solve for I/Y then multiply with 2. I/Y = 2.816%; Yield to maturity = 2 × 2.816 = 5.632%

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

22) A T-bond with a $1,000 par is quoted at 97-14 bid, 97-15 ask. The clean price for you to buy this bond is

A) $974.38.

B) $975.42.

C) $974.69.

D) $975.77.

E) None of these choices are correct.

Answer: C

Explanation: [97 + (15/32)] × (1,000/100) = 974.6875 which is approximated as $974.69

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

23) The quoted ask yield on a 14-year $1,000 par T-bond with a 7 percent semiannual payment coupon and a price quote of 98-15 is

A) 7.00 percent.

B) 7.18 percent.

C) 7.30 percent.

D) 3.59 percent.

E) 3.63 percent.

Answer: B

Explanation: $984.688 = $35 × PVIFA (r%, 28) + $1,000 × PVIF (r%, 28)

Using the financial calculator:

PV = −984.69

FV = 1,000

PMT = 35

N = 28

Solve for I/Y then multiply with 2. I/Y= 3.587%; Yield to maturity = 2 × 3.587 = 7.175% which is rounded to 7.18%.

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

24) A Treasury security in which periodic coupon interest payments can be separated from each other and from the principal payment is called a

A) STRIP.

B) T-note.

C) T-bond.

D) GO bond.

E) Revenue bond.

Answer: A

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

25) An 18-year T-bond can be stripped into how many separate securities?

A) 18

B) 19

C) 36

D) 37

E) 38

Answer: D

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

26) A life insurer owes $550,000 in eight years. To fund this outflow, the insurer wishes to buy STRIPS that mature in eight years. The STRIPS have a $5,000 face value per STRIP and pay a 6 percent APR with semiannual compounding. How much must the insurer spend now to fully fund the outflow (to the nearest dollar)?

A) $110,000

B) $342,742

C) $355,224

D) $362,355

E) $370,890

Answer: B

Explanation: (5,000/1.0316) × (550,000/5,000)

Detailed Solution:

Find the present value of $550,000 over 8 years with semi annual compounding and 6% interest rate.

FV = 550,000

N = 16

I = 3

PMT = 0

Solve for PV = 342,741.816. With this amount, the insurer needs to purchase a certain number of STRIPS, so that at maturity they produce the amount of $550,000.

The value of each STRIP today is:

FV = 5,000

N = 16

I = 3

PMT = 0

Solving for PV you get 3,155.83. Therefore, the insurance company needs to buy 342,741.816/3,155.83 = 110 of these strips in order to fully fund the outflow in 8 years.

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Analyze; Apply; Evaluate

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

27) The ask yield on a 6 percent coupon Treasury bond maturing in eight years is 5.488 percent. If the face value is $1,000, what should be the *QUOTED* cost of the bond today (use semiannual compounding)?

A) 103-6

B) 103-7

C) 103-8

D) 103-9

E) 103-10

Answer: D

Explanation: $60 × PVIFA (0.05488/2, 16) + $1,000 × PVIF (0.05488/2, 16) = $1,032.79488; To convert to fraction quote do the following: Round-down ($1,032.79488/10) + Round {($1,032.79488/10) Round-down ($1,032.79488/10)] × 32} = 103 9/32

Using the financial calculator:

FV = 1,000

PMT = 30

N = 16

I/Y = 2.744

Solve for the PV to get 1,032.7948 as the value of the bond. In the quotation system used for bonds, the price is quoted as percent of Par, and the decimal portion is converted to 1/32 fraction.

First 1,032.7948 × (100/1,000) = 103.27948; and then 0.27948 × 32 = 8.94 which is approximately 9. The quoted price will be 103 9/32.

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

28) Which one of the following bonds is likely to have the highest required rate of return, ceteris paribus?

A) AAA-rated non-callable corporate bond with a sinking fund

B) AA-rated callable corporate bond with a sinking fund

C) AAA-rated callable corporate bond with a sinking fund

D) High-quality municipal bond

E) AA-rated callable corporate bond without a sinking fund

Answer: E

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

29) On July 1, 2012, you purchase a $10,000 par T-note that matures in five years. The coupon rate is 8 percent and the price quote is 98-6. The last coupon payment was May 1, 2012, and the next payment is November 1, 2012 (184 days total). The accrued interest is

A) $132.61.

B) $101.00.

C) $50.54.

D) $40.65.

E) $35.67.

Answer: A

Explanation: ((8%/2) × 10,000) × (61 days since last coupon/184) = $132.61

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

30) On September 1, 2012, an investor purchases a $10,000 par T-bond that matures in 12 years. The coupon rate is 6 percent and the investor buys the bond 70 days after the last coupon payment (110 days before the next). The ask yield is 7 percent. The dirty price of the bond is

A) $9,295.45.

B) $9,300.55.

C) $9,313.75.

D) $9,321.82.

E) $9,333.24.

Answer: C

Explanation: 300 × PVIFA (3.5%, 24) + 10,000 × PVIF (3.5%, 24) = 9,197.08; 300 × (70/180) = 116.67; 9,197.08 + 116.67 = 9,313.75

Using the financial calculator:

FV = 10,000

PMT = 300

N = 24

I/Y = 3.5

Solve for PV to get the clean price of $9,197.08; The accrued interest is (70/180) × 300 = $116.67. The dirty price is $9,197.08 + $116.67 = $9,313.75.

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

31) Interest income from Treasury securities is \_\_\_\_\_\_\_\_, and interest income from municipal bonds is always \_\_\_\_\_\_\_\_.

A) exempt from federal taxes; exempt from all taxes

B) taxable at the state level only; exempt from state taxes only

C) taxable at federal level only; exempt from federal taxes

D) taxable at the state level; taxed at the federal level

E) totally tax exempt; exempt from state taxes

Answer: C

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

32) An investor is in the 28 percent federal tax bracket and pays a 9 percent state tax rate and 4 percent in local income taxes. For this investor a municipal bond paying 6 percent interest is equivalent to a corporate bond paying \_\_\_\_\_\_\_\_ interest.

A) 11.79 percent

B) 10.17 percent

C) 9.08 percent

D) 9.68 percent

E) 8.47 percent

Answer: B

Explanation: 0.06/[1 − (0.28 + 0.09 + 0.04)]

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

33) An investor is trying to decide between a muni paying 5.75 percent or an equivalent taxable corporate paying 8.25 percent. What is the minimum marginal tax rate the investor must have to consider buying the municipal bond?

A) 80.00 percent

B) 20.00 percent

C) 25.00 percent

D) 66.67 percent

E) 30.00 percent

Answer: E

Explanation: 1 − (0.0575/0.0825) = 0.3030 which is approximated as 30%

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply; Evaluate

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

34) Standard revenue bonds are

A) backed by the full taxing authority of the municipality.

B) collateralized by the earnings from a specific project.

C) bonds backed by mortgages.

D) backed by the U.S. Treasury.

E) always offered with a best efforts offering.

Answer: B

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

35) When an investment banker purchases an offering from a bond issuer and then resells it to the public, this is known as a

A) rights offering.

B) private placement.

C) firm commitment.

D) best efforts.

E) standby offering.

Answer: C

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

36) The largest type of municipal bonds outstanding is \_\_\_\_\_\_\_\_.

A) revenue bonds

B) industrial development bonds

C) Treasury STRIPS

D) convertible bonds

E) general obligation bonds

Answer: A

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

37) Which of the following is/are true about callable bonds?

I.  Must always be called at par

II. Will normally be called after interest rates drop

III. Can be called by either the bondholder or the bond issuer

IV.  Have higher required returns than non-callable bonds

A) I and II only

B) II and IV only

C) II and III only

D) I, II, and III only

E) I, II, III, and IV are true.

Answer: B

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

38) SEC Rule 144 A does which of the following?

A) Allows privately placed investments to be traded on a limited basis.

B) Allows bond issuers to call their bonds when desired.

C) Determines the limits of responsibility of bond covenants.

D) Requires that bonds traded on the NYSE bond market utilize the ABS system.

E) None of these choices are correct.

Answer: A

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

39) Convertible bonds are

I. options attached to bonds that give the bondholder the right to purchase stock at a preset price without giving up the bond.

II. bonds in which the issue matures (converts) a little each year.

III. bonds collateralized with certain types of automobiles.

IV. bonds that may be converted to a certain number of shares of stock determined by the conversion ratio.

A) I only

B) I and II only

C) I, II, and III

D) IV only

E) I and III only

Answer: D

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

40) A holder of Rainbow Funds convertible bonds with a $1,000 par and a $1,100 price can convert the bond to 25 shares of common stock. The stock is currently priced at $36 per share. By what percent does the stock price have to rise to make conversion potentially attractive?

A) 10.00 percent

B) 14.73 percent

C) 22.22 percent

D) 23.64 percent

E) 25.69 percent

Answer: C

Explanation: [(1,100/25)/36] − 1

At the current share price level, the value of each converted bond comes to 25 × 36 = $900 while the value of the bond is $1,100; this is a loss of $200, so it is not attractive to convert. If the stock price goes up to $44, then 25 × 44 = 1,100, and at this price the conversion is possible. The increase in the price from $36 to $44 is 22.22%.

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply; Evaluate

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

41) With respect to private placements of bonds, which of the following is correct?

I. Issuers of privately placed bonds tend to be less well known than public bond issuers.

II. Interest rates on privately placed debt tend to be higher than for similar public issues.

III. Purchasers of privately placed debt have assets of at least $1 million.

IV. Once bonds have been privately placed, the original buyers must hold the bonds until maturity.

A) I only

B) I and III only

C) I, II, and III only

D) I, III, and IV only

E) I, II, III, and IV

Answer: C

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

42) Which of the following statements about Eurobonds is/are true?

I.  The issuer chooses the currency of denomination.

II.  Spreads on firm commitment offers are lower for Eurobonds than for U.S. bonds.

III. Eurobonds typically have denomination of $5,000 and $10,000.

IV. Eurobonds are bearer bonds.

A) I and II only

B) I, III, and IV only

C) II, III, and IV only

D) II and III only

E) I, II, III, and IV are true.

Answer: B

Difficulty: 3 Hard

Topic: Eurobonds, Foreign Bonds, and Sovereign Bonds

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-04 Describe the types of securities traded in international bond markets.

Accessibility: Keyboard Navigation

43) Bearer bonds are bonds

A) with coupons attached that are redeemable by whoever has the bond.

B) where the registered owner automatically receives bond payments when scheduled.

C) in which the issue matures on a series of dates.

D) issued in another currency other than the bond issuer's home currency.

E) issued in a different country other than the bond issuer's home country.

Answer: A

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Remember

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

44) A T-bond with a $1,000 par is quoted at a bid of 105-7 and an ask of 105-9. If you sell the bond, you will receive

A) $1,052.81.

B) $1,052.19.

C) $1,057.22.

D) $1,059.22.

E) None of these choices are correct.

Answer: B

Explanation: You will sell it at the bid value. 7/32 = 0.21875 added to 105 gives 105.21875 as the quoted price in percent of par. The dollar value will be $1052.19.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

45) A T-bond with a $10,000 par is quoted at a bid of 92-11 and an ask of 92-17. If you bought the bond and then immediately sold it at the same quotes, how much money would you gain or lose (ignore commissions)?

A) $12.50

B) − $12.50

C) − $18.75

D) $18.75

E) $0.00

Answer: C

Explanation: 9,234.38 − 9,253.13 = −18.75

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

46) The quoted ask yield on a 30-year $1,000 par T-bond with a 6.25 percent coupon and a price quote of 106-16 is \_\_\_\_\_\_\_\_ (use semiannual compounding).

A) 2.94 percent

B) 2.90 percent

C) 5.79 percent

D) 5.87 percent

E) 4.95 percent

Answer: C

Explanation: $1,065.00 = $31.25 × PVIFA (r%, 60) + $1,000 × PVIF (r%, 60 yrs); trial and error or financial calculator for r

Using the financial calculator:

PV = −1065

FV = 1,000

PMT = 31.25

N = 60

Solve for I/Y then multiply with 2. I/Y = 2.895%; Yield to maturity = 2 × 2.895 = 5.791% which is rounded to 5.79%.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

47) An investor buys a $10,000 par, 4.25 percent annual coupon TIPS security with three years to maturity. If inflation every six months over the investor's holding period is 2.50 percent, what is the final payment the TIPS investor will receive?

A) $10,213.00

B) $10,869.28

C) $11,822.25

D) $11,843.37

E) $12,201.11

Answer: D

Explanation: ($10,000 × 1.0256) × (1 + (0.0425/2))

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

48) A bond investor has a 99 percent chance of receiving all of her promised payments on a particular bond issue in the first year of holding the bond, but only a 98 percent chance in the second year, and a 97 percent chance in the third year and beyond. What is the cumulative default probability over the first three years she holds the bond?

A) 3.75 percent

B) 4.24 percent

C) 5.89 percent

D) 6.85 percent

E) 7.33 percent

Answer: C

Explanation: 1 − [0.99 × 0.98 × 0.97] = 5.89%

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

49) You purchase a $1,000 face value convertible bond for $975. The bond can be converted into 150 shares of stock. The stock is currently priced at $5.25. At what minimum stock price would you be willing to convert?

A) $4.50

B) $5.26

C) $6.50

D) $7.10

E) $7.25

Answer: C

Explanation: (975/150) = 6.50

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

50) You purchased a five-year annual payment 6 percent coupon bond for $1,000 and you planned on holding it to maturity. However, right after you bought the bond, it was called at $1,043.29 when all interest rates fell to 5 percent and remained there for the full five years. You reinvested the money for the full five years. What was your annual compound rate of return off your original investment?

A) 6.00 percent

B) 5.89 percent

C) 5.75 percent

D) 5.23 percent

E) 5.00 percent

Answer: B

Explanation: [(1,043.29 × 1.055)/1,000]1/5 − 1

Using the financial calculator:

PV = −1,043.29

PMT = 0

N = 5

I/Y = 5

Solve for FV to get 1,331.53. In the second step, find the rate of return that you should earn so that $1,000 becomes $1,331.53 in 5 years.

FV = 1,331.53

PV = −1,000

N = 5

PMT = 0

Solve for I/Y to get 5.89%.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

51) Which of the following situations would require an increase in the coupon rate for a bond selling at par?

A) The addition of a call provision

B) The addition of a convertibility option

C) The increase in the rating from BBB to AA

D) The addition of sinking fund provision

E) All of these choices are correct.

Answer: A

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Understand; Apply

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

52) What ratings comprise investment-grade bonds and what ratings are used for junk bonds? What are the primary differences between the two? In particular, why are investment-grade bonds more marketable and why are junk bonds issued at all?

Answer: Investment-grade bonds are bonds rated AAA (Aaa) down to and including BBB- (Baa3) by S&P and Moody's, respectively. All lower ratings are considered speculative grade, or junk bonds. Investment-grade bonds have a lower amount of default risk, particularly during strong economic times. Investment-grade bonds have lower required returns than junk bonds although the credit spreads or default risk premiums (DRPs) vary inversely with economic performance. Investment-grade bonds are more marketable because many institutions are only allowed to hold only a small amount of junk bonds or no junk bonds at all. Junk bonds carry significantly higher interest rates and are less marketable, but they are still used when a firm cannot obtain a higher rating and still wants to employ debt financing. Junk bonds are used to finance takeovers or so-called highly levered transactions where the acquirer purchases a target firm by borrowing a high percentage of the purchase price. The acquirer usually hopes to be able to quickly buy back some of the debt to reduce the risk. Use of junk bonds allows for larger aggregate level of takeover activity and allows takeovers of larger firms.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Remember; Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

53) The total sale proceeds from selling the stripped components of a Treasury security can sometimes be greater than the fair present value of the Treasury security. Why might this happen?

Answer: STRIPS are useful tools to minimize interest rate risk. Because they are zero coupon bonds, a STRIP held to maturity has no interest rate risk; the investor is certain of the nominal rate of return. Investors are apparently willing to pay a small premium to eliminate this uncertainty.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

54) What do bond rating agencies look at in setting a bond's rating?

Answer:

1. Profitability of operations

2. Competitive position in the industry

3. Overall financial strength

4. Ability to pay interest and principal in full and on time

5. Issuer's liquidity and additional debt capacity

6. Specific collateral and other bond provisions such as protection provided to bondholders in the event of bankruptcy, takeover, and so forth

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Remember

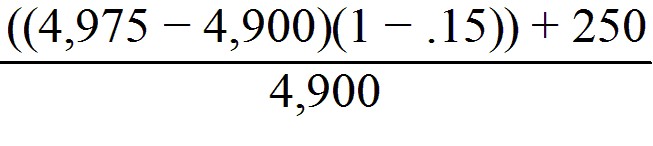
AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

55) A municipal bondholder buys a 5 percent coupon annual payment muni bond at a price of $4,900. The bond has a $5,000 face value. In one year she sells the bond for $4,975. The appropriate capital gains tax rate is 15 percent and her ordinary income tax rate is 28 percent. What is her after-tax rate of return?

Answer:

 = 6.40%

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Analyze; Apply

AACSB: Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

56) What is the difference between General Obligation and Revenue bonds?

Answer: Both are bonds issued by state or local municipalities. GOs are backed by the full revenue stream of the municipality (often called the General Fund). They typically require voter approval. Revenue bonds are backed by a specific project's revenues, but not the general tax revenues of the municipality. Revenue bonds are thus riskier than GOs.

Difficulty: 1 Easy

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

57) You are considering purchasing five-year corporate bonds as an investment. You have a choice of terms available. Which of the following terms would you find desirable, *ceteris paribus*? How does each feature affect the bond's required rate of return? Explain.

a. Call feature

b. Convertible feature

c. Warrants

d. Sinking fund

e. Debenture

Answer:

a. The call feature favors the bond issuer and unless the issue offers the investor a sufficiently higher rate of return, he would not want this feature.

b. The convertible feature allows the bondholder to convert to stock if he or she so chooses. This sounds like a good deal but the *quid pro quo* is a reduced promised yield. This may be desirable if you believe the stock will increase sufficiently in price.

c. Warrants allow the bondholder to purchase stock at a fixed price, and unlike convertible bonds, the bondholder does not have to surrender the bond. Offering warrants allows the bondholder to offer a lower required rate of return. This may be desirable if you believe the stock will increase sufficiently in price.

d. Sinking funds help ensure that the bond issuer will be able to pay off the principal when due. If these are term bonds and the issuer sets aside money each year to ensure availability of funds when the principal is due, then the bondholders clearly benefit from this feature. Of course, this reduces the required promised yield. If the sinking fund requires retiring a certain percentage of the bonds each year, then the idea is not unambiguously better for bondholders. It may be that your bond is retired when rates have fallen and you must then reinvest at lower interest rates.

e. The term *debenture* indicates that the bond has no specific collateral (other than the earnings and cash flows of the firm). The lack of security adds to bondholder risk and may imply a higher required rate of return than bonds with better collateral.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

58) You find the following quote for a corporate bond ($1,000 par, paying interest semiannually):

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Issuer  Name | Symbol | Coupon | Maturity | Moody's/S&P/Fitch | High | Low | Last | Change | Yield% |
| Home  Depot | HD.GF | 4.625% | Aug 2015 | Baal/BBB+/BBB+ | 98.281 | 97.362 | 97.726 | 0.286 | 5.49% |

a. What was the range of the price for the given day?

b. How many dollars would you receive from each coupon payment?

c. Approximately what risk level is implied by the bond rating?

d. What would have been the Last Price on the day before?

Answer:

a. The high price was 98.281% × 1,000 = $982.81; the low price for the day was 97.362% × 1,000 = $973.62 for a range of $9.19.

b. $ Coupon = (4.625%/2) × 1,000 = $23.125 received every six months

c. The bond rating implies this is a medium grade bond that lacks outstanding protection characteristics; in other words, the bond issuer may have difficulty making the promised payments in full and on time, particularly if the economy does not perform well.

d. The Last Price in the quote is 97.726 and the change was +0.286, so the prior Last quote was 97.726 − 0.286 = 97.44 or 97.44% × 1,000 = $974.40.

Difficulty: 2 Medium

Topic: Bond Market Securities

Bloom's: Understand; Analyze; Apply

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

59) A bondholder purchased a 9 percent coupon, $1,000 par three-year bond at a 9 percent yield. Interest rates then immediately fell to 7 percent and his bond was called at a price of $1,040. He reinvested his money and earned 7 percent on the $1,040 for three years. Did the call help or hurt the bondholder? What was his three-year rate of return on his original investment?

Answer: $1,040 (1.07)3 = $1,274.04

$1,000 (1 + r)3 = $1,274.04

r = 8.41%

The call hurt the bondholder; he earned 59 fewer basis points in rate of return.

Using the financial calculator:

PV = −1,040

PMT = 0

N = 3

I/Y = 7

Solve for FV to get 1,274.04. In the second step, find the rate of return that you should earn so that $1,000 becomes $1,274.04 in 3 years.

FV = 1,274.04

PV = −1,000

N = 3

PMT = 0

Solve for I/Y to get 8.41%, the call hurt because the bondholder received 0.59% less than the original 9% yield.

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Analyze; Apply; Evaluate

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

60) An investor is holding a $1,000 par, 10-year 9 percent coupon convertible bond with a 9 percent required bond yield. The bond is convertible into 40 shares of stock. Each share is worth $30. The bond has a current market value of $1,200. If interest rates don't change, what is the maximum gain and loss on the bond?

Answer: The maximum gain is unlimited; the bond's price will increase with the stock, which could increase an unlimited amount. The maximum loss on the bond, given no interest rate change, is $200. The bond has a floor price equal to its value as a bond and with a 9 percent coupon and 9 percent yield that gives a $1,000 minimum value.

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Understand; Analyze; Evaluate

AACSB: Reflective Thinking; Analytical Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation

61) You are an investment banker and one of your large U.S. corporate clients has come to you asking for help deciding on the best market in which to place a sizable issue of bonds. You could try to issue dollar-denominated bonds, or Euro- or yen-denominated bonds. You could also issue in the United States or overseas. What major factors should you consider in advising your client on where to market the issue?

Answer: Some of the key variables would include the following:

1. Interest rates in the various markets

2. Underwriter spreads on different types of bonds

3. Expected changes in currency values; borrowers do not wish to borrow in currencies that are expected to appreciate in value.

4. Regulations and taxes in the various countries

5. Ability to market large-size issues in a given currency or country

Difficulty: 3 Hard

Topic: Bond Market Securities

Bloom's: Create

AACSB: Reflective Thinking

Learning Goal: 06-02 Identify the characteristics of the various bond market securities.

Accessibility: Keyboard Navigation