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INTRODUCTION TO FIXED-  
INCOME VALUATION

1. Consider a 6-year \$1,000 par bond priced at \$1,011. The coupon rate is 7.5% paid semiannually. Six-year bonds with comparable credit quality have a yield to maturity (YTM) of 6%. Should an investor purchase this bond?
  - (A) No, the bond is overvalued by \$64.
  - (B) Yes, the bond is undervalued by \$38.
  - (C) Yes, the bond is undervalued by \$64.
2. A bond with a 12% annual coupon, 10 years to maturity and selling at 88 percent of par has a yield to maturity of:
  - (A) between 10% and 12%.
  - (B) between 13% and 14%.
  - (C) over 14%.
3. Georgia Corporation has \$1,000 par value bonds with 10 years remaining maturity. The bonds carry a 7.5% coupon that is paid semi-annually. If the current yield to maturity on similar bonds is 8.2%, what is the current value of the bonds?
  - (A) \$569.52.
  - (B) \$952.85.
  - (C) \$1,123.89.
4. A \$1,000 par, semiannual-pay bond is trading for 89.14, has a coupon rate of 8.75%, and accrued interest of \$43.72. The flat price of the bond is:
  - (A) \$891.40.
  - (B) \$847.69.
  - (C) \$935.12
5. An investor purchases a \$1,000 5% coupon bond with quarterly coupon payments that matures in 12 years and has a yield to maturity of 7.0%. The price the investor pays is closest to:
  - (A) \$838.53.
  - (B) \$839.42.
  - (C) \$841.15.

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6. A 12% coupon bond with semiannual payments is callable in 5 years. The call price is \$1,120. If the bond is selling today for \$1,110, what is the yield-to-call?
- (A) 10.25%.  
 (B) 10.95%.  
 (C) 11.25%.
7. If the discount margin is lower than the quoted margin on a floating rate note, it is most likely that:
- (A) the note's credit quality has improved.  
 (B) the reference rate has decreased.  
 (C) the note is priced at a discount.
8. Consider a 10%, 10-year bond sold to yield 8%. One year passes and interest rates remained unchanged (8%). If after one year the bond has followed its constant yield price trajectory, its price will most likely have:
- (A) remained constant  
 (B) increased.  
 (C) decreased.
9. A 30-year, 10% annual coupon bond is sold at par. It can be called at the end of 10 years for \$1,100. What is the bond's yield to call (YTC)?
- (A) 8.9%.  
 (B) 10.6%.  
 (C) 10.0%.
10. An investor buys a 25-year, 10% annual pay bond for \$900 and will sell the bond in 5 years when he estimates its yield will be 9%. The price for which the investor expects to sell this bond is closest to:
- (A) \$964.  
 (B) \$1,091.  
 (C) \$1,122.
11. A \$1,000 par value note is priced at an annualized discount of 1.5% based on a 360-day year and has 150 days to maturity. The note will have a bond equivalent yield that is:
- (A) equal to 1.5%.  
 (B) higher than 1.5%.  
 (C) lower than 1.5%.

12. An investor gathered the following information about two 7% annual-pay, option-free bonds:
- Bond R has 4 years to maturity and is priced to yield 6%
  - Bond S has 7 years to maturity and is priced to yield 6%
  - Both bonds have a par value of \$1,000.
- Given a 50 basis point parallel upward shift in interest rates, what is the value of the two-bond portfolio?
- (A) \$2,044.  
 (B) \$2,086.  
 (C) \$2,030.
13. A 20-year, \$1,000 face value, 10% semi-annual coupon bond is selling for \$875. The bond's yield to maturity is:
- (A) 11.43%.  
 (B) 11.62%.  
 (C) 5.81%.
14. The one-year spot rate is 5% and the two-year spot rate is 6.5%. What is the one-year forward rate starting one year from now?
- (A) 5.00%.  
 (B) 7.87%.  
 (C) 8.02%.
15. An investor purchased a 6-year annual interest coupon bond one year ago. The coupon rate of interest was 10% and par value was \$1,000. At the time she purchased the bond, the yield to maturity was 8%. The amount paid for this bond one year ago was:
- (A) \$1,092.46.  
 (B) \$1,125.53.  
 (C) \$1,198.07.
16. The six-year spot rate is 7% and the five-year spot rate is 6%. The implied one-year forward rate five years from now is closest to:
- (A) 12.0%.  
 (B) 5.0%.  
 (C) 6.5%.
17. What is the current yield for a 5% three-year bond whose price is \$93.19?
- (A) 2.68%.  
 (B) 5.00%.  
 (C) 5.37%.

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18. A single yield used to discount all of a bond's cash flows when calculating its price is most accurately described as the bond's:
- (A) yield to maturity.
  - (B) simple yield.
  - (C) current yield.
19. The zero volatility spread (Z-spread) is the spread that:
- (A) is added to the yield to maturity of a similar maturity government bond to equal the yield to maturity of the risky bond.
  - (B) is added to each spot rate on the government yield curve that will cause the present value of the bond's cash flows to equal its market price.
  - (C) results when the cost of the call option in percent is subtracted from the option adjusted spread.
20. A 20-year, 9% annual coupon bond selling for \$1,098.96 offers a yield of:
- (A) 8%.
  - (B) 10%.
  - (C) 9%.
21. For an option-free bond, as the yield to maturity increases, the bond price:
- (A) decreases at a decreasing rate.
  - (B) decreases at an increasing rate.
  - (C) increases at a decreasing rate.
22. A \$1,000 par value, 10%, semiannual, 20-year debenture bond is currently selling for \$1,100. What is this bond's current yield and will the current yield be higher or lower than the yield to maturity?
- |     | Current Yield | Current Yield VS YIM |
|-----|---------------|----------------------|
| (A) | 9.1%          | higher               |
| (B) | 8.9%          | lower                |
| (C) | 8.9%          | higher               |
23. An analyst using matrix pricing will estimate the value of a bond based on:
- (A) the issuer's cost of capital from all sources.
  - (B) yields to maturity of other bonds.
  - (C) a probability model for default risk.

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24. In the context of bonds, accrued interest:
- (A) covers the part of the next coupon payment not earned by seller.
  - (B) equals interest earned from the previous coupon to the sale date.
  - (C) is discounted along with other cash flows to arrive at the dirty, or full price.
25. An investor who is calculating the arbitrage-free value of a government security should discount each cash flow using the:
- (A) government note yield that is specific to its maturity.
  - (B) government spot rate that is specific to its maturity.
  - (C) risk-free rate.
26. Given that the 2-year spot rate is 5.76% and the 3-year spot rate is 6.11 %, what is the 1-year forward rate starting two years from now?
- (A) 6.81%
  - (B) 6.97%
  - (C) 7.04%
27. Calculate the current yield and the yield-to-first call on a bond with the following characteristics:
- 5 years to maturity
  - \$1,000 face value
  - 8.75% semi-annual coupon
  - Priced to yield 9.25%
  - Callable at \$1,025 in two years

	Current Yield	Yield-to-Call
(A)	8.93%	11.02%
(B)	8.93%	5.51%
(C)	9.83%	19.80%

28. For a bond is trading at a discount, the current yield will most likely be:
- (A) the same as the yield to maturity.
  - (B) higher than the yield to maturity.
  - (C) lower than the yield to maturity.
29. An investor gathers the following information about a 2-year, annual-pay bond:
- Par value of \$1,000
  - Coupon of 4%
  - 1-year spot interest rate is 2%
  - 2-year spot interest rate is 5%
- Using the above spot rates, the current price of the bond is closest to:
- (A) \$983.
  - (B) \$1,000.
  - (C) \$1,010.

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30. A fixed coupon callable bond issued by Protohype Inc. is trading with a yield to maturity of 6.4%. Compared to this YTM, the bond's option-adjusted yield will be:
- (A) higher.
  - (B) lower.
  - (C) the same.
31. Assume the following government spot yield curve.
- One-year rate: 5%
- Two-year rate: 6%
- Three-year rate: 7%
- If a 3-year annual-pay government bond has a coupon of 6%, its yield to maturity is closest to:
- (A) 6.08%.
  - (B) 6.92%.
  - (C) 7.00%.
32. Ron Logan, CFA, is a bond manager. He purchased \$50 million in 6.0% coupon Southwest Manufacturing bonds at par three years ago. Today, the bonds are priced to yield 6.85%. The bonds mature in nine years. The Southwest bonds are trading at a:
- (A) discount, and the yield to maturity has decreased since purchase.
  - (B) discount, and the yield to maturity has increased since purchase.
  - (C) premium, and the yield to maturity has decreased since purchase.
33. A bond with a 12% semiannual coupon is currently trading at 102.25 per 100 of face value and has seven years to maturity. Which of the following is closest to the yield to maturity (YTM) on the bond?
- (A) 11.21%.
  - (B) 11.52%.
  - (C) 11.91%.
34. A disadvantage of G-spreads and I-spreads is that they are theoretically correct only if the spot yield curve is:
- (A) downward sloping.
  - (B) flat.
  - (C) upward sloping.
35. The one-year spot rate is 7.00%. One-year forward rates are 8.15% one year from today, 10.30% two years from today, and 12.00% three years from today. The value today of a 4-year, \$1,000 par value, zero-coupon bond is closest to:
- (A) \$665.
  - (B) \$700.
  - (C) \$640.

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36. An investor buys a 20-year, 10% semi-annual bond for \$900. She wants to sell the bond in 6 years when she estimates yields will be 10%. What is the estimate of the future price?
- (A) \$946.  
 (B) \$1,000.  
 (C) \$1,079.
37. A 15-year, 10% annual coupon bond is sold for \$1,150. It can be called at the end of 5 years for \$1,100. What is the bond's yield to call (YTC)?
- (A) 8.0%.  
 (B) 8.4%.  
 (C) 9.2%.
38. A five-year bond with a 7.75% semiannual coupon currently trades at 101.245% of a par value of \$1,000. Which of the following is closest to the current yield on the bond?
- (A) 7.53%.  
 (B) 7.65%.  
 (C) 7.75%.
39. What value would an investor place on a 20-year, \$1,000 face value, 10% annual coupon bond, if the investor required a 9% rate of return?
- (A) \$879.  
 (B) \$920.  
 (C) \$1,091.
40. What is the yield to call on a bond that has an 8% coupon paid annually, \$1,000 face value, 10 years to maturity and is first callable in 6 years? The current market price is \$1,100. The call price is the face value plus 1-year's interest.
- (A) 7.14%.  
 (B) 6.00%.  
 (C) 7.02%.
41. Harmon Moving has a 13.25% coupon semiannual coupon bond currently trading in the market at \$1,229.50. The bond has eight years remaining until maturity, but only two years until first call on the issue at 107.50% of \$1,000 par value. Which of the following is closest to the yield to first call on the bond?
- (A) 4.72%.  
 (B) 5.16%.  
 (C) 9.14%.

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42. Consider a 10%, 10-year bond sold to yield 8%. If after one year the bond has followed its constant yield price trajectory, its price will most likely have:
- (A) remained constant.  
 (B) decreased.  
 (C) increased.
43. Given the one-year spot rate  $S_1 = 0.06$  and the implied 1-year forward rates one, two, and three years from now of:  ${}_1y_{1y} = 0.062$ ;  ${}_2y_{1y} = 0.063$ ;  ${}_3y_{1y} = 0.065$ , what is the theoretical 4-year spot rate?
- (A) 6.75%.  
 (B) 6.25%.  
 (C) 6.00%.
44. Assume a city issues a \$5 million bond to build a new arena. The bond pays 8% semiannual interest and will mature in 10 years. Current interest rates are 9%. What is the present value of this bond and what will the bond's value be in seven years from today if the yield is unchanged?
- | Present Value | Value in 7 Years from Today |
|---------------|-----------------------------|
| (A) 4,674,802 | (B) 4,871,053               |
| (C) 4,674,802 | (D) 4,931,276               |
| (E) 5,339,758 | (F) 4,871,053               |
45. Using the following spot rates for pricing the bond, what is the present value of a three-year security that pays a fixed annual coupon of 6%?
- Year 1: 5.0%
  - Year 2: 5.5%
  - Year 3: 6.0%
- (A) 100.10.  
 (B) 102.46.  
 (C) 95.07.
46. PG&E has a bond outstanding with a 7% semiannual coupon that is currently priced at \$779.25. The bond has remaining maturity of 10 years but has a first put date in 4 years at the par value of \$1,000. Which of the following is closest to the yield to first put on the bond?
- (A) 14.46%.  
 (B) 14.92%.  
 (C) 7.73%.



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47. A 2-year option-free bond (par value of \$10,000) has an annual coupon of 15%. An investor determines that the spot rate of year 1 is 16% and the year 2 spot rate is 17%. The bond price is closest to:
- (A) \$8,401.
  - (B) \$9,694.
  - (C) \$11,122.

48. Given a required yield to maturity of 6%, what is the intrinsic value of a semi-annual pay coupon bond with an 8% coupon and 15 years remaining until maturity?
- (A) \$1,095.
  - (B) \$1,196.
  - (C) \$1,202.

49. Current spot rates are as follows:

1-Year: 6.5%

2-Year: 7.0%

3-Year: 9.2%

Which of the following statements is most accurate

- (A) the second coupon can be discounted at 7.0%, and the third coupon plus maturity value can be discounted at 9.2% to find the bond's arbitrage-free value.
  - (B) The yield to maturity for 3-year annual pay coupon bond can be found by taking the geometric average of the 3 spot rates.
  - (C) For a 3-year annual pay coupon bond, all cash flows can be discounted at 9.2% to find the bond's arbitrage-free value.
50. If yields do not change over the life of a zero-coupon bond, its price will least likely.
- (A) remain constant.
  - (B) follow the bond's constant-yield price trajectory.
  - (C) approach par value.

51. A 4 percent Treasury bond has 2.5 years to maturity. Spot rates are as follows:

6 month	1 year	1.5 years	2 years	2.5 years
2%	2.5%	3%	4%	6%

The note is currently selling for \$976. Determine the arbitrage profit, if any, that is possible

- (A) \$37.63.
- (B) \$43.22.
- (C) \$19.22.

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52. McClintock 8% coupon bonds maturing in 10 years are currently trading at 97.55. These bonds are option-free and pay coupons semiannually. The McClintock bonds have a:
- (A) current yield less than 8.0%.
  - (B) true yield greater than the street convention.
  - (C) yield to maturity greater than 8.0%.
53. Consider a bond selling for \$1,150. This bond has 28 years to maturity, pays a 12% annual coupon, and is callable in 8 years for \$1,100. The yield to call is closest to:
- (A) 10.05%.
  - (B) 10.55%.
  - (C) 9.25%.
54. The Treasury spot rate yield curve is closest to which of the following curves?
- (A) Zero-coupon bond yield curve.
  - (B) Par bond yield curve.
  - (C) Forward yield curve rate.
55. Assume a bond's quoted price is 105.22 and the accrued interest is \$3.54. The bond has a par value of \$100. What is the bond's clean price?
- (A) \$105.22.
  - (B) \$101.68.
  - (C) \$108.76.
56. A semiannual-pay bond is callable in five years at \$1,080. The bond has an 8% coupon and 15 years to maturity. If an investor pays \$895 for the bond today, the yield to call is closest to:
- (A) 10.2%.
  - (B) 12.1%.
  - (C) 9.3%.
57. An 11% coupon bond with annual payments and 10 years to maturity is callable in 3 years at a call price of \$1,100. If the bond is selling today for 975, the yield to call is:
- (A) 10.26%.
  - (B) 14.97%.
  - (C) 9.25%.

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58. What is the equivalent annual-pay yield for a bond with a semiannual-bond basis yield of 5.6%?
- (A) 5.52%.  
 (B) 5.60%.  
 (C) 5.68%.
59. The 3-year annual spot rate is 7%, the 4-year annual spot rate is 7.5%, and the 5-year annual spot rate is 8%. The 1-year forward rate four years from now is closest to:
- (A) 7%.  
 (B) 9%.  
 (C) 10%.
60. A 20 year, 8% semi-annual coupon, \$1,000 par value bond is selling for \$1,100. The bond is callable in 4 years at \$1,080. What is the bond's yield to call?
- (A) 6.87.  
 (B) 7.21.  
 (C) 8.13.
61. An investor purchases a 5-year, A-rated, 7.95% coupon, semiannual-pay corporate bond at a yield to maturity of 8.20%. The bond is callable at 102 in three years. The bond's yield to call is closest to:
- (A) 8.3%.  
 (B) 8.6%.  
 (C) 8.9%.
62. An analyst collects the following information regarding spot rates:
- 1-year rate = 4%.
  - 2-year rate = 5%.
  - 3-year rate = 6%.
  - 4-year rate = 7%.
- The 2-year forward rate two years from today is closest to:
- (A) 7.02%  
 (B) 9.04%  
 (C) 8.03%
63. Today an investor purchases a \$1,000 face value, 10%, 20-year, semi-annual bond at a discount for \$900. He wants to sell the bond in 6 years when he estimates the yields will be 9%. What is the estimate of the future price?
- (A) \$946.  
 (B) \$1,079.  
 (C) \$1,152.

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64. The current 4-year spot rate is 4% and the current 5-year spot rate is 5.5%. What is the 1-year forward rate in four years?
- (A) 9.58%.  
 (B) 11.72%.  
 (C) 10.14%.
65. Austin Traynor is considering buying a \$1,000 face value, semi-annual coupon bond with a quoted price of 104.75 and accrued interest since the last coupon of \$33.50. Ignoring transaction costs, how much will the seller receive at the settlement date?
- (A) \$1,014.00.  
 (B) \$1,047.50.  
 (C) \$1,081.00.
66. Bond X is a noncallable corporate bond maturing in ten years. Bond Y is also a corporate bond maturing in ten years, but Bond Y is callable at any time beginning three years from now. Both bonds carry a credit rating of AA. Based on this information:
- (A) Bond Y will have a higher zero-volatility spread than Bond X.  
 (B) The option adjusted spread of Bond Y will be greater than its zero-volatility spread.  
 (C) The zero-volatility spread of Bond X will be greater than its option-adjusted spread.
67. Suppose the 3-year spot rate is 12.1% and the 2-year spot rate is 11.3%. Which of the following statements concerning forward and spot rates is most accurate?
- The 1-year:
- (A) forward rate one year from today is 13.7%.  
 (B) forward rate two years from today is 13.2%.  
 (C) forward rate two years from today is 13.7%.
68. An investor wants to take advantage of the 5-year spot rate, currently at a level of 4.0%. Unfortunately, the investor just invested all of his funds in a 2-year bond with a yield of 3.2%. The investor contacts his broker, who tells him that in two years he can purchase a 3-year bond and end up with the same return currently offered on the 5-year bond. What 3-year forward rate beginning two years from now will allow the investor to earn a return equivalent to the 5-year spot rate?
- (A) 4.5%.  
 (B) 5.6%.  
 (C) 3.5%.

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69. A 20-year, 9% semi-annual coupon bond selling for \$914.20 offers a yield to maturity of:
- (A) 8%
  - (B) 10%.
  - (C) 9%.
70. Assume a city issues a \$5 million bond to build a hockey rink. The bond pays 8% semiannual interest and will mature in 10 years. Current interest rates are 6%. What is the present value of this bond?
- (A) \$5,743,874.
  - (B) \$3,363,478.
  - (C) \$5,000,000.
71. A bond-equivalent yield for a money market instrument is a(n):
- (A) add-on yield based on a 365-day year
  - (B) discount yield based on a 360-days year.
  - (C) discount yield based on a 365-day year.
72. Parsons Inc. is issuing an annual-pay bond that will pay no coupon for the first five years and then pay a 10% coupon for the remaining five years to maturity. The 10% coupon interest for the first five years will all be paid (without additional interest) at maturity. If the annual YTM on this bond is 10%, the price of the bond per \$1,000 of face value is closest to:
- (A) \$814.
  - (B) \$778.
  - (C) \$856.
73. Consider a bond selling for \$1,150. This bond has 28 years to maturity, pays a 12% annual coupon, and is callable in 8 years for \$1,100. The yield to maturity is closest to:
- (A) 10.34%.
  - (B) 10.55%.
  - (C) 9.26%.
74. Interest rates have fallen over the seven years since a \$1,000 par, 10-year bond was issued with a coupon of 7%. What is the present value of this bond if the required rate of return is currently four and one-half percent? (For simplicity, assume annual payments.)
- (A) \$1,068.72
  - (B) \$1,044.33.
  - (C) \$1,052.17.

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75. A 2-year option-free bond (par value of \$1,000) has an annual coupon of 6%. An investor determines that the spot rate for year 1 is 5% and the year 2 spot rate is 8%. The bond price is closest to:
- (A) \$966.
  - (B) \$992.
  - (C) \$1,039.
76. Consider a 5-year, semiannual, 10% coupon bond with a maturity value of 1,000 selling for \$1,081.11. The first call date is 3 years from now and the call price is \$1,030. What is the yield-to-call?
- (A) 3.91 %.
  - (B) 7.28%.
  - (C) 7.82%.
77. If a \$1,000 bond has a 14% coupon rate and a current price of 950, what is the current yield?
- (A) 14.00%.
  - (B) 14.74%.
  - (C) 15.36%.
78. An annual-pay, 4% coupon, 10-year bond has a yield to maturity of 5.2%. If the price of this bond is unchanged two years later, its yield to maturity at that time is:
- (A) less than 5.2%.
  - (B) 5.2%.
  - (C) greater than 5.2%.
79. The one-year spot rate is 6% and the one-year forward rates starting in one, two and three years respectively are 6.5%, 6.8%, and 7%. What is the four-year spot rate?
- (A) 6.51%.
  - (B) 6.57%.
  - (C) 6.58%.
80. Which of the following statements regarding zero-coupon bonds and spot interest rates is CORRECT?
- (A) If the yield to maturity on a 2-year zero coupon bond is 6%, then the 2-year spot rate is 3%.
  - (B) Price appreciation creates all of the zero-coupon bond's return.
  - (C) Spot interest rates will never vary across the term structure.

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81. A 6% bond paying coupons semi-annually has 10 years until maturity. The bond currently trades at 111.5. Its yield to maturity is closest to:
- (A) 4.529%.
  - (B) 4.543.
  - (C) 4.556%.
82. What is the yield to maturity (YTM) on a semiannual-bond basis of a 20-year, U.S. zero-coupon bond selling for \$300?
- (A) 3.06%.
  - (B) 6.11%.
  - (C) 7.20%.
83. The bonds of Grinder Corp. trade at a G-spread of 150 basis points above comparable maturity U.S. Treasury securities. The option adjusted spread (OAS) on the Grinder bonds is 75 basis points. Using this information, and assuming that the Treasury yield curve is flat:
- (A) the zero-volatility spread is 75 basis points.
  - (B) the option cost is 75 basis points.
  - (C) the zero-volatility spread is 225 basis
84. An analyst wants to estimate the yield to maturity on a non-traded 4-year, annual pay bond rated A. Among actively traded bonds with the same rating, 3-year bonds are yielding 3.2% and 6-year bonds are yielding 5.0%. Using matrix pricing the analyst should estimate a YTM for the non-traded bond that is closest to:
- (A) 3.6%.
  - (B) 3.8%.
  - (C) 4.1%.
85. A bond with three years to maturity pays an annual coupon of 6%. Assuming a yield to maturity of 7%, the price as a percent of par closest to:
- (A) 92.03.
  - (B) 102.67.
  - (C) 97.38.
86. A 3-year option-free bond (par value of \$1,000) has an annual coupon of 9%. An investor determines that the spot rate of year 1 is 6%, the year 2 spot rate is 12%, and the year 3 spot rate is 13%. Using the arbitrage-free valuation approach, the bond price is closest to:
- (A) \$912.
  - (B) \$968.
  - (C) \$1,080.

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87. A bond offers a 12% coupon paid semiannually and has 15 years left to maturity. Assuming a par value of \$1,000 and a yield to maturity of 16%, the price of the bond is closest to:
- (A) \$775.
  - (B) \$776.
  - (C) \$777.
88. Using the following spot rates, what is the price of a three-year bond with annual coupon payments of 5%?
- One-year rate: 4.78%
  - Two-year rate: 5.56%
  - Three-year rate: 5.98%
- (A) \$93.27.
  - (B) \$97.47.
  - (C) \$98.87.
89. Consider a 10-year, 6% coupon, \$1,000 par value bond, paying annual coupons, with a 10% yield to maturity. The change in the bond price resulting from a 400 basis point increase in yield is closest to:
- (A) \$170.
  - (B) \$480.
  - (C) \$1,160.
90. If the current two-year spot rate is 6% while the one-year forward rate for one year is 5%, what is the current spot rate for one year?
- (A) 5.0%.
  - (B) 5.5%.
  - (C) 7.0%.
91. A 5-year bond with a 10% coupon has a present yield to maturity of 8%. If interest rates remain constant one year from now, the price of the bond will be:
- (A) higher.
  - (B) lower.
  - (C) the same.
92. Consider a bond that pays an annual coupon of 5% and that has three years remaining until maturity. Assume the term structure of interest rates is flat at 6%. If the term structure of interest rates does not change over the next twelve-month interval, the bond's price change (as a percentage of par) will be closest to:
- (A) -0.84.
  - (B) 0.00.
  - (C) 0.84.



93. A 10-year, 5% bond is issued at a price to yield 5.2%. Three months after issuance, the yield on this bond has decreased by 100 basis points. The price of this bond at issuance and three months later is:
- (A) below par at issuance, and below par three months later.
  - (B) above par at issuance, but below par three months later.
  - (C) below par at issuance, but above par three months later.
94. Assume that a callable bond's call period starts two years from now with a call price of \$102.50. Also assume that the bond pays an annual coupon of 6% and the term structure is flat at 5.5%. Which of the following is the price of the bond assuming that it is called on the first call date?
- (A) \$102.50.
  - (B) \$103.17.
  - (C) \$100.00.
95. Venenata Foods has a 10-year bond outstanding with an annual coupon of 6.5%. If the bond is currently priced at \$1,089.25, which of the following is closest to the semiannual-bond basis yield?
- (A) 5.42%.
  - (B) 5.33%.
  - (C) 5.26%.
96. For a callable bond, the option-adjusted spread (OAS):
- (A) is less than the zero-volatility spread.
  - (B) is greater than the zero-volatility spread.
  - (C) can be greater than or equal to the zero-volatility spread.
97. A year ago a company issued a bond with a face value of \$1,000 with an 8% coupon. Now the prevailing market yield is 10%. What happens to the bond? The bond:
- (A) is traded at a market price higher than \$1,000.
  - (B) is traded at a market price of less than \$1,000.
  - (C) price is not affected by the change in market yield, and will continue to trade at \$1,000.
98. Given that the two-year spot rate is 5.89% and the one-year forward rate one-year from now is 6.05%, assuming annual compounding what is the one year spot rate?
- (A) 5.67%.
  - (B) 5.73%.
  - (C) 5.91%.

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99. A three-year annual coupon bond has a par value of \$1,000 and a coupon rate of 5.5%. The spot rate for year 1 is 5.2%, the spot rate for year two is 5.5%, and the spot rate for year three is 5.7%. The value of the coupon bond is closest to:
- (A) \$1,000.00.
  - (B) \$937.66.
  - (C) \$995.06.
100. An investor buys a pure-discount note that matures in 146 days for \$971. The bond-equivalent yield is closest to:
- (A) 1.2%.
  - (B) 3.0%.
  - (C) 7.5%.
101. What is the probable change in price of a 30-year semiannual 6.5% coupon, \$1000 par value bond yielding 8% if the yield decreases to 7%?
- (A) \$106.34.
  - (B) \$107.31.
  - (C) \$98.83.
102. A 20-year, 10% semi-annual coupon bond selling for \$925 has a yield to maturity (YTM) of:
- (A) 10.93%.
  - (B) 11.23%.
  - (C) 9.23%.
103. A 20-year bond pays an annual coupon of 6% and has a par value of \$1,000. If its current yield is 7%, its yield to maturity is closest to:
- (A) 8.6%.
  - (B) 7.0%.
  - (C) 7.4%.
104. Jorge Fullen is evaluating a 7%, 10-year bond that is callable at par in 5 years. Coupon payments can be reinvested at an annual rate of 7%, and the current price of the bond is \$106.50 per \$1,000 of face value. The bond pays interest semiannually. Should Fullen consider the yield to first call (YTC) or the yield to maturity (YTM) in making his purchase decision?
- (A) YTM, since YTM is greater than YTC.
  - (B) YTC, since YTC is less than YTM.
  - (C) YTC, since YTC is greater than YTM.

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105. A 10-year spot rate is least likely the:
- (A) appropriate discount rate on the year 10 cash flow for a 20-year bond.
  - (B) yield-to-maturity on a 10-year coupon bond.
  - (C) yield-to-maturity on a 10-year zero-coupon bond.
106. Consider a \$1,000-face value, 12-year, 8%, semiannual coupon bond with a YTM of 10.45%. The change in value for a decrease in yield of 38 basis points is:
- (A) \$21.18.
  - (B) \$22.76.
  - (C) \$23.06.
107. A \$1,000 bond with an annual coupon rate of 10% has 10 years to maturity and is currently priced at \$800. The bond's yield-to-maturity is closest to:
- (A) 11.7%.
  - (B) 13.8%.
  - (C) 12.6%.
108. Which of the following statements regarding zero-coupon bonds and spot interest rates is most accurate?
- (A) A coupon bond can be viewed as a collection of zero-coupon bonds.
  - (B) Spot interest rates will never vary across time.
  - (C) Price appreciation creates only some of the zero-coupon bond's return.
109. A 10% annual coupon, \$1,000 par value bond that matures in 5 years is priced at 92.8. Its yield to maturity is closest to:
- (A) 10%.
  - (B) 12%.
  - (C) 11%.
110. An investor plans to buy a 10-year, \$1,000 par value, 8% semiannual coupon bond. If the yield to maturity of the bond is 9%, the bond's value is:
- (A) \$1,067.95.
  - (B) \$934.96.
  - (C) \$935.82.
111. The value of a 10 year zero-coupon bond with a par value of \$1,000, yielding 9.6% on a semiannual-bond basis, is closest to:
- (A) \$400.
  - (B) \$390.
  - (C) \$410.

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112. A yield curve for coupon bonds is composed of yields on bonds with similar:
- (A) issuers.
  - (B) coupon rates.
  - (C) maturities.
113. The arbitrage-free bond valuation approach can best be described as the:
- (A) geometric average of the spot interest rates.
  - (B) use of a series of spot interest rates that reflect the current term structure.
  - (C) use of a single discount factor.
114. An interpolated spread (I-spread) for a bond is a yield spread relative to:
- (A) benchmark spot rates.
  - (B) risk-free bond yields.
  - (C) swap rates.
115. To determine the full price of a corporate bond, a dealer is most likely to calculate accrued interest based on:
- (A) 30-day months and 360-day years.
  - (B) 30-day months and 365-day years.
  - (C) Actual day counts.
116. A bond has a yield to maturity of 7% with a periodicity of 4. The bond has a face value of \$100,000 and matures in 13 years. Each coupon payment will be \$1,800. The current price of the bond is closest to:
- (A) \$101,672.
  - (B) \$101,698.
  - (C) \$102,768.
117. Whitetail Company issues 73-day commercial paper that will pay \$1,004 at maturity per \$1,000 face value. The bond-equivalent yield is closest to:
- (A) 2.02%.
  - (B) 2.00%.
  - (C) 1.97%.
118. The 3-year spot rate is 10%, and the 4-year spot rate is 10.5%. What is the 1-year forward rate 3 years from now?
- (A) 10.0%.
  - (B) 11.0%.
  - (C) 12.0%.

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119. A spot rate curve is most accurately described as yields to maturity for:
- (A) money market securities.
  - (B) government bonds.
  - (C) zero-coupon bonds.
120. Tony Ly is a Treasury Manager with Deeter Holdings, a large consumer products holding company. The Assistant Treasurer has asked Ly to calculate the current yield and the Yield-to-first Call on a bond the company holds that has the following characteristics:
- 7 years to maturity
  - \$1,000 face value
  - 7.0% semi-annual coupon
  - Priced to yield 9.0%
  - Callable at \$1,060 in two years
- If Ly calculates correctly, the current yield and yield to call are approximately:
- |     | CY    | YTC    |
|-----|-------|--------|
| (A) | 7.78% | 15.82% |
| (B) | 7.80% | 15.72% |
| (C) | 7.80% | 15.82% |
121. A coupon bond pays annual interest, has a par value of \$1,000, matures in 4 years, has a coupon rate of 10%, and a yield to maturity of 12%. The current yield on this bond is:
- (A) 10.65%.
  - (B) 11.25%.
  - (C) 9.50%.
122. A coupon bond pays annual interest, has a par value of \$ 1,000, matures in 4 years, has a coupon rate of 10%, and a yield to maturity of 12%. The current yield on this bond is :
- (A) 10.65%.
  - (B) 11.25%
  - (C) 9.50%
123. A \$1,000 par value, 10% annual coupon bond with 15 years to maturity is priced at \$951. The bond's yield to maturity is:
- (A) equal to its current yield.
  - (B) less than its current yield.
  - (C) greater than its current yield.

124. Other things equal, for option-free bonds:

- (A) a bond's value is more sensitive to yield increases than to yield decreases.
- (B) the value of a long-term bond is more sensitive to interest rate changes than the value of a short-term bond.
- (C) the value of a low-coupon bond is less sensitive to interest rate changes than the value of a high-coupon bond.

125. The six-month spot rate is 4.0% and the 1 year spot rate is 4.5%, both stated on a semiannual bond basis. The implied six-month rate six months from now, stated on a semiannual bond basis, is closest to:

- (A) 4%.
- (B) 5%.
- (C) 6%.

126. Which of the following describes the yield to worst? The:

- (A) lowest of all possible yields to call.
- (B) yield given default on the bond.
- (C) lowest of all possible prices on the bond.

127. If a callable bond has an option-adjusted spread (OAS) of 75 basis points, this most likely suggests:

- (A) the implied cost of the call option is the bond's nominal spread minus 75 basis points.
- (B) the 75 basis points represent the investor's compensation for credit risk, liquidity risk, and volatility risk.
- (C) the bond has a zero-volatility spread greater than 75 basis points.

128. A zero-coupon bond matures three years from today, has a par value of \$1,000 and a yield to maturity of 8.5% (assuming semi-annual compounding). What is the current value of this issue?

- (A) \$779.01.
- (B) \$78.29.
- (C) \$782.91.

129. An investor is interested in buying a 4-year, \$1,000 face value bond with a 7% coupon and semi-annual payments. The bond is currently priced at \$875.60. The first put price is \$950 in 2 years. The yield to put is closest to:

- (A) 10.4%.
- (B) 11.9%.
- (C) 8.7%.

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130. A new-issue, 15-year, \$1,000 face value 6.75% semi-annual coupon bond is priced at \$1,075. Which of the following describes the bond and the relationship of the bond's market yield to the coupon?
- (A) Premium bond, required market yield is less than 6.75%.
  - (B) Premium bond, required market yield is greater than 6.75%.
  - (C) Discount bond, required market yield is greater than 6.75%.
131. A 7% callable semiannual-pay bond with a \$1,000 face value has 20 years to maturity. If the yield to maturity is 8.25% and the yield to call is 9.25% the value of the bond is closest to:
- (A) \$797.
  - (B) \$836.
  - (C) \$879.
132. What is the value of a 10-year, semi-annual, 8% coupon bond with a \$1,000 face value if similar bonds are now yielding 10%?
- (A) \$1,135.90.
  - (B) \$875.38.
  - (C) \$877.11.
133. A coupon bond that pays interest annually has a par value of \$1,000, matures in 5 years, and has a yield to maturity of 10%. What is the value of the bond today if the coupon rate is 12%?
- (A) \$1,077.22
  - (B) \$1,075.82.
  - (C) \$927.90.
134. Given that the one-year spot rate is 6.05% and the two-year spot rate is 7.32%, assuming annual compounding what is the one-year forward rate starting one year from now?
- (A) 8.34%.
  - (B) 7.87%.
  - (C) 8.61%.
135. Martix pricing is used primarily for pricing bonds that:
- (A) differ from their benchmark bond's maturity.
  - (B) differ from their benchmark bond's credit rating.
  - (C) have low liquidity.

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136. Which of the following adjustments is most likely to be made to the day count convention when calculating corporate bond yield spreads to government bond yields?
- (A) Adjust the corporate bond yield to actual months and years.
  - (B) Adjust both the corporate and government bond yields to actual months and years.
  - (C) Adjust the government bond yield to actual months and years.
137. Neuman Company has bonds outstanding with five years to maturity that trade at a spread of +240 basis points above the five-year government bond yield. Neuman also has five-year bonds outstanding that are identical in all respects except that they are convertible into 30 shares of Neuman common stock. At which of the following spreads are the convertible bonds most likely to trade?
- (A) +210 basis points.
  - (B) +270 basis points.
  - (C) +330 basis points.
138. If the yield curve is downward-sloping, the no-arbitrage value of a bond calculated using spot rates will be:
- (A) less than the market price of the bond.
  - (B) equal to the market price of the bond.
  - (C) greater than the market price of the bond.

