Old Exam Questions
Bond Basics

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

1. You are attempting to predict the 1 year interest rate starting one year from today. You know that you can currently earn a 10% APR on a 2 year bond and an 8% APR on a 1 year bond. What is your prediction?
    A. 10%
    B. 10.5%
    C. 11.11%
    D. 12.04%
    E. 13%

2. According to our class discussion, the "best case scenario" for an investor in a callable bond is to receive the _____.
    A. Current yield
    B. Realized compound yield
    C. Yield to call
    D. Yield to maturity

3. You want to know what the one year rate will be starting one year from now. You know that a 1 year zero coupon bond pays 9% interest, while a 2 year zero coupon bond yields 15%. What will you predict for the one year rate starting one year from today?
    A. 9%
    B. 15%
    C. 18.6%
    D. 21.33%
    E. A different value

4. You are offered an investment in a zero coupon bond with 2 years to maturity. The bond sells for $826.45. What would be your yield on this investment?
    A. 8%
    B. 10%
    C. 12%
    D. 21%
    E. A different value

5. All else equal, we would generally expect a(n) _____ yield on a bond that includes a put provision versus one that does not include a put provision.
    A. Equivalent
    B. Higher
    C. Lower
    D. There is no relationship between the two

6. What problematic assumption do we make when calculating yield to maturity?
    A. Bond income is taxable
    B. Coupon payments are semi-annual
    C. Coupons are reinvested at the yield to maturity each period
    D. The face value is $1,000

7. You want to know what the 1 year forward rate is starting next year. However, the only information you have available is that you know a 1 year zero coupon bond sells for $909.09, while a 2 year zero coupon bond sells for $907.03. What would you estimate the forward rate to be? (HINT: Round intermediate calculations to 2 decimal places)
    A. 10%
    B. 11%
    C. 16%
    D. 21%
    E. A different value

8. You are attempting to bootstrap the yield curve. You know that a T-bill that expires in 6 months is currently trading for $9090.91, while a T-bill expiring in 1 year trades for $8,416.80. You see that Treasury bond with 18 months to maturity and a 22% coupon rate currently trades for $1,026.54. What would you estimate is the market 18 month APR?
    A. 9%
    B. 10%
    C. 20%
    D. 21%
    E. A different value

9. You are evaluating a callable bond, so you are attempting to find the yield to call. The bond has 22 years to maturity and can be called in 7 years at a price of $1,088. Its coupon rate is currently 10%, its yield to maturity is 8%, and it pays coupons semi-annually. What is the yield to call of this bond in APR terms?
    A. 3.2%
    B. 3.6%
    C. 7.2%
    D. 7.5%
    E. A different value

10. A firm just issued a 30 year bond. The indenture includes a provision stating that the firm will purchase and retire 10% of the bonds every 3 years. This is an example of a _____ provision.
    A. Call
    B. Conversion
    C. Put
    D. Sinking fund
    E. None of these

11. You are considering an investment in one of three bonds. The three bonds are essentially identical. You know that bond A contains a call provision, bond B contains a put provision, and bond C has no such provision. As a result, their yields are slightly different. Sort the prices of these bonds from the lowest price to the highest price.
    A. A, B, C
    B. A, C, B
    C. B, A, C
    D. B, C, A
    E. C, A, B
    F. C, B, A

12. You observe that a 1 year zero coupon bond currently trades for $952.38. Meanwhile, a 2 year zero coupon bond trades for $873.44. Finally, a 3 year zero coupon bond trades for $772.18. What would you predict the 1 year interest rate to be starting two years from today?
    A. 9%
    B. 10.84%
    C. 11.92%
    D. 13.11%
    E. A different value

13. You've calculated the yield to maturity and yield to call for a callable bond. However, you mixed up the calculations and you don't recall which is which. The two yields are 4.6% and 5.2%. By our class discussion, the _____ must be 4.6% and the _____ must be 5.2%.
    A. Current yield; Yield to call
    B. Current yield; Yield to maturity
    C. Yield to call; Yield to maturity
    D. Yield to maturity; Yield to call

14. You are considering investing in a bond. The bond has 10 years to maturity, a 6% coupon rate, pays its coupons semi-annually, and trades at par. What is the current yield on this bond?
    A. 5.62%
    B. 6%
    C. 6.38%
    D. 7.11%
    E. A different value

15. You see a bond is currently trading at 102% of its face value. The bond has an 9% coupon rate, and it pays its coupons semi-annually. You see that it has been 20 days since the bond's last coupon payment. Given this, you want to know what it would actually cost to purchase the bond. What do you figure is the invoice price of the bond?
    A. $1,020
    B. $1,025
    C. $1,050
    D. $1,070
    E. A different value

16. You are reviewing an analysis of a bond. You see that the bond's current yield is greater than its yield to maturity. Without seeing any other figures, you know that the bond's price must be _____ its face value.
    A. Equal to
    B. Greater than
    C. Lower than
    D. Need more information

17. You just got a quote of 97% for a bond issued by Big Cola Corporation. The bond pays semi-annual coupons with a coupon rate of 6%, while its yield to maturity is 8%. You see that the last coupon payment occurred 60 days ago. What would be your invoice price for this bond?
    A. $970
    B. $980
    C. $983.33
    D. $1,010
    E. A different value

Use the following information for the next two questions:

You are looking to find the 1 year interest rate starting one year from today. Today, you see a 1 year zero coupon bond trading for $909.09. Meanwhile, a 2 year zero coupon bond trades for $804.36.

18. Using the above information, what is the yield to maturity on the 2 year zero coupon bond?
    A. 10%
    B. 11.5%
    C. 13%
    D. 24.32%
    E. A different value

19. Using the above information, what is the 1 year forward rate starting at year 1?
    A. 11.5%
    B. 12.67%
    C. 13.02%
    D. 14.17%
    E. A different value

20. You are interested in purchasing a bond from ExAm Solutions. The bond had a 30 year maturity when it was issued, which was 5 years ago. Its face value was $1,000. The bond pays semi-annual interest at an 8% coupon rate. The bond currently trades at a price of $950, and it is callable at a price of $1,040 after having been on the market for 15 years. If you plan to hold the bond, what is the worst case annual yield you would expect to receive?
    A. 4.51%
    B. 8.48%
    C. 8.76%
    D. 9.02%
    E. A different value

Use the following information for the next two questions:

You are trying to evaluate your investment in gPhone Telephony bonds. You know that you paid $967 originally, and you held the bond for 3 years, until it matured. The bond paid annual interest, with a coupon rate of 10%. In hindsight, you know that the market rate the first year was 8%, the second year was 6%, and the third year was 7%. Assume that you reinvested all coupons at the market rate.

21. Using the above information, what is your total future dollars?
    A. $1,100
    B. $1,320.42
    C. $1,447.69
    D. $1,503.87
    E. A different value

22. Using the above information, what is your realized compound yield?
    A. 4.39%
    B. 7.65%
    C. 9.5%
    D. 10.94%
    E. A different value

23. You are trading bonds. You know that you can buy a 1 year zero with a 8% yield, a 2 year zero with a 10% yield, and a 3 year zero with a 11.87% yield. What would you expect the 1 year rate to be 2 years from today?
    A. 14.31%
    B. 14.76%
    C. 15.23%
    D. 15.7%
    E. A different value

24. You are given a quote of 102% on a bond. The bond carries a 12% coupon rate, and it pays semi-annual coupons. You see that the last coupon was paid 27 days ago. What would be the accrued interest on this bond?
    A. $8
    B. $9
    C. $10
    D. $12

E. A different value

25. You are purchasing a bond. If you do not plan on selling the bond, which of these would represent the worst case return you might receive?
    A. Current yield
    B. Geometric return
    C. Yield to call
    D. Yield to maturity

26. You are looking to bootstrap the yield curve. You see that you can purchase a zero coupon bond with one year to maturity for $909.09. A two year coupon-paying bond is also available. This bond makes annual interest payments, with a coupon rate of 11%. It currently trades for $950. What do you estimate the two year interest rate in the market to be?
    A. 9.54%
    B. 10.10%
    C. 12.27%
    D. 14.28%
    E. A different value

27. You paid $998.34 for a bond 2 years ago. The bond paid annual interest payments with a coupon rate of 10%, while you now know the interest rates over this period were 11%, and 8%, respectively. What would be your realized compound yield over this time period?
    A. 10%
    B. 10.1%
    C. 10.35%
    D. 10.5%
    E. A different value

28. [Quantitative] You invested in a bond 3 years ago. The bond just matured. Over that time period, annual interest rates were 8%, 10%, and 15%, respectively. You paid $910.21 for the bond originally, and it paid a 6% coupon rate with annual coupons. What return did you realize on this investment?
    A. 9.46%
    B. 9.8%
    C. 10.21%
    D. 10.63%
    E. A different value

29. [Conceptual] Suppose you have a choice between two bonds, X and Y. The bonds are identical, except that bond X has a put provision, while bond Y has no such provision. Which of the bonds would you expect to have a higher price?
    A. Bond X
    B. Bond Y
    C. Neither

30. [Conceptual] You are analyzing a callable bond that currently trades at a premium. You calculated that its yield to maturity is equal to 8%. Which of the following would be ***MOST*** likely to be the bond's yield to call?
    A. 7%
    B. 8%
    C. 9%
    D. None of these could make sense

31. [Quantitative] You are attempting to bootstrap the yield curve. You know you could purchase a zero coupon bond with 1 year to maturity for $909.09 currently, while a coupon-paying bond with 2 years to maturity costs $970.18. The two year bond's coupon rate is 8%, and it pays annual coupon payments. Given this data, what is your estimate for the market 2 year rate?
    A. 5.51%
    B. 5.62%
    C. 9.7%
    D. 9.83%
    E. A different value

32. [Quantitative] You are able to purchase one of three zero coupon bonds. The first costs $961.17 and matures in 2 years. The second costs $813.09 and matures in 7 years. The third costs $702.58 and matures in 9 years. Given this, what would you predict the 7 year interest rate to be 2 years from today? (If you are within +/- 0.05% of an answer choice, choose that answer.)
    A. 2.42%
    B. 3.27%
    C. 4%
    D. 4.58%
    E. A different value

33. [Conceptual] According to our class discussion, we want interest rates to stay stable. If interest rates rise, we face _____ risk, while if interest rate decrease, we face _____ risk.
    A. Call; Reinvestment rate
    B. Call; Interest rate
    C. Interest rate; Reinvestment rate
    D. Reinvestment rate; Interest rate

34. [Quantitative] You are considering purchasing a bond at a price of $1,055.01. The bond was originally issued 5 years ago with 30 years to maturity and a 10% coupon rate, with semi-annual coupon payments. The indenture included a call provision, which allowed the firm to call the bonds after 15 years at a price of $1,025. What is the yield to call for this bond?
    A. 9.2%
    B. 9.3%
    C. 9.4%
    D. 9.5%
    E. A different value

35. [Quantitative] You are considering an investment in a bond. The bond currently pays a coupon rate of 12%, with semi-annual coupons. If the bond currently trades at par, what is the current yield on the bond?
    A. 10%
    B. 11%
    C. 12%
    D. 13%
    E. A different value

36. [Quantitative] You are about to purchase a bond. You were given a quote that the bond currently sells at 97% of face value. It pays a coupon rate of 15%, with semi-annual coupons. It has been 4 months since the last coupon payment. What would you actually pay for this bond?
    A. $970
    B. $980
    C. $1,000
    D. $1,020
    E. A different value

37. [Conceptual] You believe that the Fed will lower interest rates in a couple of years. If the liquidity premium in the market is negligible, you would expect long term rates to be _____ short term rates
    A. Equal to
    B. Higher than
    C. Lower than
    D. Unrelated to

38. [Conceptual] What of the following is ***NOT*** true of incorporating a sinking fund into the bond indenture or issuing serial bonds?
    A. Details a uniform payment schedule
    B. Increases the firm's tax expense
    C. Lowers risk of default
    D. Reduces interest expense
    E. All of these are true of these arrangements

39. [Quantitative] You are considering a newly issued 20 year bond that pays a 10% coupon rate with semi-annual coupon payments. If the bond currently holds a 10.8% yield to maturity, what quote would you expect to see for this bond?
    A. 92%
    B. 93.5%
    C. 95%
    D. 96.5%
    E. A different value

40. [Quantitative] You are attempting to form an arbitrage strategy. You can purchase a coupon-paying bond with 2 years to maturity for $990. The bond's yield to maturity is currently 8%, while it pays annual coupons at an 11% rate. Alternatively, you could purchase a zero coupon bond with one year to maturity that has a yield to maturity of 10%, and a zero coupon bond with two years to maturity sells for $800. What would it cost to purchase the set of zero coupon bonds to replicate the coupon-paying bond?
    A. $988
    B. $989
    C. $990
    D. $991
    E. A different value

41. [Quantitative] You are attempting to bootstrap the yield curve. You know that you could buy a zero coupon bond with 1 year to maturity for $909.09. At the same time, a coupon-paying bond with 2 years to maturity can be purchased for $980. The bond's coupon rate is 11%, and it pays annual coupons. Given this information, what is the current 2 year rate in the market?
    A. 10.83%
    B. 11.42%
    C. 11.94%
    D. 12.31%
    E. A different value

42. [Conceptual] A major problem with the yield to maturity measure is that it assumed that we could reinvest _____ the same rate.
    A. Above
    B. At
    C. Below

43. [Conceptual] You are interested in finding out what your return has been on a bond you purchased two years ago. Over that time, you know that the one year interest rates were actually 8% and 3%, respectively. The bond paid 5% interest via annual coupon payments. You initially paid $940 for the bond, and it just matured. What is your realized compound yield over this time?
    A. 8.25%
    B. 8.5%
    C. 8.75%
    D. 9%
    E. A different value

44. [Quantitative] You are interested in a bond that currently sells for $978.88. The bond pays an 8% coupon rate, with semi-annual coupon payments. If it has 25 years to maturity, what is the yield to maturity on this bond?
    A. 4.1%
    B. 4.2%
    C. 8.2%
    D. 8.4%
    E. A different value

45. [Quantitative] You know that the current 1 year rate in the market is 6%. At the same time, you know that a zero coupon bond that matures in 2 years currently sells for $826.45, while a zero coupon bond that matures in 3 years sells for $751.31. Knowing this, what is your prediction for the 2 year interest rate starting 1 year from today?
    A. 10%
    B. 10.89%
    C. 11.47%
    D. 12.06%
    E. A different value

46. [Quantitative] You see that a one year zero coupon bond sells for $934.58, while a two year zero coupon bond sells for $857.34. At the same time, you notice that a 3 year coupon-paying bond sells for $926.03. The bond pays annual coupons with a 6% coupon rate. Given this information, what would you estimate the 3 year spot rate to be?
    A. 8.82%
    B. 8.91%
    C. 9%
    D. 9.04%
    E. A different value

47. [Quantitative] You are offered a two year coupon-paying bond. The bond makes annual coupon payments and offers an 12% coupon rate. The bond currently sells for $1,020. At the same time, you know that you could purchase a 1 year zero coupon bond for $909.09. A 2 year zero coupon bond sells for $811.62. What would be the cost to replicate the coupon-paying bond using zero coupon bonds?
    A. $1,015.28
    B. $1,016.73
    C. $1,018.11
    D. $1,020
    E. A different value

48. [Quantitative] The two year interest rate in the market is 7%. Meanwhile, the six year interest rate is 9%, and the eight year interest rate is 10%. What is the six year forward rate starting two years from today?
    A. 9.67%
    B. 11.02%
    C. 13.17%
    D. 14.86%
    E. A different value

49. [Conceptual] Suppose that a bond has an embedded call provision. Which of these is true?
    A. Its option-adjusted spread is equal to its zero volatility spread
    B. Its option-adjusted spread is greater than its zero volatility spread
    C. Its option-adjusted spread is less than its zero volatility spread
    D. Its option-adjusted spread is negative
    E. Its option-adjusted spread is positive

50. [Conceptual] You expect the Fed to raise short term rates in the near future. If the market shared your belief, under the expectations theory, you would expect to see long term rates to be _____ short term rates.
    A. Equal to
    B. Greater than
    C. Less than

51. [Conceptual] You have bootstrapped the Treasury yield curve to get appropriate discount rates for each 6 month period going forward. The _____ is the additional yield a corporate bond's cash flows earns above these rates.
    A. Current yield
    B. Nominal spread
    C. Option-adjusted spread
    D. Realized compound yield
    E. Zero volatility spread

52. [Conceptual] You see that long term rates are consistently higher than short term rates. This is an example of _____.
    A. Bond arbitrage
    B. Hedging
    C. Interest rate risk
    D. Liquidity preference
    E. None of these