Introduction to Fixed-Income Valuation - 1

Test ID: 7711858

Question #1 of 70

Question ID: 472423

An interpolated spread (I-spread) for a bond is a yield spread relative to:

✗ **A) benchmark spot rates.**

✓ **B)** swap rates.

✗ **C)** risk-free bond yields.

Explanation

Spreads relative to swap rates are referred to as Interpolated or I-spreads.

Question #2 of 70

Question ID: 460683

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.

Explanation

Using the 10% yield to maturity, the price of the bond originally is $754.22:
N = 10; I/Y = 10; PMT = 60; FV=1000; CPT PV = $754.22

Using the 14% yield to maturity, the price of the bond changes to $582.71:
N = 10; I/Y = 14; PMT = 60; FV=1000; CPT PV = $582.71

Therefore, the price is expected to change from $754.22 to $582.71, a decrease of $171.51.

Question #3 of 70

Question ID: 460685

Other things equal, for option-free bonds:

✓ **A) the value of a long-term bond is more sensitive to interest rate changes than the value of a short-term bond.**

✗ **B)** a bond's value is more sensitive to yield increases than to yield decreases.

✗ **C)** the value of a low-coupon bond is less sensitive to interest rate changes than the value of a high-coupon bond.

Explanation

Long-term, low-coupon bonds are more sensitive than short-term and high-coupon bonds. Prices are more sensitive to rate decreases than to rate increases (duration rises as yields fall).

Question #4 of 70

Question ID: 472422

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) lower.**

✗ **B)** the same.

✗ **C)** higher.

Explanation

The option-adjusted yield is the yield a bond with an embedded option would have if it were option-free. For a callable bond, the option-adjusted yield is lower than the YTM. This is because the call option may be exercised by the issuer, rather than the bondholder. Bond investors require a higher yield to invest in a callable bond than they would require on an otherwise identical option-free bond.

Question #5 of 70

Question ID: 472421

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) $847.69.**

✗ **B)** $935.12.

✓ **C)** $891.40.

Explanation

The flat price of the bond is the quoted price, 89.14% of par value, which is $891.40.

Question #6 of 70

Question ID: 415544

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) $1,047.50.**

✗ **B)** $1,014.00.

✓ **C)** $1,081.00.

Explanation

The full price is equal to the flat or clean price plus interest accrued from the last coupon date. Here, the flat price is 1,000 × 104.75%, or 1,000 × 1.0475 = 1,047.50. Thus, the full price = 1,047.50 + 33.50 = 1,081.00.

Question #7 of 70

Question ID: 415574

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)**	**7.80%**	**15.82%**
✗	**B)**	7.80%	15.72%
✗	**C)**	7.78%	15.82%

Explanation

To calculate the CY and YTC, we first need to calculate the present value of the bond: FV = **1,000**, N = **14** = 7 × 2, PMT = **35** =(1000 × 0.07)/2, I/Y = **4.5** (9 / 2), Compute PV = -897.77 (negative sign because we entered the FV and payment as positive numbers).

Then, CY = (Face value × Coupon) / PV of bond = (1,000 × 0.07) / 897.77 = **7.80%.**

And finally, YTC calculation: FV = **1,060** (price at first call), N = **4** (2 × 2), PMT = **35** (same as above), PV = -897.77 (negative sign because we entered the FV and payment as positive numbers), Computel/Y = 7.91 (semi-annual rate, need to multiply by 2) = **15.82%.**

Question #8 of 70

Question ID: 415513

A zero-coupon bond has a yield to maturity of 9.6% (annual basis) and a par value of $1,000. If the bond matures in 10 years, today's price of the bond would be:

- ✓ **A) $399.85.**
- ✗ **B)** $391.54.
- ✗ **C)** $422.41.

Explanation

I = 9.6; FV = 1,000; N = 10; PMT = 0; CPT → PV = 399.85

Question #9 of 70

Question ID: 415555

A 20-year bond with a par value of $1,000 and an annual coupon rate of 6% currently trades at $850. It has a yield to maturity of:

- ✗ **A) 6.8%.**
- ✓ **B)** 7.5%.
- ✗ **C)** 7.9%.

Explanation

N = 20; FV = 1,000; PMT = 60; PV = -850; CPT → I = 7.5

Question #10 of 70

Question ID: 415602

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) 8.02%.**

✗ **B)** 7.87%.

✗ **C)** 5.00%.

Explanation

The forward rate is computed as follows:

One-year forward rate = 1.065^2 / 1.05 - 1 = 8.02%

Question #11 of 70

Question ID: 415543

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)** $108.76.

✗ **C)** $103.54.

Explanation

The clean price is the bond price without the accrued interest so it is equal to the quoted price.

Question #12 of 70

Question ID: 415578

A 20-year, 9% semi-annual coupon bond selling for $914.20 offers a yield to maturity of:

✗ **A) 9%.**

✗ **B)** 8%

✓ **C)** 10%.

Explanation

N = 40; PMT = 45; PV = -914.20; FV = 1,000; CPT → I/Y = 5%
YTM = 5% × 2 = 10%

Question #13 of 70

Question ID: 479062

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) $107.31.**

✗ **B)** $106.34.

✗ **C)** $98.83.

Explanation

Price at 8% is N = 60, FV = $1,000, I = 4%, PMT = $32.50, CPT PV = $830.32; price at 7% is N = 60, FV = $1,000, I = 3.5%, PMT = $32.50, CPT PV = $937.64. Change in price is $937.64 - $830.32 = $107.31.

Question #14 of 70

Question ID: 415522

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) the same.**

✗ **B)** higher.

✓ **C)** lower.

Explanation

A premium bond sells at more than face value, thus as time passes the bond value will converge upon the face value.

Question #15 of 70

Question ID: 460693

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) The zero-volatility spread of Bond X will be greater than its option-adjusted spread.**

✓ **B)** Bond Y will have a higher zero-volatility spread than Bond X.

✗ **C)** The option adjusted spread of Bond Y will be greater than its zero-volatility spread.

Explanation

Bond Y will have the higher Z-spread due to the call option embedded in the bond. This option benefits the issuer, and investors will demand a higher yield to compensate for this feature. The option-adjusted spread removes the value of the option from the spread calculation, and would always be less than the Z-spread for a callable bond. Since Bond X is noncallable, the Z-spread and the OAS will be the same.

Question #16 of 70

Question ID: 415497

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) $920.**

✓ **B)** $1,091.

✗ **C)** $879.

Explanation

N = 20; I/Y = 9; PMT = 100 (0.10 × 1,000); FV = 1,000; CPT → PV = 1,091.

Question #17 of 70

Question ID: 415554

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) 5.16%.**

✗ **B)** 9.14%.

✓ **C)** 4.72%.

Explanation

To compute yield to first call, enter: FV = $1,075; N = 2 × 2 = 4; PMT = $66.25; PV = -1,229.50, CPT → I/Y = 2.36%, annualized as (2.36)(2) = 4.72%.

Question #18 of 70

Question ID: 415571

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

✗ **A) yield given default on the bond.**

✓ **B)** lowest of all possible yields to call.

✗ **C)** lowest of all possible prices on the bond.

Explanation

Yield to worst involves the calculation of yield to call for every possible call date, and determining which of these results in the lowest expected return.

Question #19 of 70

Question ID: 415595

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: $_1y_1 = 0.062$; $_2y_1 = 0.063$; $_3y_1 = 0.065$, what is the theoretical 4-year spot rate?

✓ **A) 6.25%.**

✗ **B)** 6.75%.

✗ **C)** 6.00%.

Explanation

$S_4 = [(1.06) (1.062) (1.063) (1.065)]^{.25} - 1 = 6.25\%$.

Question #20 of 70

Question ID: 415499

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) $927.90.**

✓ **B)** $1,075.82.

✗ **C)** $1,077.22

Explanation

FV = 1,000
N = 5
I = 10
PMT = 120
CPT = ?
PV = 1,075.82.

Question #21 of 70

Question ID: 460690

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)** 9.3%.

✓ **C)** 12.1%.

Explanation

YTC: N = 10; PV = -895; PMT = 80 / 2 = 40; FV = 1080; CPT → I/Y = 6.035 × 2 = 12.07%.

Question #22 of 70

Question ID: 415591

A yield curve for coupon bonds is composed of yields on bonds with similar:

✓ **A) issuers.**

✗ **B)** coupon rates.

✗ **C)** maturities.

Explanation

Yield curves are typically constructed for bonds of the same or similar issuers, such as a government bond yield curve or AA rated corporate bond yield curve.

Question #23 of 70

Question ID: 415563

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%.

Explanation

PMT = 110, N = 3, FV = 1,100, PV = 975

Compute I = 14.97

Question #24 of 70

Question ID: 457304

A 20-year, 10% semi-annual coupon bond selling for $925 has a yield to maturity (YTM) of:

✗ **A) 9.23%.**

✗ **B)** 11.23%.

✓ **C)** 10.93%.

Explanation

N = 40, PMT = 50, PV = -925, FV = 1,000, CPT I/Y = 5.4653 × 2 = 10.9305.

Question #25 of 70

Question ID: 415501

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 8%?

✓ **A) $924.18.**

✗ **B)** $2,077.00.

✗ **C)** $1,500.00.

Explanation

FV = 1,000
N = 5
I = 10
PMT = 80
Compute PV = 924.18.

Question #26 of 70

Question ID: 460688

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) true yield greater than the street convention.**

✓ **B)** yield to maturity greater than 8.0%.

✗ **C)** current yield less than 8.0%.

Explanation

A bond trading at a discount will have a YTM greater than its coupon. The current yield is 8 / 97.55 = 8.2%. True yield is adjusted for payments delayed by weekends and holidays and is equal to or slightly less than the yield on a street convention basis.

Question #27 of 70

Question ID: 415535

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) For a 3-year annual pay coupon bond, the first coupon can be discounted at 6.5%, 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)** 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.

✗ **C)** The yield to maturity for 3-year annual pay coupon bond can be found by taking the geometric average of the 3 spot rates.

Explanation

Spot interest rates can be used to price coupon bonds by taking each individual cash flow and discounting it at the appropriate spot rate for that year's payment. Note that the yield to maturity is the bond's internal rate of return that equates all cash flows to the bond's price. Current spot rates have nothing to do with the bond's yield to maturity.

Question #28 of 70

Question ID: 460686

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 increased since purchase.**

✗ **B)** discount, and the yield to maturity has decreased since purchase.

✗ **C)** premium, and the yield to maturity has decreased since purchase.

Explanation

The yield on the bonds has increased, indicating that the value of the bonds has fallen below par. The bonds are therefore trading at a discount. If a bond is selling at a discount, the bond's current price is lower than its par value and the bond's YTM is higher than the coupon rate. Since Logan bought the bonds at par (coupon = YTM = 6%), the YTM has increased.

Question #29 of 70

Question ID: 415515

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) Yes, the bond is undervalued by $38.**

✗ **B)** No, the bond is overvalued by $64.

✓ **C)** Yes, the bond is undervalued by $64.

Explanation

FV = 1,000

PMT = 37.5

N = 12

I/Y = 3%

CPT PV = 1,074.66

1,074.66 - 1,011 = 64

Question #30 of 70

Question ID: 415493

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.

Explanation

In 6 years, there will be 14 years (20 − 6), or 14 × 2 = 28 semi-annual periods remaining of the bond's life So, N = (20 − 6)(2) = 28; PMT = (1,000 × 0.10) / 2 = 50; I/Y = 9/2 = 4.5; FV = 1,000; CPT → PV = 1,079.

Note: Calculate the PV (we are interested in the PV 6 years from now), not the FV.

Question #31 of 70

Question ID: 415562

A coupon bond pays annual interest, has a par value of $1,000, matures in 4 years, has a coupon rate of $100, and a yield to maturity of 12%. The current yield on this bond is:

✗ **A) 9.50%.**

✗ **B)** 11.25%.

✓ **C)** 10.65%.

Explanation

FV = 1,000; N = 4; PMT = 100; I = 12; CPT → PV = 939.25.

Current yield = coupon / current price

100 / 939.25 × 100 = 10.65

Question #32 of 70

Question ID: 415593

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) 6.5%.**

✓ **B)** 12.0%.

✗ **C)** 5.0%.

Explanation

$_5y_1 = [(1 + S_6)^6 / (1 + S_5)^5] - 1 = [(1.07)^6/(1.06)^5] - 1 = [1.5 / 1.338] - 1 = 0.12$

Question #33 of 70

Question ID: 415556

The current yield on a bond is equal to:

✓ **A) annual interest divided by the current market price.**

✗ **B)** the yield to maturity.

✗ **C)** the internal rate of return

Explanation

The formula for current yield is the annual cash coupon payment divided by the bond price.

Question #34 of 70

Question ID: 415540

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.

Explanation

The bond price is computed as follows:

Bond price = $6/1.055 + (102.50 + 6)/1.055^2 = \$103.17$

Question #35 of 70

Question ID: 415542

In the context of bonds, accrued interest:

✗ **A) covers the part of the next coupon payment not earned by seller.**

✗ **B)** is discounted along with other cash flows to arrive at the dirty, or full price.

✓ **C)** equals interest earned from the previous coupon to the sale date.

Explanation

This is a correct definition of accrued interest on bonds.

The other choices are false. Accrued interest *is not discounted* when calculating the price of the bond. The statement, "covers the part of the next coupon payment not earned by seller," should read, "...not earned by *buyer*."

Question #36 of 70

Question ID: 415528

A 10-year spot rate is *least likely* the:

✓ **A) yield-to-maturity on a 10-year coupon bond.**

✗ **B)** yield-to-maturity on a 10-year zero-coupon bond.

✗ **C)** appropriate discount rate on the year 10 cash flow for a 20-year bond.

Explanation

A 10-year spot rate is the yield-to-maturity on a 10-year zero-coupon security, and is the appropriate discount rate for the year 10 cash flow for a 20-year (or any maturity greater than or equal to 10 years) bond. Spot rates are used to value bonds and to ensure that bond prices eliminate any possibility for arbitrage resulting from buying a coupon security, stripping it of its coupons and principal payment, and reselling the strips as separate zero-coupon securities. The yield to maturity on a 10-year bond is the (complex) average of the spot rates for all its cash flows.

Question #37 of 70

Question ID: 415526

In which of the following conditions is the bond selling at a premium? The coupon rate:

✗ **A) current rate and yield-to-maturity are all the same.**

✓ **B)** is greater than current yield, which is greater than yield-to-maturity.

✗ **C)** is less than current yield, which is less than yield-to-maturity.

Explanation

When a bond is selling at a premium the coupon rate will be greater than current yield and current yield will be greater than YTM.

Question #38 of 70

Question ID: 434410

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) higher than 1.5%.**

✗ **B)** lower than 1.5%.

✗ **C)** equal to 1.5%.

Explanation

The BEY is an add-on yield based on a 365-day year. The discount of 1.5% implies a discount of $1,000 × 1.5% × 150/360 =

$6.25. The current price is therefore $1,000 - $6.25 = $993.75.

This gives a HPR of $6.25 / $993.75 = 0.629%.

BEY = 0.629% × 365/150 = 1.53%.

Question #39 of 70

Question ID: 415605

The zero volatility spread (Z-spread) is the spread that:

✗ **A) results when the cost of the call option in percent is subtracted from the option adjusted spread.**

✗ **B)** is added to the yield to maturity of a similar maturity government bond to equal the yield to maturity of the risky bond.

✓ **C)** 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.

Explanation

The zero volatility spread (Z-spread) is the interest rate that is added to each zero-coupon bond spot rate that will cause the present value of the risky bond's cash flows to equal its market value. The nominal spread is the spread that is added to the YTM of a similar maturity government bond that will then equal the YTM of the risky bond. The zero volatility spread (Z-spread) is the spread that results when the cost of the call option in percent is added to the option adjusted spread.

Question #40 of 70

Question ID: 415548

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%.

Explanation

The equivalent add-on return the investor earns for the 146-day holding period is $1,000 / $971 − 1 = 0.0299 = 2.99%. The bond-equivalent yield is (365 / 146) × 2.99% = 7.47%.

Question #41 of 70

Question ID: 415557

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)** 7.73%.

✗ **C)** 14.92%.

Explanation

To compute yield to first put, enter: FV = $1,000; N = 2 × 4 = 8; PMT = $35; PV = -$779.25; CPT → I/Y = 7.23%, annualized as (7.23)(2) = 14.46%.

Question #42 of 70

Question ID: 485808

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%.

Explanation

First determine the price paid for the bond:
N = 5 × 2 = 10; I/Y = 8.20 / 2 = 4.10; PMT = 7.95 / 2 = 3.975; FV = 100; CPT PV = -98.99

Then use this value and the call price and date to determine the yield to call:
N = 3 × 2 = 6; PMT = 7.95 / 2 = 3.975; PV = -98.99; FV = 102; CPT I/Y = 4.4686 × 2 = 8.937%

Question #43 of 70

Question ID: 415518

A 10-year, $1,000 face value 8% semi-annual coupon bond is priced at $950. Which of the following statements about this bond is *most accurate*?

✗ **A) The current market required rate is less than the coupon rate.**
✓ **B)** The bond is selling at a discount.
✗ **C)** The bond is selling at a premium.

Explanation

When the issue price is less than par, the bond is selling at a discount.

We also know that the *current market required rate is greater than the coupon rate* because the bond is selling at a discount.

Question #44 of 70

Question ID: 415587

A bond-equivalent yield for a money market instrument is a(n):

✗ **A) discount yield based on a 365-day year.**
✓ **B)** add-on yield based on a 365-day year.
✗ **C)** discount yield based on a 360-day year.

Explanation

A bond-equivalent yield is an add-on yield based on a 365-day year.

Question #45 of 70

Question ID: 415536

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%. Using the arbitrage-free valuation approach, the bond price is *closest* to:

✗ **A) $11,122.**

✓ **B)** $9,694.

✗ **C)** $8,401.

Explanation

We can calculate the price of the bond by discounting each of the annual payments by the appropriate spot rate and finding the sum of the present values. Price = [1,500/(1.16)] + [11,500/$(1.17)^2$] = $9,694. Or, in keeping with the notion that each cash flow is a separate bond, sum the following transactions on your financial calculator:

N=1, I/Y=16.0, PMT=0, FV=1,500, CPT PV=1,293
N=2, I/Y=17.0, PMT=0, FV=11,500, CPT PV=8,401

Price = 1,293 + 8,401 = $9,694.

Question #46 of 70

Question ID: 415508

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) $1,122.**

✗ **B)** $964.

✓ **C)** $1,091.

Explanation

This is a present value problem 5 years in the future.
N = 20, PMT = 100, FV = 1000, I/Y = 9
CPT PV = -1,091.29
The $900 purchase price is not relevant for this problem.

Question #47 of 70

Question ID: 460684

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) $23.06.**

✗ **B)** $21.18.

✗ **C)** $22.76.

Explanation

With YTM = 10.45% (I/Y = 5.225), PMT = 40, N = 24, FV = 1,000, PV = $834.61. With YTM = 10.07% (I/Y = 5.035), PV = $857.67, an increase of $23.06.

Question #48 of 70

Question ID: 415594

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 two years from today is 13.2%.**

✓ **B)** forward rate two years from today is 13.7%.

✗ **C)** forward rate one year from today is 13.7%.

Explanation

The equation for the three-year spot rate, S_3, is $(1 + S_1)(1 + {}_1y_1)(1 + {}_2y_1) = (1 + S_3)^3$. Also, $(1 + S_1)(1 + {}_1y_1) = (1 + S_2)^2$. So, $(1 + {}_2y_1) = (1 + S_3)^3 / (1 + S_2)^2$, computed as: $(1 + 0.121)^3 / (1 + 0.113)^2 = 1.137$. Thus, ${}_2y_1 = 0.137$, or 13.7%.

Question #49 of 70

Question ID: 415539

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)** $98.87.

✓ **C)** $97.47.

Explanation

The bond price is computed as follows:

Bond price = $(5 / 1.0478) + (5 / 1.0556^2) + (105 / 1.0598^3) = \$97.47$

Question #50 of 70

Question ID: 415538

Given the following spot rate curve:

> Spot Rate
>
> 1-yr zero = 9.50%
>
> 2-yr zero = 8.25%
>
> 3-yr zero = 8.00%
>
> 4-yr zero = 7.75%
>
> 5-yr zero = 7.75%

What will be the market price of a five-year, 9% annual coupon rate bond?

✗ **A) $1,067.78.**

✓ **B)** $1,047.68.

✗ **C)** $1,000.00.

Explanation

90 / (1 + 0.095) + 90 / $(1 + 0.0825)^2$ + 90 / $(1 + 0.08)^3$ + 90 / $(1 + 0.0775)^4$ + 1,090 / $(1 + 0.0775)^5$ = $1,047.68.

Question #51 of 70

Question ID: 415564

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) 8.4%.**

✗ **B)** 9.2%.

✓ **C)** 8.0%.

Explanation

Input into your calculator:
N = 5; FV = 1,100; PMT = 100; PV = -1,150; CPT → I/Y = 7.95%.

Question #52 of 70

Question ID: 415572

A $1,000 bond with an annual coupon rate of 10% has 10 years to maturity and is currently priced at $800. What is the bond's approximate yield-to-maturity?

✗ **A) 12.6%.**

✓ **B)** 13.8%.

✗ **C)** 11.7%.

Explanation

FV = 1,000, PMT = 100, N = 10, PV = -800

Compute I = 13.8

Question #53 of 70

Question ID: 415570

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%.

Explanation

N = 6; PMT = 50; FV = 1,030; PV = -1,081.11; CPT → I = 3.91054

3.91054 × 2 = 7.82

Question #54 of 70

Question ID: 415516

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) $2,030.**

✓ **B)** $2,044.

✗ **C)** $2,086.

Explanation

Given the shift in interest rates, Bond R has a new value of $1,017 (N = 4; PMT = 70; FV = 1,000; I/Y = 6.50%; CPT → PV = 1,017). Bond S's new value is $1,027 (N = 7; PMT = 70; FV = 1,000; I/Y = 6.50%; CPT → PV = 1,027). After the increase in interest rates, the new value of the two-bond portfolio is $2,044 (1,017 + 1,027).

Question #55 of 70

Question ID: 415565

A 20-year, 9% semi-annual coupon bond selling for $1,000 offers a yield to maturity of:

✓ **A) 9%.**

✗ **B)** 11%.

✗ **C)** 10%.

Explanation

N = (20 × 2) = 40

pmt = 90/2 = 45

PV = -1000

FV = 1000

cpt i = 4.5× 2 = 9%

Question #56 of 70

Question ID: 415512

Randy Harris is contemplating whether to add a bond to his portfolio. It is a semiannual, 6.5% bond with 7 years to maturity. He is concerned about the change in value due to interest rate fluctuations and would like to know the bond's value given various scenarios. At a yield to maturity of 7.5% or 5.0%, the bond's fair value is *closest* to:

7.5%	5.0%

✓	**A)**	**946.30**	**1,087.68**
✗	**B)**	1,032.67	959.43
✗	**C)**	974.03	1,052.36

Explanation

Given a YTM of 7.5%, calculate the value of the bond as follows:
N = 14; I/Y = 7.5/2 = 3.75%; PMT = 32.50; FV = 1,000; CPT → PV = 946.30

Given a YTM of 5.0%, calculate the value of the bond as follows:
N = 14; I/Y = 5/2 = 2.5%; PMT = 32.50; FV = 1,000; CPT → PV = 1,087.68

Question #57 of 70

Question ID: 415560

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. YTM
✗	**A)**	**8.9%**	**lower**
✓	**B)**	9.1%	higher
✗	**C)**	8.9%	higher

Explanation

Current yield = annual coupon payment/price of the bond

CY = 100/1,100 = 0.0909

The current yield will be between the coupon rate and the yield to maturity. The bond is selling at a premium, so the YTM must be less than the coupon rate, and therefore the current yield is greater than the YTM.

The YTM is calculated as: FV = 1,000; PV = -1,100; N = 40; PMT = 50; CPT → I = 4.46 × 2 = 8.92

Question #58 of 70

Question ID: 415583

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) 7.75%.**

✗ **B)** 7.53%.

✓ **C)** 7.65%.

Explanation

The current yield is computed as: (Annual Cash Coupon Payment) / (Current Bond Price). The annual coupon is: ($1,000)(0.0775) = $77.50. The current yield is then: ($77.50) / ($1,012.45) = 0.0765 = 7.65%.

Question #59 of 70

Question ID: 415577

What is the current yield for a 5% three-year bond whose price is $93.19?

✗ **A) 5.00%.**

✗ **B)** 2.68%.

✓ **C)** 5.37%.

Explanation

The current yield is computed as follows:

Current yield = 5% x 100 / $93.19 = 5.37%

Question #60 of 70

Question ID: 415588

The margin above or below LIBOR that is used to determine a floating-rate note's coupon payments is *most accurately* described as its:

✗ **A) required margin.**

✓ **B)** quoted margin.

✗ **C)** discount margin.

Explanation

The quoted margin of a floating-rate note is the number of basis points added to or subtracted from the note's reference rate to determine its coupon payments. The required margin or discount margin is the number of basis points above or below the reference rate that would cause the note's price to return to par value at each reset date. Required margin may be different from quoted margin if a note's credit quality has changed since issuance.

Question #61 of 70

Question ID: 415581

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) 10.0%.**

✗ **B)** 8.9%.

✓ **C)** 10.6%.

Explanation

N = 10; PMT = 100; PV = 1,000; FV = 1,100; CPT → I = 10.6.

Question #62 of 70

Question ID: 415589

The Treasury spot rate yield curve is *closest* to which of the following curves?

✗ **A) Par bond yield curve.**

✗ **B)** Forward yield curve rate.

✓ **C)** Zero-coupon bond yield curve.

Explanation

The spot rate yield curve shows the appropriate rates for discounting single cash flows occuring at different times in the future. Conceptually, these rates are equivalent to yields on zero-coupon bonds. The par bond yield curve shows the YTMs at which bonds of various maturities would trade at par value. Forward rates are expected future short-term rates.

Question #63 of 70

Question ID: 415537

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) $1,000.**

✗ **B)** $1,010.

✓ **C)** $983.

Explanation

The value of the bond is simply the present value of discounted future cash flows, using the appropriate spot rate as the discount rate for each cash flow. The coupon payment of the bond is $40 (0.04 × 1,000). The bond price = $40/(1.02) + 1,040/(1.05)^2 = $982.53.

Question #64 of 70

Question ID: 415502

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) $935.82.**

✗ **B)** $1,067.95.

✓ **C)** $934.96.

Explanation

N = 20, I = 9/2 = 4.5, PMT = 80/2 = 40, FV = 1,000, compute PV = $934.96

Question #65 of 70

Question ID: 415530

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) 102.46.**

✗ **B)** 95.07.

✓ **C)** 100.10.

Explanation

This value is computed as follows:

Present Value = $6/1.05 + 6/1.055^2 + 106/1.06^3 = 100.10$

The value 95.07 results if the coupon payment at maturity of the bond is neglected.

Question #66 of 70

Question ID: 415496

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.

Explanation

The coupon payment each six months is ($1,000)(0.075 / 2) = $37.50. To value the bond, enter FV = $1,000; PMT = $37.50; N = 10 × 2 = 20; I/Y = 8.2 / 2 = 4.1%; CPT → PV = -952.85.

Question #67 of 70

Question ID: 441030

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) over 14%.**

✗ **B)** between 13% and 14%.

✗ **C)** between 10% and 12%.

Explanation

PMT = 12; N = 10; PV = -88; FV = 100; CPT → I = 14.3

Question #68 of 70

Question ID: 415579

A coupon bond that pays interest annually is selling at par, matures in 5 years, and has a coupon rate of 12%. The yield to maturity on this bond is:

✗ **A) 8.33%.**

✓ **B)** 12.00%.

✗ **C)** 60.00%.

Explanation

N = 5; PMT = 120; PV = -1,000; FV = 1,000; CPT → I = 12

Hint: the YTM equals the coupon rate when a bond is selling at par.

Question #69 of 70

Question ID: 415520

Consider a 10%, 10-year bond sold to yield 8%. One year passes and interest rates remained unchanged (8%). What will have happened to the bond's price during this period?

✗ **A) It will have remained constant.**

✗ **B)** It will have increased.

✓ **C)** It will have decreased.

Explanation

The bond is sold at a premium, as time passes the bond's price will move toward par. Thus it will *fall*.

N = 10; FV = 1,000; PMT = 100; I = 8; CPT → PV = 1,134

N = 9; FV = 1,000; PMT = 100; I = 8; CPT → PV = 1,125

Question #70 of 70

Question ID: 415545

Accrued interest on a bond that is sold between coupon dates is:

✗ **A) split between the buyer and seller.**

✓ **B)** paid to the seller.

✗ **C)** paid to the buyer.

Explanation

Accrued interest from the most recent coupon payment date to the settlement date is owed to the seller of a bond and is included in the full price.