

Schweser Printable Answers - Test SS 15,16,17

Derivatives, Fixed Income, Alternative Investments

Test ID#: 548

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Question 1 - #96573

Which of the following bond features would result in lower interest rate risk? A:

- A) higher yield to maturity.
- B) lower coupon rate.
- C) longer maturity.

Your answer: A was correct!

A higher yield to maturity would result in a shorter duration and lower interest rate risk. A longer maturity and lower coupon rate would result in longer durations and higher interest rate risk.

This question tested from Session 15, Reading 61, LOS c.

Question 2 - #97073

Which of the following fixed-coupon bonds has the *least* price volatility? All else equal, the bond with a maturity of:

- A) 10 years.
- B) 20 years.
- C) 5 years.

Your answer: C was correct!

If bonds are identical except for maturity, the one with the *shortest* maturity will exhibit the least price volatility. This is because a bond's price is determined by discounting the value of the cash flows. A shorter-term bond pays its cash flows earlier than a longer-term bond, and near-term cash flows are not discounted as heavily. *Another way to think about this:* The relationship between maturity and price volatility (all else equal) is direct – a greater maturity results in greater price volatility.

This question tested from Session 15, Reading 61, LOS c.

Question 3 - #97856

Which of the following is a *difference* between an on-the-run and an off-the-run issue? An on-the-run issue:

- A) is the most recently issued security of that type.

B) is publicly traded whereas an off-the-run issue is not.

C) tends to sell at a lower price.

Your answer: A was correct!

An on-the-run issue is the most recently auctioned Treasury issue. An off-the-run issue older issues, when more current issues are brought to market.

This question tested from Session 15, Reading 62, LOS b, (Part 2).

Question 4 - #96493

What will happen to interest rate risk for an option-free bond if market yields decrease?

A) Interest rate risk will decrease.

B) Even if the term structure is flat, interest rate risk could go up or down based on the level of the term structure at the time market yields decrease.

C) Interest rate risk will increase.

Your answer: C was correct!

If market yields decrease, interest risk will increase since the duration or the sensitivity of the bond to interest rate fluctuation will increase.

This question tested from Session 15, Reading 61, LOS c.

Question 5 - #96445

The annual Fixed Income Analysts' Forum had just ended and two attendees, James Purcell and Frederick Hanes, were discussing some of the comments made by the panelists. Purcell and Hanes were specifically concerned with the following two statements that were made:

Panelist 1: Mortgage-backed securities and asset-backed securities are both fixed income securities that are backed by pools of loans and are said to be amortizing securities. For many of the loans, no principal payments are required to be made prior to the maturity date. These securities are said to have a bullet maturity structure.

Panelist 2: If coupon Treasury bonds or corporate bonds are issued with the terms specifying that the principal be repaid over time at the option of the issuer, then these bonds are puttable bonds; if the principal is to be repaid over time at the option of the bondholder, then the bonds are termed callable bonds.

With regards to the statements made by Panelist 1 and Panelist 2:

A) both are correct

B) only one is correct.

C) both are incorrect.

Your answer: B was incorrect. The correct answer was C) both are incorrect.

Panelist 1 is incorrect. These securities do not have a bullet maturity structure. The payments are structured so that the loan is paid off when the last loan payment is made.

Panelist 2 is incorrect. If coupon Treasury bonds or corporate bonds are issued with the terms specifying that the principal be repaid over time at the option of the issuer, then these bonds are callable bonds – the call provision grants the issuer an option to retire part of the issue or the entire issue prior to the maturity date. On the other hand, if the principal is to be repaid over time at the option of the bondholder, then these bonds are puttable bonds – the put provision entitles the bondholder to put (sell) the issue back to the issuer at the put price (if interest rates increase and the bond's price declines below the put price).

This question tested from Session 15, Reading 60, LOS d.

Question 6 - #97701

Which one of the following alternatives represents the correct series of payments made by a typical 6% U.S. Treasury note with a par value of \$100,000 issued today with five years to maturity?

<u>Number and size of each intermediate payment</u>	<u>Payment made at maturity</u>
A) 9 semiannual payments of \$3,000	\$103,000
B) 4 annual payments of \$6,000	\$106,000
C) 9 semiannual payments of \$3,000	\$100,000

Your answer: A was correct!

Payments for U.S. Treasury bonds and notes are semiannual and are fixed for the life of each bond or note. The coupon rate is quoted on an annual basis but each payment is made on the basis of one half the annual rate multiplied by the maturity or par value.

This question tested from Session 15, Reading 60, LOS b, (Part 1).

Question 7 - #96455

Which of the following is *most* accurate about a bond with a deferred call provision?

- A) It could be called at any time during the initial call period, but not later.
- B) Principal repayment can be deferred until it reaches maturity.
- C) It could not be called right after the date of issue.

Your answer: C was correct!

A deferred call provision means the issue is initially (say, for the first 5 to 7 years) non-callable, after which time it becomes freely callable. In other words, there is a deferment period during which time the bond cannot be called, but after that, it becomes freely callable.

This question tested from Session 15, Reading 60, LOS d.

Question 8 - #97501

A 5% coupon bond with semi-annual coupon payments on a coupon payment date when the coupon has not been paid yet and the bond has a \$1,000 par value. What is the accrued interest of the bond and what is the bond's full price?

<u>Accrued Interest</u>	<u>Full Price</u>
A) \$25	\$1,000
B) \$25	\$1,025
C) \$50	\$1,050

Your answer: A was incorrect. The correct answer was B)
\$25 \$1,025

Accrued interest is found by simply dividing the coupon rate by two and then multiplying the result by \$1,000. The full price or dirty price of the bond is the price of the bond plus accrued interest, if any.

This question tested from Session 15, Reading 60, LOS c.

Question 9 - #97101

Which of the following statements about how the features of a bond impact interest rate risk is **TRUE**?

- A) For a given change in yield, a higher coupon bond will experience a larger change in price than a lower-coupon bond.
- B) Zero-coupon bonds have the highest price volatility.
- C) Market yields are the most important determinant of bond price volatility.

Your answer: B was correct!

Zero-coupon bonds have the highest interest rate risk because they deliver *all* their cash flows at maturity. *Another way to think about this:* A zero-coupon bond has the lowest coupon (0.00%), so it has the highest price volatility, since the coupon rate is inversely related to price volatility.

In addition to market yields, the timing and magnitude of cash flows affect price volatility. For a given change in yield, a higher coupon bond will experience a *smaller* change in price than a lower-coupon bond. The relationship between maturity and price volatility (all else equal) is direct – a greater maturity results in greater price volatility.

This question tested from Session 15, Reading 61, LOS c.

Question 10 - #97674

Which of the following statements concerning coupon rate structures is *least* accurate?

- A) Accrual bonds have only one cash inflow at maturity.
- B) Accrual bonds, like zero-coupon bonds, always sell at a discount to face value.
- C) Zero-coupon bonds have only one cash inflow at maturity.

Your answer: A was incorrect. The correct answer was B) Accrual bonds, like zero-coupon bonds, always sell at a discount to face value.

Accrual bonds, unlike zero-coupon bonds, do not always sell at a discount to face value. The interest accrues forward and thus the bonds are likely to sell for more than face value.

This question tested from Session 15, Reading 60, LOS b, (Part 2).

Question 11 - #97837

Consider three U.S. Treasury notes that were outstanding on November 30, 2006:

Series	Interest Rate	Issue Date	Payable	Amount Outstanding (\$ mil.)
M	3.375	9/15/04	9/15/09	15,005
P	3.500	11/15/04	11/15/09	18,752
U	4.625	11/15/06	11/15/09	24,773

(Source: Monthly Statement of the Public Debt, U.S. Department of the Treasury)

The market price of which of these notes *most likely* provided the best information about current 3-year Treasury yields as of November 30, 2006?

- A) Series P.
- B) Series M.
- C) Series U.

Your answer: C was correct!

Series U, the most recently issued note, was the on-the-run 3-year Treasury note as of November 30, 2006. Market prices of on-the-run issues provide better information about current market yields than off-the-run issues because of their higher liquidity and because their values are often closer to par.

This question tested from Session 15, Reading 62, LOS b, (Part 2).

Question 12 - #95838

Given the following Treasury data, what is the 1-year spot rate?

Maturity	YTM	Coupon	Price
6 months	1.0%	1.0%	100
1 year	1.5%	1.5%	100
18 months	2.5%	2.5%	100

- A) 1.50%.
- B) 1.13%.
- C) 1.51%.

Your answer: B was incorrect. The correct answer was A) 1.50%.

The bond with 6 months left to maturity has a semiannual discount rate of $0.01/2 = 0.005$ therefore the 1-year spot rate can be found by solving the following equation:

$$0.75/1.005 + 100.75/(1 + S_{1.0}/2)^2 = 100$$

$$\text{Solving for } S_{1.0}/2: 100.75/(1 + S_{1.0}/2)^2 = 100 - 0.75/1.005$$

$$100.75/(1 + S_{1.0}/2)^2 = 99.2537$$

$$100.75 / 99.2537^{0.5} = (1 + S_{1.0}/2)^2$$

$$(100.75 / 99.254)^{0.5} - 1 = S_{1.0}/2$$

$$0.007509 = S_{1.0}/2$$

$$2 \times 0.007509 = S_{1.0}$$

$$S_{1.0} = 0.01502 \text{ or } 1.5\%$$

This question tested from Session 16, Reading 65, LOS e, (Part 1).

Question 13 - #95891

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

- A) 11.23%.
- B) 9.23%.
- C) 10.93%.

Your answer: C was correct!

$$N = 40, PMT = 50, PV = -925, FV = 1,000, CPT I/Y.$$

This question tested from Session 16, Reading 65, LOS b, (Part 1).

Question 14 - #95921

A 10% coupon bond, annual payments, maturing in 10 years, is expected to make all coupon payments, but to pay only 50% of par value at maturity. What is the expected yield on this bond if the bond is purchased for \$975?

- A) 6.68%.
- B) 8.68%.
- C) 10.68%.

Your answer: A was correct!

$$PMT = 100; N = 10; FV = -500; PV = 975; CPT \rightarrow I = 6.68$$

The bond with six months left to maturity has a semiannual discount rate of $0.025/2 = 0.0125$ or 2.5% on an annual bond equivalent yield (BEY) basis. Since the bond will only make a single payment of 101.25 in six months, the YTM is the spot rate for cash flows to be received six months from now.

The one-year bond will make two payments, one in six months of 1.75 and one in one year of 101.75. We can solve for the one-year spot rate in the equation:

where $S_{1,0}$ is the annualized 1-year spot rate.

Using the 6-month and 1-year spot rates, we can use the same approach to find the 18-month spot rate from the equation:

where $S_{1,5}$ is the annualized 18-month spot rate.

Solving we get: $S_{1,5} = 4.53047\%$.

This question tested from Session 16, Reading 65, LOS e, (Part 1).

Question 17 - #96114

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) \$2,077.00.
- B) \$924.18.
- C) \$1,500.00.

Your answer: B was correct!

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

This question tested from Session 16, Reading 64, LOS c.

Question 18 - #95947

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%.

Your answer: B was correct!

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

Compute $I = 13.8$

This question tested from Session 16, Reading 65, LOS b, (Part 1).

Question 19 - #95971

When a bond's coupon rate is greater than its current yield, and its current yield is greater than its yield to maturity, the bond is a:

A) premium bond.

B) discount bond.

C) par value bond.

Your answer: A was correct!

For a premium bond, coupon rate > current yield > yield to maturity.

For a par bond, coupon rate = current yield = yield to maturity.

For a discount bond, coupon rate < current yield < yield to maturity.

This question tested from Session 16, Reading 65, LOS b, (Part 1).

Question 20 - #95944

If interest rates and risk factors remain constant over the remainder of a coupon bond's life, and the bond is trading at a discount today, it will have a:

A) positive current yield and a capital gain.

B) negative current yield and a capital gain.

C) positive current yield, only.

Your answer: A was correct!

A coupon bond will have a positive current yield. If it is trading at a discount, it will have a capital gain because its value at maturity will be greater than its price today.

This question tested from Session 16, Reading 65, LOS b, (Part 1).

Question 21 - #95972

Which of the following statements about the market yield environment is *most* accurate?

A) As yields increase, bond prices rise, the price curve flattens, and further increases in yield

have a smaller effect on bond prices.

- B) For a given change in interest rates, bond price sensitivity is lowest when market yields are already high.
- C) Positive convexity applies to the percentage price change, not the absolute dollar price change.

Your answer: B was correct!

The price volatility of noncallable (option-free) bonds is inversely related to the level of market yields. In other words, when the yield level is high, bond price volatility is low and vice versa.

The statement beginning with, *As yields increase*. . . should continue . . . *bond prices fall*. Positive convexity (bond prices increase faster than they decrease for a given change in yield) applies to both absolute dollar changes and percentage changes.

This question tested from Session 16, Reading 66, LOS g, (Part 2).

Question 22 - #95689

Joshua Reynaldo is a fixed income portfolio manager for Golden Apple Capital Management. The portfolio is valued at \$900 million, of which \$840 million is currently invested. Fiona Campbell, the firm's strategist, is becoming concerned about the possibility of an increase in interest rates. Reynaldo agrees, and this makes him nervous because the effective duration of his current portfolio investments is 10.315. However, his portfolio is presented to clients as a long-term fund, so there are limits to how short he can make the duration of the portfolio and still stay within the investment policy guidelines.

Reynaldo needs to invest the \$60 million cash currently in the portfolio, and wants to do it in a way that will minimize the portfolio's downside risk in a rising rate environment. He considers two different bonds. Both trade at their \$1,000 par value and make coupon payments semiannually.

The first bond is a 12-year issue of Yorkville Technologies. Reynaldo likes the bond because of its attractive 5.9% coupon. He is concerned, however, because Yorkville is only rated Baa and Campbell is expecting a deterioration in credit quality as part of her economic outlook.

The second bond is also a 12-year maturity, but issued by Mountain States Electric & Gas, an Aaa utility. The 5.2% yield is not as attractive as the lower quality issue, but the Mountain States bond would represent a safe haven if credit spreads begin to widen, as both he and Campbell expect. Reynaldo's only concern about the Mountain States bond is that it is callable any time at 102.

Discussing these possibilities with Campbell, Reynaldo tells her, "I ran my calculations assuming rates rise or fall by 50 basis points, and found that the effective convexity of the Mountain States bond is ten times the effective convexity of the Yorkville bond." Campbell adds, "But the signs are opposite – the Mountain States bond has negative convexity and the Yorkville bond has positive convexity."

Reynaldo continues, "I haven't done a full valuation yet, but using my figures for duration and assuming convexity is 46, it looks like a 100 basis point rise in rates would cause the price of the Yorkville bond to fall by 6.73%." Campbell, looking over his shoulder at his calculations, adds, "The dollar value of an 01 for the Yorkville bond is only 0.063, though."

Reynaldo decides to invest in the Yorkville bond.

Part 1)

Which statement about how duration tends to predict price changes for large swings in yield is *most* accurate? Duration:

- A) overestimates the increase in price for increases in yield.
- B) overestimates the increase in price for decreases in yield.
- C) underestimates the increase in price for decreases in yield.

Your answer: B was incorrect. The correct answer was C) underestimates the increase in price for decreases in yield.

For large swings in yield, duration tends to underestimate the increase in price when yield decreases and overestimate the decrease in price when yield increases. This is because duration is a linear estimate and does not account for the curvature in the price/yield relationship.

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Reynaldo decides to invest in the Yorkville bond.

Part 2)

Using a 50 basis point change in interest rates, what is the difference in effective duration between the Mountain States bond and the Yorkville bond? The effective duration of the:

- A) Mountain States bond is 0.34 lower than the effective duration of the Yorkville bond.
- B) Yorkville bond is 2.21 higher than the effective duration of the Mountain States bond.
- C) Mountain States bond is 0.34 higher than the effective duration of the Yorkville bond.

Your answer: B was correct!

In order to calculate effective duration, we first need to know the bond price if interest rates rise or fall by 50 basis points.

For the Yorkville bond:

$N = 24$; $PMT = (0.059 \text{ coupon} \times \$1,000 \text{ par value} / 2 \text{ payments per year}) = 29.50$; $FV = 1,000$

If rates rise by 50 basis points, $I = ((5.9\% + 0.50) = 6.4\% / 2 \text{ payments per year}) = 3.2\%$; $PV = -958.56$. Since the bond has a par value of \$1,000, the estimated price will be $(958.56 / 1,000 \times 100 =) 95.86$.

If rates fall by 50 basis points, $I = ((5.9\% - 0.50) = 5.4\% / 2 \text{ payments per year}) = 2.7\%$; $PV = -1043.74$. Since the bond has a par value of \$1,000, the estimated price will be $(1043.74 / 1,000 \times 100 =) 104.37$.

Now that we have the prices, we can use the formula for effective duration (ED):

$$ED = (104.37 - 95.86) / (2 \times 100 \times 0.005)$$

$$ED = 8.51 / 1$$

$$ED = 8.51$$

For the Mountain States bond:

$N = 24$, $PMT = (0.052 \text{ coupon} \times \$1,000 \text{ par value} / 2 \text{ payments per year}) = 26.00$, $FV = 1,000$

If rates rise by 50 basis points, $I = ((5.2\% + 0.50) = 5.7\% / 2 \text{ payments per year}) = 2.85\%$; $PV = -956.97$. Since the bond has a par value of \$1,000, the estimated price will be $(956.97 / 1,000 \times 100 =) 95.70$.

If rates fall by 50 basis points, $I = ((5.2\% - 0.50) = 4.7\% / 2 \text{ payments per year}) = 2.35\%$; $PV = -1045.46$. Since the bond has a par value of \$1,000, the estimated price will be $(1045.46 / 1,000 \times 100 =) 104.55$. However, since the bond is callable at 102, the price will be 102, not 104.55.

$$ED = (102 - 95.70) / (2 \times 100 \times 0.005)$$

$$ED = 6.30 / 1$$

$$ED = 6.30$$

The ED of the Yorkville bond is $(8.51 - 6.30 =) 2.21$ higher than the ED of the Mountain States bond.

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Reynaldo continues, "I haven't done a full valuation yet, but using my figures for duration and assuming convexity is 46, it looks like a 100 basis point rise in rates would cause the price of the Yorkville bond to fall by 6.73%." Campbell, looking over his shoulder at his calculations, adds, "The dollar value of an 01 for the Yorkville bond is only 0.063, though."

Reynaldo decides to invest in the Yorkville bond.

Part 3)

If Reynaldo must invest his \$60 million cash in either the Yorkville bond or the Mountain States bond, or some combination of the two, what is the lowest value he can achieve for the effective duration of the total portfolio?

- A) 10.194.
- B) 10.046.
- C) 9.624.

Your answer: B was correct!

If he purchases the Yorkville bond:

Portfolio duration = $(w_1 \times ED_1) + (w_2 \times ED_2)$
Portfolio duration = $((840 / 900) \times 10.315) + ((60 / 900) \times 8.51)$
Portfolio duration = $(0.933 \times 10.315) + (0.067 \times 8.51)$
Portfolio duration = $9.624 + 0.570$
Portfolio duration = 10.194

If he purchases the Mountain States bond:

Portfolio duration = $(w_1 \times ED_1) + (w_2 \times ED_2)$
Portfolio duration = $((840 / 900) \times 10.315) + ((60 / 900) \times 6.30)$
Portfolio duration = $(0.933 \times 10.315) + (0.067 \times 6.30)$
Portfolio duration = $9.624 + 0.422$
Portfolio duration = 10.046

Note, however, that we did not need to calculate the duration of the portfolio if he purchases the Yorkville bond. Since we know that the Mountain States bond has lower effective duration than the Yorkville bond, we know that the lowest effective duration for the total portfolio would be achieved by investing all \$60 million in the Mountain States bond.

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Reynaldo decides to invest in the Yorkville bond.

Part 4)

Regarding the statements made by Reynaldo and Campbell about the expected price change in the Yorkville bond:

- A) both are correct.
- B) only one is correct.
- C) both are incorrect.

Your answer: B was incorrect. The correct answer was C) both are incorrect.

For the Yorkville bond:

Percentage price change = $(-8.51 \times 0.010 \times 100) + (46.0 \times 0.010^2 \times 100)$
Percentage price change = $-8.51 + 0.46$
Percentage price change = -8.05

Reynaldo's statement is incorrect.

To calculate the dollar value of an 01 we need to know the price of the bond if interest rates rise (or fall) by 1 basis point:

$N = 24$; $PMT = (0.059 \text{ coupon} \times \$1,000 \text{ par value} / 2 \text{ payments per year}) = 29.50$; $FV = 1,000$

If rates rise by 1 basis point, $I = ((5.90 + 0.01) = 5.91\% / 2 \text{ payments per year}) = 2.955\%$; $PV = -999.149$, for a price of 99.915.

$PVBP = 100 - 99.915 = 0.085$

Campbell's statement is also incorrect.

This question tested from Session 16, Reading 66, LOS d, (Part 1).

Joshua Reynaldo is a fixed income portfolio manager for Golden Apple Capital Management. The portfolio is valued at \$900 million, of which \$840 million is currently invested. Fiona Campbell, the firm's strategist, is becoming concerned about the possibility of an increase in interest rates. Reynaldo agrees, and this makes him nervous because the effective duration of his current portfolio investments is 10.315. However, his portfolio is presented to clients as a long-term fund, so there are limits to how short he can make the duration of the portfolio and still stay within the investment policy guidelines.

Reynaldo needs to invest the \$60 million cash currently in the portfolio, and wants to do it in a way that will minimize the portfolio's downside risk in a rising rate environment. He considers two different bonds. Both trade at their \$1,000 par value and make coupon payments semiannually.

The first bond is a 12-year issue of Yorkville Technologies. Reynaldo likes the bond because of its attractive 5.9% coupon. He is concerned, however, because Yorkville is only rated Baa and Campbell is expecting a deterioration in credit quality as part of her economic outlook.

The second bond is also a 12-year maturity, but issued by Mountain States Electric & Gas, an Aaa utility. The 5.2% yield is not as attractive as the lower quality issue, but the Mountain States bond would represent a safe haven if credit spreads begin to widen, as both he and Campbell expect. Reynaldo's only concern about the Mountain States bond is that it is callable any time at 102.

Discussing these possibilities with Campbell, Reynaldo tells her, "I ran my calculations assuming rates rise or fall by 50 basis points, and found that the effective convexity of the Mountain States bond is ten times the effective convexity of the Yorkville bond." Campbell adds, "But the signs are opposite – the Mountain States bond has negative convexity and the Yorkville bond has positive convexity."

Reynaldo continues, "I haven't done a full valuation yet, but using my figures for duration and assuming convexity is 46, it looks like a 100 basis point rise in rates would cause the price of the Yorkville bond to fall by 6.73%." Campbell, looking over his shoulder at his calculations, adds, "The dollar value of an 01 for the Yorkville bond is only 0.063, though."

Reynaldo decides to invest in the Yorkville bond.

Part 5)

Reynaldo and Apple are training a new analyst, Norah Spears. They ask Spears what she knows about duration and convexity. Spears replies with four statements:

Statement 1: Modified duration is a better measure than effective duration for bonds with embedded options.

Statement 2: The convexity adjustment corrects for the error embedded in the duration.

Statement 3: Modified duration ignores the negative convexity of a callable bond.

Statement 4: Convexity of option-free bonds is always added to duration to modify the errors in calculating price volatility.

Which of the following regarding Spears' statements is *most* accurate?

A) Spears is correct with respect to Statement 3, but incorrect with respect to Statement 1.

B) Spears is correct with respect to Statement 2, but incorrect with respect to Statement 4.

C) Spears is correct with respect to all four statements.

Your answer: C was incorrect. The correct answer was A) Spears is correct with respect to Statement 3, but incorrect with respect to Statement 1.

Effective duration is a better measure than modified duration for bonds with embedded options because modified duration does not explicitly recognize the change in cash flows that will occur in a bond with embedded options as yield changes. Therefore, Statement 1 is incorrect. The other four statements made by Spears are correct.

This question tested from Session 16, Reading 66, LOS d, (Part 1).

Question 23 - #95425

Which of the following is a reason to use the swaps market rather than the futures market? To:

A) reduce the credit risk involved with the contract.

B) increase the liquidity of the contract.

C) maintain the firm's privacy.

Your answer: C was correct!

The futures market, because of the use of a standardized contract, is more liquid; and, because the exchange guarantees the contract, futures contracts have less credit risk. However, swaps contracts, because they are *over-the-counter* (private) contracts, allow the firm to maintain privacy.

This question tested from Session 17, Reading 71, LOS a, (Part 1).

Question 24 - #95783

A portfolio manager is long an equity index contract at 995.6 with a notional value of \$40 million. If the index is at 969.2 on the settlement date, the amount the manager must pay is *closest* to:

A) \$1.09 million.

B) \$41.06 million.

C) \$1.06 million.

Your answer: C was correct!

The actual index price is 2.6517% below the contract price ($969.2 / 995.6 - 1 = -2.6517\%$). Since the long manager agreed to pay the higher price but could only sell at the lower price, she must settle in cash for 2.6517% of the \$40 million notional amount, or about \$1.06 million.

This question tested from Session 17, Reading 68, LOS d, (Part 1).

Question 25 - #95414

A fiduciary call is a portfolio that is made up of:

A) a call that is synthetically created from other instruments.

B) a call option and a share of stock.

C) a call option and a bond that pays the exercise price of the call at option expiration.

Your answer: A was incorrect. The correct answer was C) a call option and a bond that pays the exercise price of the call at option expiration.

A fiduciary call combines a call option and a bond that pays the exercise price of the call at option expiration.

This question tested from Session 17, Reading 70, LOS j.

Question 26 - #95392

For two European put options that differ only in their time to expiration, which of the following is *most* accurate? The longer-term option:

A) can be worth less than the shorter-term option.

B) can be worth more than the shorter-term option.

C) can be worth at least as much as the shorter-term option.

Your answer: A was correct!

For European puts, it is possible that the longer term option can be less valuable than a shorter-term option.

This question tested from Session 17, Reading 70, LOS i.

Question 27 - #95462

Jan Jurgen, CFA charterholder, recently accepted a position in the Treasury area of a conservatively managed commercial bank. Jurgen intends to suggest the use of plain-vanilla interest rate swaps at today's Asset & Liability Management Committee meeting. Jurgen is *least likely* to argue that the use of interest rate swaps will:

- A) avoid costly regulations.
- B) reduce the exposure from the mismatch between floating rate assets and fixed rate liabilities.
- C) create arbitrage profits by exploiting market inefficiencies.

Your answer: C was correct!

Exploiting market inefficiencies is no longer considered a motivation for entering into swap agreements. Historically, there were two basic motivations for swaps, to exploit market inefficiencies and to attempt to obtain cheaper financing. Both were based on the belief that financial markets were inefficient. Today, the swap markets have matured and there are few arbitrage opportunities. The swap markets are considered operationally efficient and flexible. Thus, the main reasons to enter into swap agreements *today* include: to reduce transaction costs, to avoid costly regulations, and to maintain privacy.

This question tested from Session 17, Reading 71, LOS a, (Part 1).

Question 28 - #95791

The manager of a large equity portfolio is short a \$10 million forward contract on the S&P 500 Index at 1000. The index is currently 940 and at contract expiration, the index is 950. At expiration the manager:

- A) will make a payment of \$105,263 since the index has increased 1.05263%.
- B) receives a payment of 50 times the contract multiplier at expiration.
- C) will receive a payment of \$500,000.

Your answer: A was incorrect. The correct answer was C) will receive a payment of \$500,000.

The short position will receive \$10 million times 5%, the amount by which the index is below the contract price at expiration ($50 / 1,000$).

This question tested from Session 17, Reading 68, LOS d, (Part 1).

Question 29 - #95618

The put-call parity relation can be adjusted for dividend payments on a stock by which of the following methods?

- A) Add the present value of the expected dividend payments to the exercise price.
- B) Subtract the present value of the expected dividend payments from the current stock price.
- C) Add the present value of the expected dividend payments to the current stock price.

Your answer: B was correct!

The correct adjustment is to subtract the present value of the expected dividend payments from the current stock price.

This question tested from Session 17, Reading 70, LOS I.

Question 30 - #95620

Which of the following statements about notional principal in plain vanilla interest rate swaps is *least* accurate? Notional principal:

- A) is not exchanged by the counterparties.
- B) is used to calculate the fixed rate interest payment; the swap's market value is used to calculate the floating rate payment.
- C) does not vary during the swap tenor.

Your answer: A was incorrect. The correct answer was B) is used to calculate the fixed rate interest payment; the swap's market value is used to calculate the floating rate payment.

The notional amount is used to calculate both the fixed and the floating rate payment streams. Both of the other choices are true.

This question tested from Session 17, Reading 71, LOS a, (Part 1).

Question 31 - #95644

Which of the following is *least likely* one of the conditions that must be met for a trade to be considered an arbitrage?

- A) There is no risk.
- B) There is no initial investment.
- C) There are no commissions.

Your answer: C was correct!

In order to be considered arbitrage there must be no risk in the trade.

It doesn't matter if commissions are paid as long as the amount of the price discrepancy is enough to offset the amount paid in commissions.

In order to be considered arbitrage there must be no initial investment of one's own capital. One must finance any cash outlay through borrowing.

This question tested from Session 17, Reading 67, LOS d.

Question 32 - #95455

Consider a call option expiring in 60 days on a non-dividend-paying stock trading at 53 when the risk-free rate is 5%. The lower bound for a call option with an exercise price of 50 is:

- A) \$0.
- B) \$3.40.
- C) \$3.00.

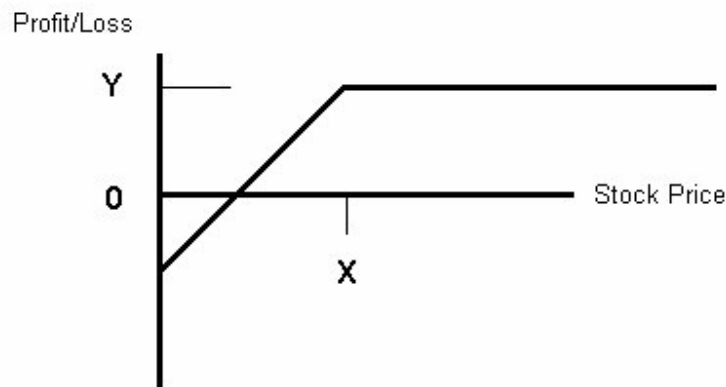
Your answer: B was correct!

$53 - 50 / (1.05)^{60/365} = 3.40$.

This question tested from Session 17, Reading 70, LOS h.

Question 33 - #95431

Given the covered call option diagram below and the following information, what are the dollar values for points X and Y? The market price of the stock is \$70, the strike price of the call is \$80, and the call premium is \$5.



	<u>Point X</u>	<u>Point Y</u>
A)	\$80	\$5
B)	\$80	\$15
C)	\$75	\$15

Your answer: B was correct!

The kink in the diagram of a covered call is always at the exercise price of the option. Therefore, point X is \$80. As the stock price rises above \$80, the stock is called away and the maximum gain is the call premium plus the stock price gain (\$80 – \$70). The maximum gain, then, at point Y is (\$5 + \$10 = \$15).

This question tested from Session 17, Reading 72, LOS b.

Question 34 - #95429

The potential profits from writing a covered call position on a stock are:

- A) limited to the premium.
- B) greater than the potential profits from owning the stock.
- C) limited to the premium plus stock appreciation up to the exercise price.

Your answer: A was incorrect. The correct answer was C) limited to the premium plus stock appreciation up to the exercise price.

The covered call: *stock plus a short call, or a short put*. The term covered means that the stock covers the inherent obligation assumed in writing the call. Why would you write a covered call? You feel the stock's price will not go up any time soon, and you want to increase your income by collecting some call option premiums. To add some insurance that the stock won't get called away, the call writer can write out-of-the-money calls. You should know that this strategy for enhancing one's income is not without risk. *The call writer is trading the stock's upside potential for the call premium*. The desirability of writing a covered call to enhance income depends upon the chance that the stock price will exceed the exercise price at which the trader writes the call. The owner of a stock has the rights to *all* upside potential. The profits for a short call are limited to the premium.

For example, say that a stock owner writes a covered call at a stock price (S) of \$50 and an exercise price (X) of \$55 for a premium of \$4. If at expiration, the price of the stock is more than \$50 but less than \$55, the buyer will not exercise, and the writer will "gain" the premium plus any stock appreciation between \$50 and \$55. If at expiration, the price of the stock is more than \$55, the buyer will exercise and the writer's gain is limited to the premium.

This question tested from Session 17, Reading 72, LOS b.

Question 35 - #95473

Parties agreeing to swap cash flows are:

- A) counterparties.
- B) swap facilitators.
- C) agents.

Your answer: A was correct!

The parties agreeing to swap cash flows are called the counterparties.

This question tested from Session 17, Reading 71, LOS a, (Part 1).

Question 36 - #95640

A legally binding promise to buy 140 oz. of gold two months from now at a price agreed upon today is a(n):

- A) hedge.
- B) take-or-pay contract.
- C) forward commitment.

Your answer: C was correct!

It is a forward commitment; it may be used to hedge or may be used to speculate on the price of gold in two months.

This question tested from Session 17, Reading 67, LOS b, (Part 1).

Question 37 - #95353

Which of the following statements about options is *most* accurate?

- A) Most options throughout the world are European options.
- B) A put writer who deposits shares of the underlying stock has written a covered put.
- C) For call options, the lower the strike price relative to the stock's underlying price, the more the call option is worth.

Your answer: C was correct!

The other statements are false. Most options throughout the world are American options. A call writer who deposits shares of the underlying stock has written a covered call.

This question tested from Session 17, Reading 70, LOS a, (Part 1).

Question 38 - #95156

Which of the following statements regarding venture capital investing is **FALSE**?

- A) Investors in venture capital projects typically require a short-term investment horizon.
- B) The success of venture capital projects is dependent upon market entrance and exit strategies.
- C) Valuation of venture capital projects is difficult due to the unique qualities of each project.

Your answer: A was correct!

Valuation of venture capital investments is difficult because of the uniqueness of each project in addition to a lack of historical risk and return data. Venture capital investors generally do not know what other competing projects or ideas may hamper their success. Market entrance and exit strategies are critical to the success of a venture capital project. Venture capital investors know upfront they are investing in an illiquid asset with a long time horizon.

This question tested from Session 18, Reading 73, LOS g, (Part 2).

Question 39 - #95064

Growth, value, large-cap, and small-cap investing are all examples of:

- A) sector investment strategies.
- B) style investment strategies.
- C) index investment strategies.

Your answer: A was incorrect. The correct answer was B) style investment strategies.

A sector strategy invests in the stocks of a particular industry. An index strategy models the portfolio to mimic the benchmark index. A style strategy looks for investments with common underlying characteristics.

This question tested from Session 18, Reading 73, LOS b.

Question 40 - #95152

Which of the following is **NOT** among the three most important factors in valuing a venture capital investment?

- A) Timing of exit.
- B) Expected payoff at exit.
- C) Liquidity.

Your answer: A was incorrect. The correct answer was C) Liquidity.

Illiquidity is a characteristic common to all venture capital investments, but is difficult to quantify valuing an investment. The timing and amount of the expected payoff at exit, adjusted for the probability of failure, are the three most important factors in the valuation of venture capital opportunities.

This question tested from Session 18, Reading 73, LOS g, (Part 2).

Question 41 - #100692

The component of the return on a futures position that results from interest earned on U.S. Treasury bills deposited to establish the position is called the:

- A) collateral yield.
- B) roll yield.
- C) current yield.

Your answer: A was correct!

Collateral yield is the return earned on the collateral posted to satisfy margin requirements. In most cases, the collateral posted will be U.S. Treasury Bills, in which case the collateral yield is the T-bill yield.

This question tested from Session 18, Reading 74, LOS b.

Question 42 - #95188

Based upon the following information, what is the net operating income (NOI) of the property?

Estimated Market Value	\$600,000
Capitalization Rate	20%
Taxes	\$27,000
Operating Expenses	\$107,000

- A \$104,000
) .
- B \$98,600.
)
- C \$120,000
) .

Your answer: C was correct!

$$MV = NOI / CAP$$

To solve for NOI, rewrite the formula as: $MV \times CAP = NOI$

$$600,000 \times 0.2 = 120,000$$

This question tested from Session 18, Reading 73, LOS f, (Part 1).

Question 43 - #95143

A venture capitalist would typically do all of the following **EXCEPT**:

- A) manage the company after it has gone public.
- B) provide business expertise and confidentiality.
- C) force the entrepreneur to carefully consider the viability of the project through the development of a business plan.

Your answer: B was incorrect. The correct answer was A) manage the company after it has gone public.

Venture capitalists also provide risk capital.

This question tested from Session 18, Reading 73, LOS g, (Part 1).

Question 44 - #95179

A mutual fund has a load of 4 percent and a net asset value (NAV) of \$20 per share. What must an investor pay to purchase 250 shares?

- A) \$4,800.
- B) \$5,208.
- C) \$5,200.

Your answer: C was incorrect. The correct answer was B) \$5,208.

$$OP = \frac{\$20}{.96} = \$20.83 \times 250 = \$5,208$$

This question tested from Session 18, Reading 73, LOS a.

Question 45 - #100693

Which of the following market conditions *most accurately* describes the conditions of a particular commodity market for the roll yield to be positive?

- A) Futures prices are lower than spot prices.
- B) Contango.
- C) Market is dominated by long hedgers.

Your answer: B was incorrect. The correct answer was A) Futures prices are lower than spot prices.

A positive roll yield results from a backwardated market, whereas a negative yield is produced in a contango market. In backwardated (contango) markets, futures prices are lower (higher) than spot prices. Futures markets that are dominated by long (short) hedgers tend to be in contango (backwardation).

This question tested from Session 18, Reading 74, LOS b.

Question 46 - #95079

Consider the following descriptions of approaches used in valuing real estate:

- **Approach 1:** This approach relies on examining recent transaction prices from a group of similar properties.
- **Approach 2:** This approach suggests that projects with positive expected net present value should be accepted.
- **Approach 3:** In this approach, an estimate for net operating income is discounted by an estimate of the market required rate of return to obtain the appraisal price.
- **Approach 4:** In this approach an estimate for the value of land is added to the price tag that would have to be paid if a property had to be replaced.

List in order from Approach 1 to Approach 4 the real estate valuation method that corresponds to each of the four valuation approaches listed above.

- A) The sales comparison method; the discounted after-tax cash flow model; the income method and the cost method.
- B) The sales comparison method; the income method; the cost method and the discounted after-tax cash flow model.
- C) The income method; the cost method; the sales comparison method and the discounted after-tax cash flow model.

Your answer: C was incorrect. The correct answer was A) The sales comparison method; the discounted after-tax cash flow model; the income method and the cost method.

The approach that relies on examining recent transaction prices from a group of similar properties is the sales comparison method. The approach that suggests that projects with positive expected net present value should be accepted is the discounted after-tax cash flow model. The approach that requires an estimate for net operating income which is subsequently discounted by an estimate of the market required rate of return to obtain the appraisal price is the income method and the approach that adds an estimate for the value of land to the price tag that would have to be paid if a property had to be replaced is the cost method.

This question tested from Session 18, Reading 73, LOS e.

Question 47 - #95162

A real estate agent contacts an investor regarding a property that has recently come on the market. The real estate agent can provide reliable information regarding the property's net operating income, as well as the prevailing market cap rate, based on recent comparable sales. The investor can best estimate the market value of the property, with the information supplied by the real estate agent, using the:

- A) income approach.
- B) discounted cash flow model.
- C) sales comparison approach.

Your answer: C was incorrect. The correct answer was A) income approach.

The sales comparison approach uses recent transactions to estimate a benchmark value. The discounted cash flow model is used as a check on investment valuation. The income approach uses a property's NOI, divided by the market cap rate, to estimate market value.

This question tested from Session 18, Reading 73, LOS f, (Part 2).

Question 48 - #95163

An investor with a large real estate portfolio must estimate the value of his holdings at year-end. Given the following data for an apartment building in the portfolio, estimate the appraised value using the income approach:

NOI	\$165,000
Marginal tax rate	28%
Market cap rate	9%

- Need additional information to calculate.
- A)
- B) \$1,833,333
- C) \$1,319,999

Your answer: B was correct!

Appraisal price = NOI / Market cap rate = \$165,000 / 0.09 = \$1,833,333. Remember that all calculations for the income approach are made pre-tax.

This question tested from Session 18, Reading 73, LOS f, (Part 2).

Question 49 - #95086

Which of the following statements regarding exchange traded funds (ETFs) is **FALSE**?

- A) ETF investors own shares of the underlying investment company.
- B) ETFs are funds that can be traded in a stock market.
- C) ETF shares can be sold short or margined.

Your answer: A was correct!

ETF shares trades in the stock market just like traditional equities, and can be sold short or margined. ETF investors own shares of the underlying investment portfolio, not of the company.

This question tested from Session 18, Reading 73, LOS b.

Question 50 - #95192

A closed-end fund:

- A) has its price determined by the net asset value (NAV).
- B) is traded in the primary market but not the secondary market.
- C) has its price determined by supply and demand, regardless of its net asset value (NAV).

Your answer: A was incorrect. The correct answer was C)

has its price determined by supply and demand, regardless of its net asset value (NAV).

Closed-end investment companies are initiated through a stock offering to raise funds. The investment company does not issue or redeem shares after the initial offering. Shares of a closed-end investment company are traded in public markets and are priced by supply and demand. The share price of a closed-end fund is not directly linked to the fund's NAV. The NAV is the prevailing market value of all the shares and assets owned by the fund. Many closed-end funds sell at a discount of 5 to 20% from their NAV.

This question tested from Session 18, Reading 73, LOS a.

Question 51 - #95098

Which of the following statements regarding real estate valuation is **TRUE**?

- A) The estimated market value of a property depends upon the particular investor.
- B) The most reliable real estate valuation method is the cost approach.
- C) Each property is unique, so the investment value may be dependent upon the particular use planned for the property.

Your answer: C was correct!

The market value is completely independent of any considerations based upon the investor or potential investor. There is not a "most reliable" valuation method – all have their advantages and disadvantages. The investment value may be dependent upon the planned use of the property—remember that market value and investment value are two different things.

This question tested from Session 18, Reading 73, LOS d, (Part 2).

Question 52 - #95032

An investor is considering purchasing an office building that is currently 95% leased.

Gross potential rental income	\$105,000
Insurance and taxes	\$9,000
Repairs and maintenance	\$15,000
Depreciation	\$11,000

What is the building's net operating income (NOI), based on the above table?

- A) \$75,750.
- B) \$64,750.
- C) \$81,000.

Your answer: A was correct!

NOI can be calculated as gross rental income minus vacancy losses, insurance and taxes, and repairs and maintenance. Depreciation is not a factor in calculating NOI. NOI for the building is $\$105,000 - (\$105,000 \times 5\%) - \$9,000 - \$15,000 = \$75,750$.

This question tested from Session 18, Reading 73, LOS f, (Part 1).

Question 53 - #95884

A coupon bond which pays interest \$100 annually has a par value of \$1,000, matures in 5 years, and is selling today at a \$72 discount from par value. The yield to maturity on this bond is:

- A) 7.00%.
- B) 8.33%.
- C) 12.00%.

Your answer: C was correct!

PMT = 100
FV = 1,000
N = 5
PV = 1,000 - 72 = 928
compute I = 11.997% or 12.00%

This question tested from Session 16, Reading 65, LOS b, (Part 1).

Question 54 - #95840

An analyst has obtained the following Treasury data for bonds currently trading at their par values:

<i>Maturity</i>	<i>Coupon</i>	<i>Price</i>
6 months	4%	100
1 year	5%	100
18 months	6%	100

Using the method of bootstrapping, which of the following is *closest* to the theoretical Treasury spot rate curve?

6-month spot rate

1-year spot rate

18-month spot rate

A) 4.00%

5.0126%

6.0407%

- | | | |
|----------|---------|---------|
| B) 4.00% | 5.0126% | 6.2333% |
| C) 2.00% | 5.3501% | 6.0407% |

Your answer: C was incorrect. The correct answer was A)

4.00%	5.0126%	6.0407%
-------	---------	---------

The bond with six months left to maturity has a semiannual discount rate of $0.04 / 2 = 0.02$ or 4% on an annual bond equivalent yield (BEY) basis. Since the bond will only make a single payment of 102 in six months, the YTM is the spot rate for cash flows to be received six months from now.

The one-year bond will make two payments, one in six months of 2.50 and one in one year of 102.50. We can solve for the one-year spot rate in the equation:

where $S_{1,0}$ is the annualized 1-year spot rate.

Solving we get: $S_{1,0} = 5.01256\%$.

Using the 6-month and 1-year spot rates, we can use the same approach to find the 18-month spot rate from the equation:

where $S_{1,5}$ is the annualized 18-month spot rate.

Solving we get: $S_{1,5} = 6.04072\%$.

This question tested from Session 16, Reading 65, LOS e, (Part 1).

Question 55 - #95923

Which statement describes a premium bond and discount bond?

- | | <u>Premium bond</u> | <u>Discount bond</u> |
|----|--|--|
| A) | Coupon rate > current yield
> yield-to-maturity | Coupon rate < current yield <
yield-to-maturity |
| B) | Coupon rate > current yield
< yield-to-maturity | Coupon rate < current yield <
yield-to-maturity |
| C) | Coupon rate < current yield
> yield-to-maturity | Coupon rate < current yield <
yield-to-maturity |

Your answer: C was incorrect. The correct answer was A)

Coupon rate > current yield > yield-to-maturity	Coupon rate < current yield < yield-to-maturity
--	--

If the coupon rate > market yield, then bond will sell at a premium.
If the coupon rate < market yield, then bond will sell at a discount.
If the coupon rate = market yield, then bond will sell at par.
In addition, if the bond is selling at a premium, the current yield will be between the coupon rate and market rate.

This question tested from Session 16, Reading 65, LOS b, (Part 1).

Question 56 - #95894

A 20-year, \$1,000 face value, 10% semi-annual coupon bond is selling for \$875. The bond's yield to maturity is:

- A) 5.81%.
- B) 11.43%.
- C) 11.62%.

Your answer: C was correct!

$N = 40$ (2×20 years); $PMT = 50$ ($0.10 \times 1,000$) / 2; $PV = -875$; $FV = 1,000$; $CPT \rightarrow I/Y = 5.811 \times 2$ (for annual rate) = 11.62%.

This question tested from Session 16, Reading 65, LOS b, (Part 1).

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