Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments

Q.33 Chris Dunkins bought a put option with a strike of $59. If at expiration the stock is now worth $42, then what is *most likely* the payoff of the option at expiration?

A. $17 negative payoff.

B. $0 payoff.

C. $17 positive payoff.

The correct answer is **C.**

The payoff of a put option at expiration is:

$$P_T = \max(0, X - S_T) = \max(0, \$59 - \$42) = \max(0, \$17) = \$17$$

Exam Capsule

Traders buy put options when they are bearish, implying that they expect the stock price to fall. The put buyer has a limited loss (premium paid). The put buyer gains as the price falls, but the gain is not completely unlimited since the price of the underlying cannot fall below zero. In many ways, purchasing a put option is like purchasing insurance. In the same vein as for call options, the put seller has nearly unlimited losses, and his gains are limited to the put premium paid to him by the put buyer.

A trader could buy a put purely for speculative reasons, hoping that the stock price will fall and therefore increase the value of the long put option.
A is incorrect. The payoff of a put option cannot be negative. The worst-case scenario for a put option holder is that the option expires worthless (i.e., the stock price is above the strike price), in which case the payoff is zero, not negative.

B is incorrect. A zero payoff would only be the case if the stock price at expiration was equal to the strike price. In this case, the stock price at expiration ($42) is lower than the strike price ($59), so the put option has value and the payoff is positive. Traders buy put options when they expect the stock price to fall. The put buyer's potential loss is limited to the premium paid for the option, while the potential gain increases as the stock price falls. The put seller, on the other hand, faces potentially unlimited losses if the stock price falls significantly, while their potential gain is limited to the premium received from the put buyer.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.1039 How should the correlation between the interest rate and a futures contract be to result in a positive difference between the price of this contract and an equivalent forward contract?

A. 0.

B. Positive.

C. Negative.

The correct answer is **B.**

For the price of a futures contract to be greater than the price of an otherwise equivalent forward contract, the interest rate should be positively correlated with the futures contract. That's because rising prices lead to futures profits that are reinvested in periods of rising interest rates, leading to high profits for future contracts as compared with the forward contracts.

A is incorrect. A correlation of 0.0 between the interest rate and the futures contract implies that there is no relationship between the two variables. In such a scenario, changes in interest rates have no systematic effect on the futures contract prices, and thus, there would be no specific reason for the futures contract price to be higher than that of an equivalent forward contract. The absence of correlation means that the futures profits cannot be systematically reinvested at higher rates to yield additional returns, which is crucial for creating a price difference favoring the futures contract over the forward contract.

C is incorrect. A negative correlation between the interest rate and the futures contract suggests that as interest rates rise, the value of the futures contract tends to decrease, and vice versa. In this scenario, any profits from the futures contract would likely be reinvested at lower interest rates, assuming the profits are realized in a period of falling interest rates as per the negative correlation. This would lead to lower overall returns on the futures contract compared to a scenario where the correlation is positive. Therefore, a negative correlation would not result in a higher price for the futures contract relative to an equivalent forward contract. Instead, it could potentially diminish the attractiveness of the futures contract due to the adverse impact of falling interest rates on reinvestment opportunities.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1040 What is *most likely* the difference between a fixed-for-floating swap and an equivalent series of forward contracts?

A. The payment dates would be unlikely to match.

B. All the fixed-rate payments in a swap are equal.

C. The floating-rate payments in a swap are unknown.

The correct answer is **B.**

The difference between a fixed-for-floating swap and an equivalent series of forward contracts is that the fixed-rate payments in a swap are equal.
A is incorrect. While it is true that matching payment dates can be a logistical challenge in financial transactions, this is not a defining difference between swaps and forward contracts. Both swaps and forward contracts can be structured to have matching or differing payment dates, depending on the specific terms agreed upon by the parties involved. Therefore, the potential mismatch in payment dates does not inherently distinguish a fixed-for-floating swap from a series of forward contracts.

C is incorrect. The floating rate is typically tied to a benchmark interest rate (such as LIBOR, now being replaced by SOFR in many jurisdictions), which can fluctuate over time based on market conditions. The uncertainty of future interest rate movements means that the exact amount of the floating-rate payments will be determined at specified intervals throughout the life of the swap, based on the prevailing level of the benchmark rate. This variability contrasts with the fixed-rate payments, which are known and constant, highlighting a fundamental aspect of risk and uncertainty in swaps that involve floating rates.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1049 Which of the following *best* describes a forward commitment?

A. A forward commitment is a claim (to a payoff) that depends on a particular event.

B. A forward commitment is a legally binding promise to perform some action in the future.

C. A forward commitment is a contingent claim that depends on a stock price at some future date.

The correct answer is **B.**

A forward commitment is a legally binding promise to perform some action in the future. Forward commitments include forward contracts, futures contracts, and swaps.

A is incorrect. A claim (to a payoff) that depends on a particular event is known as a contingent claim.

C is incorrect. A contingent claim dependent on a stock price at some future date is known as an option.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1050 Which of the following *best* describes an option contract?

A. An option contract is a legally binding promise to perform some action in the future.

B. An option contract is a contingent claim that depends on a stock price at some future date.

C. An option contract is a legal agreement to buy or sell a financial instrument at a predetermined price at a specified time.

The correct answer is **B.**

An option also referred to as a contingent claim or option contract is a financial instrument that gives one party the right, but not the obligation, to buy or sell an underlying asset from or to another party at a fixed price over a specific period of time. In this case, an option contract is a contingent claim that depends on a stock price at some future date.

A is incorrect. In an option there is a right to perform some action but no obligation.

C is incorrect. There is no legal obligation to buy or sell. The holder of the option has the right but no obligation to buy or sell.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1051 A futures contract can *most likely* be categorized as:

A. Customized.

B. A contingent claim.

C. A forward commitment.

The correct answer is **C.**

A forward commitment is a contractual agreement to carry out a transaction in the future. A futures contract is an example of a forward commitment because both the buyer and the seller have to abide by the contractual agreement and transact as planned. In other words, the transaction between the buyer and the seller is not preconditioned on certain future events.

Swaps and forward contracts are also forward commitments.

B is incorrect. A futures contract does not qualify as a contingent claim. The payoff in a contingent claim is dependent on the occurrence of a future event. Contingent claims confer the right to transact, but not the obligation. Options are an example of contingent claims.

A is incorrect. Futures contracts are standardized contracts while forward contracts are customized.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1054 A call option *most likely* gives:

A. The right but not the obligation to sell an asset at a predetermined price.

B. The right but not the obligation to buy an asset at a predetermined price.

C. The obligation but not the right to buy an asset at a predetermined price.

The correct answer is **B.**

A call option gives the owner (holder) the right but not the obligation to buy the underlying asset at a predetermined price.

A is incorrect. It is a put option that will give the owner the right but not the obligation to sell an asset at a pre-determined price.

C is incorrect. Options give the right to transact but not the obligation.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.1056 A European option *most likely*:

A. Can be exercised only at the contract's expiration date.

B. Can be exercised before expiration but only on set dates.

C. Can be exercised at any time up to and including the contract's expiration date.

The correct answer is **A.**

European options can be exercised only at the contract's expiration date.

C is incorrect. American options can be traded at any time, before and including the contract’s expiration date.

B is incorrect. Bermuda options are a restricted form of the American option that allows for early exercise but only at set dates.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.1073 A put option *most likely* gives:

A. The obligation to buy an underlying asset at a specified strike price prior to or on a specified date.

B. The right but not the obligation to buy an underlying asset at a specified strike price prior to or on a specified date.

C. The right but not the obligation to sell an underlying asset at a specified strike price prior to or on a specified date.

The correct answer is **C.**

A put option gives the holder the right but not the obligation to sell the underlying asset at a specified strike price prior to or on a specified date.

B is incorrect. A call option gives the holder the right but not the obligation to buy the underlying asset at a specified strike price prior to or on a specified date.

A is incorrect. An option gives the holder the right but not the obligation to buy or sell the underlying asset at a specified price prior to or on a specified date.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.1133 Which of the following derivative contracts may *most likely* expose the owner of the contract to default risk?

A. Swap contract.

B. Option contract.

C. Futures contract.

The correct answer is **A.**

Forwards and swaps are initiated against a counterparty and expose the holder to default risk if the counterparty refuses to honor their obligation.

Futures and most options are exchange-traded instruments and do not carry default risk since the clearinghouse acts as the counterparty to both parties.
B is incorrect. Exchange-traded options are cleared through a central clearinghouse that acts as the counterparty to both the buyer and the seller, effectively mitigating the risk of default. The clearinghouse ensures the integrity of the market by requiring participants to post margins and by regularly marking positions to market. Therefore, while there may be market risk associated with the performance of the underlying asset, the risk of counterparty default is substantially reduced in exchange-traded options.

C is incorrect. Futures contracts, like exchange-traded options, are standardized contracts that are traded on regulated exchanges and cleared through a central clearinghouse. This structure significantly reduces the default risk for participants. The clearinghouse guarantees the performance of each contract, stepping in if a party defaults, thereby insulating participants from counterparty risk. Additionally, the daily settlement and margin requirements associated with futures contracts further mitigate the risk of default. As a result, while futures contracts may carry market risk related to fluctuations in the underlying asset's price, the risk of counterparty default is minimal.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.1134 The party in a forward transaction who agrees to deliver the physical or financial assets at a specific date *most likely* has a:

A. Long forward position.

B. Short forward position.

C. Neutral forward position.

The correct answer is **B.**

The buyer of a forward contract has a long forward position, and the seller of the forward contract has a short forward position. The seller has a contractual obligation to deliver the physical or financial assets on the date specified in the contract.
A is incorrect. The buyer is essentially betting on the asset's value increasing over time. They are on the receiving end of the transaction, which is the opposite of the obligation held by the party in a short forward position.

C is incorrect. A neutral forward position does not exist in the context of forward contracts. Forward contracts inherently involve a commitment from one party to buy (long position) and another party to sell (short position) the underlying asset at a predetermined future date. The concept of neutrality suggests a lack of commitment or a balanced position, which does not apply to forward contracts as they necessitate clear obligations from both parties involved.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1135 Which of the following factors *most likely* differentiates futures contracts from forward contracts?

A. Futures contracts trade on regulated markets.

B. The value of a futures contract is derived from its underlying asset.

C. Forwards contracts require physical assets for settlement, not cash.

The correct answer is **A.**

Futures contracts trade on regulated exchange markets such as the Chicago Board of Exchange, the Eurex Exchange, the New York Board of Trade, etc. On the other hand, forwards contracts are unregulated and trade over the counter.

C is incorrect. Both forward and futures contracts can be settled by both cash and physical delivery of the underlying assets.

B is incorrect. Both forward and futures contracts are derivatives. Derivatives derive their value from the value of the underlying assets.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.1140 In order to protect themselves from the downside risk of stock prices, investors should *most likely*:

A. Buy put options.

B. Sell put options.

C. Buy call options.

The correct answer is **A.**

Long put options give the owner the right, but not obligation to sell the underlying asset at a given price (strike price) when the price of asset is lower than the strike price. This protects investors from downside risk because the option gains value when the underlying asset's price drops.

B is incorrect. When selling a put option, an investor expects the stock to stay flat or rise above the stock price making the put worthless.

C is incorrect. The buyer of a call option purchases a call option with the hope that the price will rise beyond the strike price and before the expiration date.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.1151 A derivative instrument that enables an investor to lock a certain interest rate for future borrowing or lending is *most likely* called:

A. A credit interest swap.

B. An interest rate contract..

C. A forward rate agreement.

The correct answer is **C.**

A forward rate agreement (FRA) is a derivative that allows the investor to lock in a certain rate for borrowing or lending funds at a future date. It involves two parties exchanging a fixed rate for a variable one on a notional principal. The party that pays the fixed rate is known as the borrower. The party that pays the variable rate is known as the lender.
A is incorrect. A credit interest swap, which might be confused with an interest rate swap, is not a recognized financial instrument for locking in future interest rates. Interest rate swaps involve exchanging interest rate cash flows between two parties based on a specified notional amount, but they do not lock in borrowing or lending rates for future transactions in the same way an FRA does. The term "credit interest swap" seems to be a misnomer or confusion with credit default swaps or interest rate swaps, neither of which serves the specific purpose of locking in a borrowing or lending rate for a future date.

B is incorrect. An interest rate contract is a broad term that could encompass various types of derivatives, including FRAs, swaps, options, and futures that deal with interest rates. However, this choice is too vague and does not specifically describe an instrument designed to lock in a borrowing or lending rate for a future transaction. Forward rate agreements are a more precise category of interest rate contracts tailored for this purpose.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.1152 Which of the following derivative instrument is more standardized and liquid?

A. Futures.

B. Forwards.

C. Credit swaps.

The correct answer is **A.**

Futures and options trade on exchanges. Derivatives that trade on exchanges have higher standardization, higher liquidity, and less counterparty risk. Forwards and swaps trade over-the-counter and are therefore less standardized.
B is incorrect. Forwards are private agreements between two parties and are traded over-the-counter (OTC), not on exchanges. This means that each forward contract can be customized to the specific needs of the counterparties, leading to a lack of standardization. While this customization can be beneficial for meeting specific hedging requirements, it also results in lower liquidity compared to futures. The OTC nature of forwards means there is also a higher counterparty risk, as there is no centralized clearinghouse to guarantee the performance of the contract.

C is incorrect. Credit swaps, specifically credit default swaps (CDS), are also traded over-the-counter and allow one party to transfer the credit risk of an underlying asset to another party. Like forwards, credit swaps are highly customizable, which can limit their liquidity compared to exchange-traded instruments. The OTC trading of credit swaps also introduces counterparty risk, as the failure of one party to meet its obligations can lead to significant losses for the other party. While the market for credit swaps is significant, it does not match the standardization and liquidity found in the futures market.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.1154 Rabi Koch took a long position in a March put option with a strike price of $65. What is the outcome of the position if the spot price is $78 at expiration?

A. $0 payoff.

B. $13 positive payoff.

C. $13 negative payoff.

The correct answer is **A.**

Since the spot price is higher than the strike price of the put option, the option is out-of-the-money. The payoff to the option buyer is 0, i.e.

$$P_T = \max(0, X - S_T) = \max(0, 65 - 78) = 0$$

A note on puts
A short put refers to the opening of an options trade by selling or writing a put option. The trader who buys the put option is said to be long (holds the long position), and the trader who writes the option is said to be short (holds the short position).

For the long position (buyer), the option is in-the-money (ITM) if and only if the prevailing spot price at expiry is less than the strike price. In such circumstances, the buyer would be able to "cut" their loss by selling the underlying at the strike price which would be considerably higher than the prevailing market price. Buyers of puts are bearish, i.e, they expect the underlying to lose value over time.

B is incorrect. This would only be the case if the spot price were below the strike price, making the option in-the-money. However, with the spot price at $78 and the strike price at $65, the option is out-of-the-money, and there is no incentive for the option holder to exercise the option, resulting in a $0 payoff.

C is incorrect. The holder has the right but not the obligation to exercise the option. Therefore, the worst outcome for the holder is a $0 payoff, not a negative value.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.1158 What is the intrinsic value for the buyer of one hundred $37 call options on shares of MZJ Corp if the underlying shares are trading at $35?

A. $0.

B. $2.

C. $200.

The correct answer is **A.**

Since the strike price of the call options on MZJ Corp. is higher than the spot price, the value of the option is

$$\$0 (S - X < 0 \text{ or } 35 - 37 < -3)$$

Note: Value of a call option $= Max(0, S_t - X)$
Value of a put option $= Max(0, X - S_t)$

Where S_t is price of the underlying stock and X is the strike price.
B is incorrect. It suggests that the intrinsic value of the call options is $2. This would imply that the market price of the underlying shares is higher than the strike price by $2, which is not the case here. The market price is actually lower than the strike price, making the intrinsic value $0.

C is incorrect. It suggests that the intrinsic value of the call options is $200. This interpretation might arise from misunderstanding the calculation of intrinsic value or misapplying the number of options to the calculation. The intrinsic value is determined per option contract and not by the total number of contracts or the total potential profit or loss from exercising all contracts. In this case, since the intrinsic value per option is $0, regardless of the number of options held, the total intrinsic value remains $0.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.1245 Which of the following instruments *most likely* gives the right but not the obligation to a commodities investor to purchase the underlying commodities?

A. Futures.

B. Options.

C. Forwards.

The correct answer is **B.**

Options give the right but not the obligation to an investor to buy or sell the underlying commodities. Futures and forwards are obligations to buy or sell a specific amount of a given commodity at a fixed price, location, and date in the future.
A is incorrect. Futures contracts obligate the buyer to purchase, and the seller to sell, a specific quantity of a commodity at a predetermined price on a specified date in the future. Unlike options, futures contracts carry an obligation to execute the transaction, which means both parties must fulfill the terms of the contract regardless of the market conditions at the time of settlement. This characteristic of futures contracts exposes investors to potentially unlimited losses if the market moves against their position, making it a more risky instrument compared to options.

C is incorrect. Forwards are similar to futures in that they are contracts to buy or sell a commodity at a predetermined price on a specified future date. However, forwards are private agreements between two parties and are not traded on an exchange, making them customizable but also subject to counterparty risk. Like futures, forwards carry an obligation to execute the transaction, which distinguishes them from options that offer the right but not the obligation to buy or sell the underlying commodity. This fundamental difference makes forwards and futures more suitable for hedging purposes, while options are often used for both hedging and speculative purposes due to their flexibility.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.3348 In contrast to interest rate options, forward rate agreements (FRAs) *most likely*:

A. Impose obligations on the counterparties.

B. Are contracts with an interest rate as the underlying.

C. Are usually offered for purchase and sale by different dealers.

The correct answer is **A.**

FRAs represent a commitment to make one interest payment and receive another at a future date. Thus the contract imposes obligations on both sides of the agreement.

The underlying in both agreements is an interest rate. FRAs and interest rate options are offered for purchase and sale by the same dealers.
B is incorrect. Suggesting that interest rate options impose obligations on the counterparties is misleading. Unlike FRAs, interest rate options give the holder the right, but not the obligation, to enter into an interest rate transaction at a predetermined rate. This fundamental difference means that the holder of an interest rate option can choose whether to exercise the option based on the prevailing market conditions, providing a level of flexibility and risk management that is not available with FRAs.

C is incorrect. Stating that FRAs are usually offered for purchase and sale by different dealers does not accurately capture the nature of these financial instruments. Both FRAs and interest rate options are typically available through a wide range of financial institutions, including banks, investment firms, and specialized derivatives dealers. The availability of these products across various dealers allows for a competitive and liquid market, enabling participants to find counterparties for their transactions with relative ease. The key distinction between FRAs and interest rate options lies not in their availability or the entities offering them, but in their contractual obligations and the rights they confer to the involved parties.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.3352 Which of the following best describes a distinguishing feature of an equity swap relative to an interest rate or currency swap? In an equity swap, the payment is not known until the end of the settlement period whereas in a (an):

A. Currency swap all payments are known at the beginning of the period.

B. Interest rate swap all payments are known at the beginning of the period.

C. Interest rate or currency swap all payments are known at the beginning of the period.

The correct answer is **B.**

In an equity swap, the payment is not known until the end of the settlement period.

Similarly, currency swap payments are not known until the end of the settlement period. The exchange rate keeps on changing up until the settlement date.

In an interest rate swap, however, all payments are known at the beginning of the period. In other words, both the fixed and floating payments are known at the beginning of each period. The floating rate is set in advance and paid in arrears.
A is incorrect. This option suggests that in a currency swap, all payments are known at the beginning of the period. However, this is not accurate. Currency swaps involve exchanging principal and interest payments in one currency for principal and interest payments in another currency. The exchange rates at the time of the initial exchange are known, but future cash flows depend on interest rate fluctuations in the respective currencies.

C is incorrect. It generalizes both interest rate and currency swaps. While the fixed payments in an interest rate swap are known in advance, the floating payments are known at the start of each settlement period. In currency swaps, the interest payments depend on the prevailing interest rates in the respective currencies, and thus, not all payments are known at the beginning of the period.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.3366 In contrast to contingent claims, forward commitments:

A. Limit losses in one direction.

B. Obligate the counterparties to transact on pre-agreed terms.

C. Generate an outcome that is determined at the contract expiration date.

The correct answer is **B.**

Contingent claims give the right to transact but not the obligation. The holder of the contingent claim has the option as to whether to transact or not.

Forward commitments, on the other hand, require both parties to transact in the future at a pre-specified terms. The parties have to transact, they are **obligated** to do so. The parties and the identity and quantity of the underlying are specified as well as the date of the future transaction (expiration) and the nature of the settlement.

A is incorrect. Forward commitments do not limit losses in one direction but actually have a linear payoff. As the underlying goes up (down) the derivative gains (loses). Contingent claims are different because they limit losses in one direction. What's more, options can pay off as the underlying tumbles. Therefore, they transform the payoff profile of the underlying asset.

C is incorrect. The outcome of a forward contract (buying or selling price) is agreed upon on the contract initiation date.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.3373 Consider the following statement: “A currency swap exposes parties to two sources of risk – interest rate risk and currency risk – but provides protection against default risk.” The statement is *least likely* correct with respect to:

A. Default risk.

B. Currency risk.

C. Interest rate risk.

The correct answer is **A.**

A currency swap involves two parties making interest payments to each other in different currencies. Therefore, a currency swap has two sources of risk – interest rate and currency risk. Because the parties are making payments directly to each other and there is no clearinghouse to guarantee payments, this type of swap also exposes them to default risk.
B is incorrect. The swap involves exchanging principal and/or interest payments in different currencies. The value of these currencies can fluctuate relative to each other due to various factors, including changes in exchange rates, economic conditions, and monetary policy. These fluctuations can affect the amount of payments when converted into the home currency, leading to potential losses or gains. Therefore, currency risk is an inherent part of currency swaps and must be carefully managed.

C is incorrect. Interest rate risk is another real risk associated with currency swaps. This risk stems from the possibility that interest rates may change, affecting the value of the fixed or floating interest payments exchanged between the parties. For swaps involving fixed interest rates, a rise in interest rates can decrease the value of the fixed payments, leading to potential losses. Conversely, for swaps with floating interest rates, fluctuations in the reference rate can lead to variability in payment amounts. Thus, interest rate risk is a significant concern in currency swaps, impacting the cost and benefits of the swap for the parties involved.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.3388 A forward rate agreement (FRA) *most likely*:

A. Eliminates a lender's exposure to default risk.

B. Creates the ability to speculate on interest rates.

C. Trades on exchanges such as the CME, CBOE, and Eurex.

The correct answer is **B.**

An FRA is a contract in which the underlying is an interest rate.

A is incorrect. The lender of the loan is not exposed to default risk as the borrower locks in the rate at which he will receive payments and pass on to the lender.

C is incorrect. FRAs trade on over-the-counter markets. Only exchange-traded derivatives trade on the CME, CBOE, and Eurex.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (c): Contrast forward commitments with contingent claims.

Q.3389 Which of the following derivatives will involve one party paying a variable series of cash flows determined by an asset or rate?

A. Swap contract.

B. Option contract.

C. Futures contract.

The correct answer is **A.**

A swap contract is a contract in which one party agrees to pay a variable series that will be determined by an underlying asset or rate while the other party either pays 1) a variable series determined by a different underlying asset or rate or 2) a fixed series.

B is incorrect. An option contract gives the holder the right but not the obligation to transact at a pre-determined price and time.

C is incorrect. A futures contract is an exchange-traded derivative between two parties to trade a commodity at a specified time in the future at a pre-determined price.
CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.3893 Consider a call option with a premium of $21 and a strike price of $198. What is the maximum possible profit for the writer of the call?

A. $21.

B. $177.

C. $198.

The correct answer is **A.**

The greatest profit the writer can make is the $21 premium. That’s achievable when the price of the underlying at expiry is less than or equal to $198. The writer of an option only makes a profit below or equal to the premium that he sells the option for.
B is incorrect. Suggesting a maximum profit of $177 for the writer of the call option misunderstands the nature of options trading. The profit for the writer of a call option is capped at the premium received, regardless of how much the market price of the underlying asset may fall below the strike price. The figure of $177 seems to mistakenly consider the difference between the strike price and the premium, which is not relevant to calculating the writer's profit.

C is incorrect. It disregards the fact that the writer's profit is limited to the premium received. The strike price of the option does not directly influence the maximum profit for the writer; rather, it determines the price at which the option can be exercised. The premium, in this case, $21, is the only income the writer receives and thus represents the maximum profit.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.3895 In a credit default swaps (CDS), the short position is betting on:

A. The borrower defaulting.

B. The borrower not defaulting.

C. The long position not defaulting.

The correct answer is **B.**

The CDS seller (short position) will receive compensation in the form of premium income and in return agrees to pay out a percentage of the notional amount if a credit event occurs.

The long position is taken by the protection buyer, who has no outstanding obligation but is actually owed by the bond issuer.
A is incorrect. This option suggests that the short position in a CDS is betting on the borrower defaulting. This is a misunderstanding of the roles within a CDS contract. In reality, it is the buyer of the CDS (long position) who is hedging against or betting on the default of the borrower. The buyer pays premiums to the seller (short position) in exchange for the assurance of compensation in the event of the borrower's default. Thus, the short position benefits when the borrower does not default, as it allows them to collect premiums without having to pay out a claim.

C is incorrect. .This option misrepresents the nature of a CDS contract by suggesting that the short position is betting on the long position not defaulting. In a CDS, the focus is on the creditworthiness of the reference entity (the borrower), not on the parties to the CDS contract themselves. The long position (buyer) pays premiums to the short position (seller) in anticipation of a potential default by the borrower. The financial health or default risk of the long position is not directly relevant to the contract's primary purpose, which is to transfer the credit risk of the reference entity from the buyer to the seller.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.4128 Companies A and B have entered a swap contract with a notional principal of £256 million. Company A pays a semiannual fixed rate of 5% and receives the 6-month LIBO. If the 6-month LIBO rate is 4.32%, how much money will company B *most likely* pay or receive?

A. Pay £0.87 million.

B. Receive £0.87 million.

C. Receive £256.81 million

The correct answer is **B.**

Company A pays fixed and receives floating. On the other hand, company B receives fixed and pays floating.
Company A owes Company B: $\frac{0.05}{2} \times £256 \text{ million} = £6.4 \text{million}$
Company B owes company A: $\frac{0.0432}{2} \times £256 \text{ million} = £5.5296 \text{ million}$

Since the fixed amount is greater than the floating amount, company A will give company B the net difference between the two amounts, i.e., $£6.4 \text{ million} - 5.5296 \text{ million} = £0.87 \text{ million}$

A is incorrect. Since the fixed amount was higher than the floating amount, company B will receive and not pay the £0.8704 million.

C is incorrect. It has been incorrectly obtained by adding the principal amount to the net difference. The principal in a swap contract does not exchange hands.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.4129 Which of the following is *least likely* a linear derivative?

A. Swaps.

B. Options.

C. Forward contracts.

The correct answer is **B.**

Contingent claims, such as options, are considered non-linear derivatives because their payoff profile is asymmetric – losses are limited to one direction. Contingent claims include options, credit derivatives, and asset-backed securities.

A is incorrect. Forward commitments, such as swaps, are called linear derivatives because the price of a forward commitment is a linear function of the underlying.

C is incorrect. Forward commitments, including forward contracts, are linear derivatives because their value changes linearly with the price of the underlying asset.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.4130 Which of the following *best* describes the payoff of a short position in a forward contract if the forward price falls below the underlying price at maturity?

A. Zero payoff.

B. Positive payoff.

C. Negative payoff.

The correct answer is **C.**

If at the expiration date, the current spot price is greater than the forward price $[S_T > F_0(T)]$ (or the forward price is less than the underlying price, $F_0(T) < S_T$ the buyer (long) receives a payoff of

$$\text{Payoff} = S_T - F_0(T) > 0$$

Intuitively, the short incurs a loss of $-(S_T - F_0(T) < 0$ because the seller must deliver an asset at S_T and receive less amount $F_0(T)$.

A and B are incorrect. The following table gives the summary of the outcomes of a forward contract at expiry:

Outcome at Expiry	Buyer(long) Payoff	Seller(short) Payoff
$S_T > F_0(T)$	$[S_T - F_0(T)] > 0$	$[F_0(T) - S_T] < 0$
$S_T < F_0(T)$	$[S_T - F_0(T)] < 0$	$[F_0(T) - S_T] > 0$

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.4131 Which of the following is *least likely* correct regarding a futures contract?

A. No cash changes hands at the futures contract initiation.

B. Futures contracts are directly executed between the counterparties.

C. Like a forward contract, the payoff is based on the difference between the futures price and the underlying price at the expiration date.

The correct answer is **B.**

Futures contracts must be executed using specialized financial intermediaries. The Financial intermediary clears and settles payments at the exchange on behalf of the counterparties.

A is incorrect. Like forward contracts, no cash changes hands at the initiation of the futures contract. However, both counterparties must deposit the initial *margin* into a *futures margin account* at the exchange.

C is incorrect. At the expiration of the futures contract, the payoff is based on the difference between the futures price and the underlying price

$$\text{Payoff} = S_T - f_0(T)$$

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.4132 Which of the following *least likely* distinguishes a futures contract from a forward contract?

A. Initial cash outlay.

B. Mark-to-market process.

C. Margining requirements.

The correct answer is **A.**

Like forward contracts, no cash is exchanged at futures contract initiation. However, in futures contracts both counterparties must deposit the initial margin into a futures margin account at the exchange.

B and C are incorrect. Margining and daily settlements (mark-to-market) distinguish futures contracts from forward contracts.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (a): Define forward contracts, futures contracts, swaps, options (calls and puts), and credit derivatives and compare their basic characteristics.

Q.4133 Which of the following is *most likely* associated with a margin call?

A. Initial margin.

B. Maintenance margin.

C. Variation margin.

The correct answer is **C.**

When the futures margin account funds fall below the maintenance margin, the seller typically receives a margin call to top up the account back to the initial margin requirement. The added sum to replenish the futures margin account is the variation margin, which represents the change in the value of the futures contract from the time it was entered into until the time of the margin call.

A is incorrect. A minimum amount of money is deposited by both counterparties to settle the daily mark to market.

B is incorrect. The maintenance margin is the amount (lower than the initial margin) that each party must maintain in the margin account from the initiation to the maturity of the trade.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.

Q.4134 Devco Construction limited enters a 3-month Futures contract on an exchange through a financial intermediary to buy 1,000 barrels of gasoline at USD 78 per barrel. The exchange requires an initial margin of USD 2,340 per futures contract and a maintenance margin of USD 2,280 per contract. If, at first today's close, the futures price is USD 77.80 per barrel, the Devco's margin account balance for the day is *closest to*:

A. USD 200

B. USD 2,140

C. USD 2,540

The correct answer is **B.**

Since at the day's close, the futures price is USD 77.80 per barrel, Devco (buyer) realizes a loss of

$$\text{Loss} = (78 - 77.80) \times 1,000 = \text{USD } 200$$

As such, Devco's margin account and ending balance of

$$\text{Ending balance for the day} = \text{USD } 2,340 - \text{USD } 200 = \text{USD } 2,140$$

A is incorrect. It is the day's MTM loss by the Devco company.

C is incorrect. It adds the day's MTM loss to the initial margin.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option

---

Q.4136 Which of the following is *most likely* true regarding a short position in a put option?

A. The profit is equal to the put option premium if the underlying price falls below the exercise price.

B. The profit is equal to the put option premium if the underlying price exceeds the exercise price.

C. Has counterparty credit risk to the long position once the option premium has been paid

The correct answer is **B.**

Recall that for a put option, the buyer has the right but not an obligation to exercise the option at expiry. Exercising the option means that at expiration, the buyer sells the underlying S_T at the exercise price X. As such, the put option is only exercisable if $S_T < X$.

As such, if the underlying price is greater than the exercise price at maturity, the option expires worthless, and thus the profit to the put option seller (short) is equal to zero, as shown below:

$$\begin{aligned}\Pi &= -(\max(0, X - S_T)) + p_0 \\ &= -(0) + p_0 \\ &= p_0\end{aligned}$$

A is incorrect. If the underlying price falls below the exercise price, the put option is exercisable, and as such, the profit is not equal to the premium as shown below:

$$\begin{aligned}\Pi &= -(\max(0, X - S_T)) + p_0 \\ &= -(X - S_T) + p_0 \neq p_0\end{aligned}$$

C is incorrect. An option seller is not exposed to counterparty credit risk once the option buyer pays the upfront option premium.

CFA Level I, Derivatives, Learning Module 2: Forward Commitment and Contingent Claim Features and Instruments. LOS (b): Determine the value at expiration and profit from a long or a short position in a call or put option.