Question #1 of 10

Question ID: 1574505

A synthetic European call option includes a short position in:

A) the underlying asset.

B) a risk-free bond.

C) a European put option.

Explanation

A synthetic European call option consists of a long position in the underlying asset, a long position in a European put option, and a short position in a risk-free bond (i.e., borrowing at the risk-free rate).

(Module 76.1, LOS 76.a)

Question #2 of 10

Question ID: 1574510

An investor calculates that the premium of a European put option is less than its value based on put-call parity. In exploiting this arbitrage opportunity, the investor is *most likely* to:

A) invest the present value of the exercise price at the risk-free rate.

B) sell the call option.

C) sell the underlying short.

Explanation

Put-call parity indicates that $P = C + PV(X) - S$. With $P < [C + PV(X) - S]$, the arbitrage transaction is to buy the put and sell the call, borrow the PV of the exercise price (X), and buy the stock.

(Module 76.1, LOS 76.a)

Question #3 of 10

Question ID: 1574506

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

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

B) a call option and a share of stock.

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

Explanation

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

(Module 76.1, LOS 76.a)

Question #4 of 10

Question ID: 1574508

Using put-call parity, it can be shown that a synthetic European put can be created by a portfolio that is:

A) short the stock, long the call, and long a pure discount bond that pays the exercise price at option expiration.

B) short the stock, long the call, and short a pure discount bond that pays the exercise price at option expiration.

C) long the stock, short the call, and short a pure discount bond that pays the exercise price at option expiration.

Explanation

A short position in the stock combined with a long call and lending the present value of the exercise price will replicate the payoffs on a put at option expiration.

(Module 76.1, LOS 76.a)

Question #5 of 10

Question ID: 1574507

Using put-call parity, it can be shown that a synthetic European call can be created by a portfolio that is:

A) long the stock, short the put, and short a pure discount bond that pays the exercise price at option expiration.

B) long the stock, long the put, and long a pure discount bond that pays the exercise price at option expiration.

C) long the stock, long the put, and short a pure discount bond that pays the exercise price at option expiration.

Explanation

A stock and a put combined with borrowing the present value of the exercise price will replicate the payoffs on a call at option expiration.

(Module 76.1, LOS 76.a)

Question #6 of 10

Question ID: 1574513

Consider a European call option and put option that have the same exercise price, and a forward contract to buy the same underlying asset as the two options. An investor buys a risk-free bond that will pay, on the expiration date of the options and the forward contract, the difference between the exercise price and the forward price. According to the put-call-forward parity relationship, this bond can be replicated by:

A) writing the call option and buying the put option.

B) buying the call option and writing the put option.

C) writing the call option and writing the put option.

Explanation

The put-call-forward parity relationship may be expressed as:

$$p_0 - c_0 = [X - F_0(T)](1 + Rf)^{-T}$$

That is, at initiation of a forward contract on the underlying asset, buying a put option and writing a call option with exercise price X will have the same cost as a risk-free bond which, at expiration of the forward and options, will pay the difference between X and the forward price.

(Module 76.1, LOS 76.b)

Question #7 of 10

Question ID: 1574504

A synthetic European put option includes a short position in:

A) the underlying asset.

B) a risk-free bond.

C) a European call option.

Explanation

A synthetic European put option consists of a long position in a European call option, a long position in a risk-free bond that pays the exercise price on the expiration date, and a short position in the underlying asset.

(Module 76.1, LOS 76.a)

Question #8 of 10

Question ID: 1574509

Which of the following portfolios has the same future cash flows as a protective put?

A) Long call option, long risk-free bond, short the underlying asset.

B) Long call option, long risk-free bond.

C) Short call option, long risk-free bond.

Explanation

The put-call parity relationship shows that a protective put (long put, long underlying asset) has the same future payoff as a fiduciary call (long call, long risk-free bond).

(Module 76.1, LOS 76.a)

Question #9 of 10

Question ID: 1574511

Which of the following instruments is a component of the put-call-forward parity relationship?

A) The spot price of the underlying asset.

B) The present value of the forward price of the underlying asset.

C) The future value of the forward price of the underlying asset.

Explanation

The put-call-forward parity relationship is: $F_0(T) / (1 + RFR)^T + p = c + X / (1 + RFR)^T$, where $F_0(T)$ is the forward price of the underlying asset.

(Module 76.1, LOS 76.a)

Question #10 of 10

Question ID: 1574512

The relationship referred to as put-call-forward parity states that at time = 0, if there is no arbitrage opportunity, the value of a call at X on an asset that has no holding costs or benefits plus the present value of X is equal to:

A) the asset price minus the value of a put option at X. ✗

B) the value of a put option at X plus the present value of the forward contract price. ✓

C) the forward contract price plus the value of a put option at X. ✗

Explanation

The put-call-forward parity relationship is:

$$c_0 + X(1 + Rf)^{-T} = p_0 + F_0(T)(1 + Rf)^{-T}$$

The value of a call at X plus the present value of X is equal to the value of a put option at X plus the present value of the forward contract price.

(Module 76.1, LOS 76.b)