

Name:

50. For a European call on a non-dividend-paying stock, find the bounds on the call price when the stock price is 51, the expiry time is 2 years, the strike price is 50, and the interest rate is 10%.

Bounds are

$$\leq c <$$

51. For a European put on a non-dividend-paying stock, find the bounds on the put price when the stock price is 50, the expiry time is 2 years, the strike price is 51, and the interest rate is 10%.

Bounds are

$$\leq p <$$

52. A 1-month European put on a non-dividend-paying stock is currently selling for \$2.50. The stock price is \$47, the strike price is \$50, and r is 6%. What opportunities are there for an arbitrageur?

At time 0, do the following:

At time $T = \frac{1}{12}$, do the following:

If $S_T < 50$:

If $S_T \geq 50$:

Risk Free Profit is at least:

¢

53. The price of a non-dividend-paying stock is \$19 and the price of a 3-month European put on the stock with a strike price of \$20 is \$1. If r is 4%, what is the price of a 3-month European call with a strike price of \$20?

Call price is

$c =$

54. Suppose that a stock paying no dividends is trading at \$15.60 a share. European calls on the stock with strike price \$15 and exercise date in three months are trading at \$2.83. The interest rate is 6.72%, compounded continuously. What is the price of a European put with the same strike price and exercise date?

Put price is

$p =$

55. European call and put options with strike price \$24 and exercise date in six months are trading at \$5.09 and \$7.78. The price of the underlying stock is \$20.37 and the interest rate is 7.48%. Find an arbitrage opportunity.

At time 0, do the following:

At time $T = \frac{1}{2}$, do the following:

If $S_T < 24$:

If $S_T \geq 24$:

Risk Free Profit is:

¢

56. The price of an American call on a non-dividend-paying stock is \$4. The stock price is \$31, the strike price is \$30, the expiration date is in 3 months, and r is 8%. Derive upper and lower bounds for the price of an American put on the same stock with the same strike price and expiration date.

Put price satisfies

$$\leq P \leq$$