

Name:

26. What is the forward price of a 15-month forward contract on a non-dividend-paying stock when the stock price is \$40 and the risk-free interest rate is 10% per annum?

The forward price is

\$

27. What is the forward price of a 6-month forward contract on a non-dividend-paying stock when the stock price is \$60 and the risk-free interest rate is 11% per annum?

The forward price is

\$

28. What is the forward price of a four-month forward contract to buy a zero-coupon bond with face value \$100 that will mature in one year from today? The interest rate is 6% per annum.

The forward price is

\$

29. Suppose $S_0 = 17$, $F(0,1) = 18$, $r = 0.08$ cc, and short-selling requires a 30% security deposit attracting interest at $d = 4\%$.

- (a) Explain how an arbitrage opportunity can be realized.
- (b) Find the highest rate d for which there is no arbitrage opportunity.

(a) At time 0, do the following:

At time 1, do the following:

Risk Free Profit:

¢

(b)

Highest rate *d* is

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%

30. A trader owns gold as part of a long-term investment portfolio. The trader can buy gold for \$450 per ounce and sell it for \$449 per ounce. The trader can borrow funds at 6.1% per year and invest funds at 6.0% per year (both annual compounding). For what range of 1-year forward prices of gold does the trader have no arbitrage opportunities?

No arbitrage if

$$\leq F_0 \leq$$

31. Consider a stock whose price on Jan 1 is \$120 and which will pay a dividend of \$1 on Jul 1 and \$2 on Oct 1. The interest rate is 12%. Is there an arbitrage opportunity if on Jan 1 the forward price for delivery of the stock on Nov 1 is \$131? If so, explain how and compute the arbitrage profit.

On Jan 1, do the following:

On Jul 1, do the following:

On Oct 1, do the following:

On Nov 1, do the following:

Risk Free Profit:

\$

32. What is the six-month forward price for a stock currently priced at \$100 and paying a continuous dividend at rate 2% when the risk-free interest rate is 7% with continuous compounding?

The forward price is

\$