27. What is the forward price of an 18-month forward contract on a non-dividend-paying stock when the stock price is \$50 and the risk-free interest rate is 10% per annum?
28. What is the forward price of a 6-month forward contract on a non-dividend-paying stock when the stock price is \$40 and the risk-free interest rate is 11% per annum?
29. 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.
30. 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.
31. 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% per year and invest funds at 5.5% per year (both annual compounding). For what range of 1-year forward prices of gold does the trader have no arbitrage opportunities?
32. 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.
33. What is the six-month forward price for a stock currently priced at \$150 and paying a continuous dividend at rate 2% when the risk-free interest rate is 7% with continuous compounding?