

1.

Curley buys a one-year 50-strike European call option from Moe for a premium of \$7.43. The risk-free interest rate is 6.5% effective. For what spot price at expiration is Moe's profit 0?

2

Joe buys a 3-month European call for a premium of \$5.03. At a spot price at expiration of \$78, Joe's profit is -\$2.11. The risk-free interest rate is 6% per annum compounded quarterly. The strike price of the call is X . Determine X .

3

Mark writes a one-year European put with a strike price of X and a premium of \$8.78. The risk-free rate of interest is 4.8% effective per annum. Mark's profit at a spot price at expiration of \$85 is \$1.83. Determine X .

4

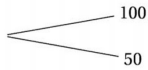
Future prices of a stock are modeled with a 1-period binomial tree. You are given:

- (i) The stock's current price is 40.
- (ii) The continuously compounded risk-free interest rate is 5%.
- (iii) The stock pays no dividends.
- (iv) $u = 1.2$ and $d = 0.8$.

For a European put option, the strike price is 40 and the price is 3.12.
Determine the time to expiry for this option.

5

Stock prices for a nondividend paying stock are modeled with the following 1-period binomial tree, with the period being 6 months:



The price of a European call option expiring in 6 months with strike price 60 is 1.00.

The continuously compounded risk-free interest rate is 5%.

Determine the price of the stock.

6

The current price of a non-dividend paying is \$100, and it is known that at the end of 6 months it will be either \$110 or \$90. Suppose the risk-free interest rate is 4%. Suppose the 6-month call option price is \$10. Calculate the strike price of the call option.