University of Texas at Austin

Quiz #6

European calls.

Provide your **final answer only** to the following problem(s):

Problem 6.1. (5 points) Which of the following constitutes a one-year, \$100-strike **covered call**?

(a) Write a one-year, \$100-strike call and short the underlying asset.
(b) Write a one-year, \$100-strike call and buy the underlying asset.
(c) Buy a one-year, \$100-strike call and short the underlying asset.
(d) Buy a one-year, \$100-strike call and buy the underlying asset.
(e) None of the above.

Please, provide the **complete** solution to the following problem(s):

Problem 6.2. (5 points) The premium on a 1000-strike, 2-month European call option on the market index is \$20. After 2 months the market index spot price is 1075. If the risk-free interest rate equals 0.5% effective per month, what is the long-call profit?

Problem 6.3. (5 points) The fair price today of a zero-coupon bond with redemption amount of \$100 and which comes to maturity in a year is equal to \$78.

You purchase an at-the-money European call option on a non-dividend paying stock whose price today is $S(0) = \$100$. The premium of this call was \$10.

Write the expression for this call's payoff, and for its profit (valued at its expiration date T) as a function of $S(T)$ (the stock price at time T) and the time of maturity T.