

UNIVERSITY OF TEXAS AT AUSTIN

Quiz # 9

Option volatility.

Please, provide your **complete solution** to the following problem. Final answers without shown reasoning will get zero points.

Problem 9.1. (15 points) Assume the Black-Scholes framework for the evolution of a stock price. The stock pays no dividends. Consider a one-year European call on this stock. You are given the following:

- the call's delta is 0.6591,
- under the risk-neutral probability measure, the probability that the option is in-the-money at expiration is 0.3409.

What is the volatility of this call option?