The University of Texas at Austin
In-Class Work 11

M339D Introduction to Financial Mathematics

October 21, 2026

The Binomial Asset Pricing Model.

Problem 11.1. In the setting of the one-period binomial model, denote by i the **effective** interest rate f per period. Let u denote the "up factor" and let d denote the "down factor" in the stock-price model. If

$$d < u \leq 1 + i$$

then there certainly is no possibility for arbitrage. *True or false? Why?*

Solution. FALSE

Problem 11.2. In our usual notation, does this parameter choice create a binomial model with an arbitrage opportunity?

$u = 1.18, \quad d = 0.87, \quad r = 0.05, \quad \delta = 0, \quad h = 1/4$

Solution. No.
