

Financial Mathematics 1 - Spring term 2015

Exercise sheet no.5 (09.04.2015)

Exercise 1: Show that $\phi_n := \sigma(S_0^1, -1)$, $n = 0, \dots, N$, is an arbitrage strategy (cf. page 24 of the lecture).

Exercise 2: Show the identity

$$P(T_1 = x_1, \dots, T_n = x_n) = \prod_{i=1}^n p_i$$

of pages 24/25 of the lecture.

Exercise 3: Show that X_1, \dots, X_N (see Probabilistic background in the example before Remark 4.5) are independent.

Exercise 4: Explain the proof of Proposition 4.10 (Probabilistic background)

Please drop the solutions into the homework box of the lecture until 16.04.2015, 6 pm