

FORMULAS WHICH CAN BE USEFUL TO KNOW BY HEARD OR TO BE ABLE EASILY  
DERIVE

- Put-call parity (for example 2.1 on p.24)
- Connection between mean of log-return and volatility and parameters  $u$  and  $d$  in binomial model (for example 3.3 and 3.4 on p.34 - observe that in the book  $e^u$  and  $e^d$  are used instead for  $u$  and  $d$ )
- Formula for risk-neutral (marginal) probability (for example 3.14 or 3.15 on p. 43)
- Formulas for pricing and a replicating portfolio for European derivatives (for example 4.7 on p.63 and 4.9 on p. 67)
- Formulas for pricing and a replicating portfolio for American derivatives (for example 5.2 on p.85 and 5.6, 5.7 on p.91)
- Definitions of Brownian motion (Def.8.10 on p.170) and geometric Brownian motion (Def 8.19 on p. 186)
- Girsanov theorem (Thm.8.15 on p.183) including definition of  $\mathbb{P}_\theta$  (8.31 on p.182)
- Stock price in risk-neutral (martingale) probability (for example 8.42 on p.190)
- Pricing function for standard European derivatives in Black-Scholes model (for example 8.43 on p.190 or 8.46 on pp.190-191)
- Black-Scholes price of European call and put options (for example 8.49 on p.192 and the corresponding formula for  $P(t, x, K, T)$ )
- Pricing of standard European derivatives on dividend-paying stocks (for example 8.72 on page 208)