

**M3/4/5A22 ASSESSED COURSEWORK, Friday 20.11.2015**

Deadline 4pm, Friday 27.11.2015

*Quadratic options.*

In place of the standard call and put options of Black-Scholes theory, consider instead *quadratic options*. The *quadratic call* has payoff  $(S - K)_+^2$ , and the *quadratic put* payoff  $(K - S)_+^2$ .

Price the quadratic call. (Use the notation of lectures for the Black-Scholes case –  $c$ ,  $d_{\pm}$  etc. Give your answer in terms of  $d_+$  rather than  $d_-$ .)

NHB