

# EXAM MFE QUESTIONS OF THE WEEK

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## Week of March 26/07

A call option on a non-dividend paying stock has a current price of 100 and expires in one year.

You are given the following:

- the option  $\Delta$  is .4942
- the option  $\rho$  per 1% change in  $r$  is .3463

Find the value of the call option using Black-Scholes option pricing.

**The solution can be found below.**

## **Week of March 26/07 - Solution**

The option price is  $SN(d_1) - Ke^{-rT}N(d_2)$  .

We are given  $S = 100$  and  $T = 1$ .

Also,  $\Delta = N(d_1) = .4942$  , and  $\rho = .01TKe^{-rT}N(d_2) = .3464$  ,  
so that  $Ke^{-rT}N(d_2) = 34.64$  .

The option price is  $100(.4942) - 34.64 = 14.78$  .