Week 3 Homework

8.1 OPTIONS

We are given the following information:

Call option Market Price = **$7** Stock Price = **$30** / share Strike Price = **$25** / share

A) What is the exercise value of the call option?

Exercise Value = MAX[current price of stock – strike price, 0] 30 – 25 = 5

B) What is the option's time value?

Time value = Market price (strike price) – Exercise Value 7 – 5 = 2

8-3 BLACK-SCHOLES MODEL

We are given the following information:

Current Price **15** Strike Price **16** Risk Free Rate **6%** Time 6months **(.5)**

Std Dev **?** Variance **.12**

In order to find the Std. Dev you have to find the square of the variance which is **.3464**

The question asked, ' according to the Black Scholes option pricing model, what is the option's value?
1.67 Rounded 1.70

	A	B	C	D
1	Black-Scholes Option Pricing Model			
2				
3	**Current Price (S)**		$15	
4	**Stike Price (X)**		$15	
5	**Risk-free interest rate (rRF)**		6.0%	
6	**XX days/365 (t)**		0.50	
7	**Standard deviation (s)**		0.3464	
8				
9	(d_1)	$\ln(P/X) + [r_{RF} + (s^2/2)]t / \alpha t^{0.5}$	0.245	
10				
11	(d_2)	$d_2 = d_1 - \alpha t^{0.5}$	0.000	
12				
17	**V =**	$P[N(d_1)] - Xe^{-r_{RF}}[N(d_2)]$	$1.673	
18				