Quiz A for 2:30 Class: 11/12/12 Name Key

Assume you are planning to buy a put on General Electric (GE) with an exercise price of $20 that expires 95 days from today on 2/15/13. If you buy the put, you would only plan to hold it for 67 days (until 1/18/13). GE's stock price currently equals $21 per share. By 1/18/13, you expect GE's stock price to fall to $18 per share and by 2/15/13, you expect GE's stock price to fall to $15 per share. By a year from today (11/12/13), you expect GE's stock price to rebound to $22 per share.

Using the following information, set up the equations and plug in as many numbers as possible to use the Black-Scholes option pricing model to value this option.

	Between now and:		
	1/18/13	2/15/13	11/12/13
Standard deviation of returns on:			
GE's assets	12.4%	13.3%	14.2%
GE's stock	24.8%	26.5%	27.3%
GE's bonds	3.5%	3.6%	3.8%
An equivalent call	45.6%	52.5%	54.4%
This put	39.0%	41.0%	44.2%
Annualized return on:			
U.S. Treasuries (all < 1%):	0.097%	0.120%	0.204%
GE's bonds	0.25%	0.35%	0.40%

Wall Street Journal Questions are on the back of this page.

+5 $d_1 = \dfrac{\ln\left(\frac{21}{PVLK}\right)}{.265\sqrt{\frac{95}{365}}} + \dfrac{.265\sqrt{\frac{95}{365}}}{2}$ (22)

+5 $PVLK = \dfrac{20}{(1.0002)^{95/365}}$ (28)

+5 $d_2 = d_1 - .265\sqrt{\frac{95}{365}}$ (11)

+8 $P = PVLK(1-N(d_2)) - 21(1-N(d_1))$ (13)

+1 => look up $N(d_1)$ + $N(d_2)$ on tables or with excel