Quiz A for 4:00 Class: 11/12/12
Name $\qquad$
Assume you are planning to buy a put on McDonald's with an exercise price of $\$ 85$ that expires 67 days from today on $1 / 18 / 13$. As soon as the put expires, you plan to buy a second put that expires 95 days from today on $2 / 15 / 13$. McDonald's stock price currently equals $\$ 84.75$ per share. By $1 / 18 / 13$, you expect McDonald's stock price to fall to $\$ 82$ per share and by $2 / 15 / 13$, you expect McDonald's stock price to fall to $\$ 75$ per share. By a year from today (11/12/13), you expect McDonald's stock price to rebound to $\$ 84$ 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 the option you are planning to buy today.

Between now and:

| Standard deviation of returns on: | $\underline{1 / 18 / 13}$ | $\underline{2 / 15 / 13}$ | $\underline{11 / 12 / 13}$ |
| :--- | :---: | :---: | :---: |
| McDonald's assets | $9.4 \%$ | $11.3 \%$ | $12.2 \%$ |
| Mconald's stock | $18.1 \%$ | $22.5 \%$ | $24.3 \%$ |
| McDonald's bonds | $1.5 \%$ | $1.6 \%$ | $1.8 \%$ |
| An equivalent call | $36.6 \%$ | $44.5 \%$ | $48.4 \%$ |
| This put | $29.0 \%$ | $31.0 \%$ | $34.2 \%$ |
| Annualized return on: | $\underline{1 / 17 / 13}$ | $\underline{2 / 14 / 13}$ | $\underline{11 / 11 / 13}$ |
| $\quad$ U.S. Treasuries (all < 1\%): | $0.097 \%$ | $0.120 \%$ | $0.204 \%$ |
| McDonald's bonds | $0.11 \%$ | $0.14 \%$ | $0.22 \%$ |

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

