Derivative Securities: Assignment 1. Due September 28, 2011.

1, Estimate the forward price of INTC stock one year from now assuming
Trade date: 9/13/2011, end of day
Settlement date: 9/13/2012
INTC closing price on 9/13/2011 : $21.97
Dividend stream over the last 2 years:

Date	Dividends
8/3/11	0.21
5/4/11	0.181
2/3/11	0.181
11/3/10	0.158
8/4/10	0.158
5/5/10	0.158
2/3/10	0.158
11/4/09	0.14
8/5/09	0.14
5/5/09	0.14
2/4/09	0.14
11/5/08	0.14

Assume interest rates flat at 10pbs. State your assumptions on future dividends clearly.
Also, calculate the equivalent continuously compounded annualized dividend yield for 1 year.

2. Give a concise definition of a futures contract, with an example from the US markets. Explain the differences between futures and forwards in the context of your example.

3. A German corporate treasurer wishes to hedge on Monday September 15, 2011 his forward exposure to USD arising from a stream of cash-flows arising from his US business, which are as follows:

December 15 2011: USD 50,000,000
March 15 2012: USD 40,000,000
June 15 2012: USD 60,000,000

Describe as precisely as possible a hedging strategy using CME currency futures to perform this hedge. Assume some future FX scenarios to illustrate how the strategy might work out.

4. A US oil-trading firm expects to receive shipments of 1,000,000 barrels of oil in equal quarterly installments at the end of March, June, September and December 2012 , which they will sell progressively as they are received. (i) Design a simple futures strategy for hedging the firm's entire exposure today. Historical back-testing: (ii) Using data from the US Energy Information Administration (www.eia.gov) from 2006 to the present time, determine the daily MTM (fluctuations) of a similar futures portfolio over that historical period. Do this in two ways: (i) assuming that on each day, the firm is exposed to the entire portfolio , and (ii) starting from August 10, 2007 compute the daily fluctuations of the fixed portfolio over the entire 1-year period, as if the trade started on that date.
Estimate the largest losses due to MTM based on the two methods.