Quiz B for 9:45 Class: 8/3/12   Name _____

Set up the calculations required to determine the value and beta of a put on General Motors with a strike price of $20 that expires on December 21, 2012 (140 days from today). Note that you only expect to hold the option until September 21, 2012 (49 days from today).

Information on GM's stock and options:

Stock price: now = $19, expected on 9/21 = $15, expected on 12/21 = $18
Beta on GM stock = 1.65
Standard deviations of returns:
     Past year: GM's assets = 45%; GM's stock = 52%;
     Between now and September 21: GM's assets = 47%; GM's stock = 54%; call with $20 strike that
          expires on 9/21= 73%; put with $20 strike that expires on 9/21 = 75%
     Between now and December 21: GM's assets = 49%; GM's stock = 58%; call with $20 strike that
          expires on 12/21 = 89%; put with $20 strike that expires on 12/21 = 93%
Returns on U.S. Treasury Bills (all less than 1%) expiring on: 8/9 = 0.020%; 9/20 = 0.051%;
     10/18 = 0.071%; 11/23 = 0.096%; 12/20 = 0.101%