Problem Set

1. [3 pts]
   You have taken a forward spread on *In-the-Red Berry* shares by going long forwards on these shares with one maturity and going the same number of contracts short forwards on these shares with a different maturity. *In-the-Red Berry* shares are currently trading at a price of $62.50. Using your assigned input values:
   (a) Compute the current value of your forward spread to the nearest cent.
   (b) Compute the current intracommodity spread between the prices of the two futures contracts to the nearest tenth of a cent.
   (c) Explain why the value of your spread position differs from the current intracommodity spread times the size of your spread.

2. [3 pts]
   You are interested in a one-year currency swap with semi-annual interest payments. The GBP principal amount for the swap would equal the USD principal amount divided by the spot exchange rate on the starting date of the swap. Also, interest would be paid on the USD portion of the swap but not on the GBP portion. Using your assigned values:
   (a) Compute the fair USD fixed rate for the swap to the nearest basis point.
   (b) Assume that three months have passed since you entered into the swap (at your computed fair fixed rate) and that neither interest rates nor the exchange rate has changed. Compute the value of the swap to the nearest dollar.
   (c) Explain why the computed swap value is not zero even though neither interest rates nor the exchange rate changed.

3. [4 pts]
   You interested in options on the shares of *Can Add Any Tire*, which pays no dividends. For your assigned inputs:
   (a) Compute the value of a three-month American put on these shares to the nearest tenth of a cent using a three-period binomial tree.
   (b) Compute the value of a three-month American call on these shares to the nearest tenth of a cent using the Black-Scholes model.

Notes:

- This assignment may be done individually or in a self-selected group of up to four students. No communication regarding the problem set is allowed between groups.
- If working in a group, your assignment ID is the lowest of your individual assignment numbers and you must use the input values that correspond to it in your analysis.
- A softcopy of your answers must be submitted to Turnitin.com by noon on April 7 (i.e., submitted up to 4 days after the original due date without penalty). Answers will be checked for plagiarism and must be submitted in character recognizable Word or PDF format (i.e., text images are not permitted). Your name(s) and your assignment ID must appear at the top of the first page. No credit will be given for assignments that are not submitted by noon on April 7 or are done by more than four students. Only one submission per group is allowed.
- You MUST show your formulas and calculations to earn part-marks on numeric questions.