Problem 1. Consider the United States and the countries it trades with the most (measured in trade volume): Canada, Mexico, China, and Japan. For simplicity, assume these four are the only countries with which the United States trades. Trade share (trade weights) and U.S. nominal exchange rates for these four countries are as follows:

Country (currency)	Share of Trade	$ per FX in 2015	$ per FX in 2016
Canada (dollar)	36%	0.8271	0.6892
Mexico (peso)	28%	0.0683	0.0538
China (yuan)	20%	0.1608	0.1522
Japan (yen)	16%	0.0080	0.0086

(a) Compute the percentage change from 2015 to 2016 in the four U.S. bilateral exchange rates (defined as U.S. dollar per unit of foreign exchange, or FX) in the table provided.

(b) Use trade shares as weights to compute the percentage change in the nominal effective exchange rate for the U.S. between 2015 and 2016 (in U.S. dollars per foreign currency basket).

(c) Based on your answer to part (b), what happened to the value of the U.S. dollar against this basket between 2015 and 2016? How does this compare with the change in the value of the U.S. dollar relative to Mexican peso? Explain your answer.

Problem 2. You are a financial adviser to a U.S. corporation that expects to receive a payment of 60 million Japanese yen in 180 days for goods exported to Japan. The current spot rate is 100 yen per U.S. dollar. You are concerned that the U.S. dollar is going to appreciate against the yen over the next six months.

(a) Assuming the exchange rate remains unchanged, how much does your firm expect to receive in U.S. dollars?

(b) How much would your firm receive (in U.S. dollars) if the dollar appreciated to 110 yen per U.S. dollar?

(c) Describe how you could use an options contract to hedge against the risk of losses associated with the potential appreciation in the U.S. dollar.

Problem 3. Consider a Dutch investor with 1,000 euros to place in a bank deposit in either the Netherlands or Great Britain. The (one-year) interest rate on bank deposits is 1% in Britain and 5% in the Netherlands. The (one-year) forward euro-pound exchange rate is 1.65 euros per pound and the spot rate is 1.5 euros per pound. Answer the following questions, using *exact* equations for covered interest parity (CIP) as necessary.

(a) What is the euro-denominated return on Dutch deposits for this investor?

(b) What is the (riskless) euro-denominated return on British deposits for this investor using forward cover?

(c) Is there an arbitrage opportunity here? Explain why or why not. Is this an equilibrium in the forward exchange market?