1. On January 5 Chuck buys ten September 17 calls on Apache Corp. stock. The Strike price is $90 and the premium is $8. The notional amount for each call is 100 shares.
   
a. If on September 17 the price of Apache Corp is $80, calculate Chuck’s gain or loss.
   b. If on September 17 the price of Apache Corp is $95, calculate Chuck’s gain or loss.
   c. If on September 17 the price of Apache Corp is $110, calculate Chuck’s gain or loss.

2. On February 25 Bobbie Jo buys twenty October 20 puts on BMY stock. The strike price is $35 and the premium is $4. The notional amount for each put is 100 shares.
   
a. If on October 20 the price of BMY is $30, calculate Bobbie Jo’s gain or loss.
   b. If on October 20 the price of BMY is $40, calculate Bobbie Jo’s gain or loss.
   c. If on October 20 the price of BMY is $33, calculate Bobbie Jo’s gain or loss.

3. On March 9 Kevin sells five August 20 calls on CAT stock. The strike price is $70 and the premium is $7. The notional amount for each call is 100 shares.
   
a. If on August 20 the price of CAT is $68, calculate Kevin’s gain or loss.
   b. If on August 20 the price of CAT is $75, calculate Kevin’s gain or loss.
   c. If on August 20 the price of CAT is $78, calculate Kevin’s gain or loss.

4. On April 14 Keryn sells fifteen December 17 puts on PPG stock. The strike price is $55 and the premium is $5. The notional amount for each put is 100 shares.
   
a. If on December 17 the price of PPG is $50, calculate Keryn’s gain or loss.
   b. If on December 17 the price of PPG is $60, calculate Keryn’s gain or loss.
   c. If on December 17 the price of PPG is $40, calculate Keryn’s gain or loss.