1. Which of the following actions would benefit you if the price of a certain stock declines over the next y months:
   (I) Enter into a 6-month long forward contract and buy a zero-coupon bond that matures to the forward price at the risk-free interest rate.
   (II) Enter into a 6-month short forward contract.
   (III) Short-sell the stock and close your position in 6 months.
   (A) I and II only  (B) I and III only  (C) II and III only  (D) I, II, and III
   (E) The correct answer is not given by (A), (B), (C), or (D)
   (P507. 3)

2. Steve bought 100 shares of stock on March 1 and sold the stock 6 months later. The bid and ask prices were as follows:

<table>
<thead>
<tr>
<th>Bid</th>
<th>Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.25</td>
<td>60.50</td>
</tr>
<tr>
<td>68.50</td>
<td>68.75</td>
</tr>
</tbody>
</table>

   The broker’s commission was X%. Steve’s gain was $767.75, ignoring interest. Determine X.
   (A) 0.15  (B) 0.20  (C) 0.25  (D) 0.30  (E) 0.35
   (P493. 8)

3. The bid and ask prices of a stock are as follows:

<table>
<thead>
<tr>
<th>Jan. 1, Year Y</th>
<th>July 1, Year Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid</td>
<td>Ask</td>
</tr>
<tr>
<td>$20.00</td>
<td>X</td>
</tr>
<tr>
<td>$20.50</td>
<td>X+.50</td>
</tr>
</tbody>
</table>

   There is a $20 commission on each transaction. Sam sells short 100 shares on Jan. 1 and covers the short on July 1. Marge buys 100 shares of the stock on Jan. 1 and sells them on July 1. Sam has a gain and Marge has a loss. The sum of Sam’s gain and the absolute value of Marge’s loss is $400. Determine X. (Ignore interest, haircuts, and dividends)
   (A) $16  (B) $18  (C) $20  (D) $22  (E) $24
   (P494. 13)

4. You initiate a 200-share short position on ABC Corp. common stock. At that time, the bid and ask prices are $27.50 and $28.00, respectively. At the time you close your position, the bid and ask prices are $23.75 and $24.25, respectively. The commission rate if 0.65%. Ignoring interest income, what was the total profit on your short position?
   (A) $850 profit  (B) $650 profit  (C) $646 profit  (D) $583 profit  (E) $521 profit
   (P495. 19)
5. Suppose a speculator believes that the price of oil, currently at $55 per barrel, will increase slightly, but not significantly, during the upcoming year. She therefore makes the following two transactions:
   - She purchases a 12-month call option, with an exercise price of $55 per barrel, on 1,000 barrels of oil. The premium for this option is $1,900.
   - She writes a 12-month call option, with an exercise price of $60 per barrel, on 1,000 barrels of oil. The premium for this option is $700.

   The price of oil at the time of the common expiration of these two options is $61.50 per barrel. The annual continuously compounded interest rate is 8%. Find the profit or loss, at the expiration date of the two options, on the speculator’s combined-option portfolio.

   (A) $5,200 loss  (B) $3,700 loss  (C) $0 profit or loss  (D) $3,700 profit  (E) $5,200 profit

6. Suppose a speculator believes that the price of oil, currently at $60 per barrel, will increase during the upcoming year. She therefore purchases a 12-month call option on 1,000 barrels of oil, with an exercise price of $65 per barrel, for $2,000. At the time of expiration of the option, the price of oil in the market is $63.25 per barrel. The annual continuously compounded interest rate is 6.5%. Find the profit or loss, at maturity of the option, on this speculator’s investment.

   (A) $2,134 loss  (B) $1,750 loss  (C) $0 profit or loss  (D) $1,250 profit  (E) $3,250 profit

7. A fire insurance policy covers a house worth $300,000. The policy has a deductible of $1,000 and a premium of $500. The insured's payoff on the policy is expressed in the form of a purchased put as max [0, X - (value of house after fire)], where X is the strike price. Determine X.

   (A) $298,000  (B) $299,000  (C) $295,000  (D) $300,000  (E) $301,500

Answer: CCBDD AB