

**Investment Analysis (FIN 383)
Fall 2009**

Homework 2

Instructions: please read carefully

- **You should show your work how to get the answer for each calculation question to get full credit**
- **The due date is Thu, Sep 24, 2009. Late homework will not be graded.**

Name(s):

Student ID

Chapter 3

1. Market orders are buy or sell order that will be executed immediately at _____ prices
- the best
 - current market
 - the highest
 - the lowest

1. b

2. Trading of exiting stock take place in the _____.
- secondary market
 - third market
 - forth market
 - All of the above.

2. a

3. You purchased 100 shares of AAA common stock on margin for \$40 per share. The initial margin is 60% and the stock pays no dividend. Your rate of return would be _____ if you sell the stock at \$43 per share
- 12.5%
 - 7.5%
 - 7.5%
 - 12.5%

3.d

Intial position

Stock 4000	Borrowed 1600
	Equity 2400

When stock price is 43, the position is

Stock 4300	Borrowed 1600
	Equity 2700

$$\text{Return} = (2700 - 2400) / 2400 = 12.5\%$$

4. The _____ price is the price a dealer is willing to purchase a security.
- Bid
 - Ask
 - Limit
 - Offering

4. a

5. You purchased ABC stock at \$50 per share. The stock is currently selling at \$49. Your potential loss could be reduced by placing a _____.
- limit-buy order
 - limit-sell order
 - market order
 - stop-loss order

5. d

6. The Nasdaq Stock Market is a _____.
- a. primary market
 - b. secondary market
 - c. dealer market
 - d. Both B and C above.

6. d

7. You purchased 400 shares of XYZ common stock on margin at \$20 per share. Assume the initial margin is 60% and the maintenance margin is 30%. You would get a margin call if the stock price is below _____. Assume the stock pays no dividend and ignore interest on margin.
- a. \$15.71
 - b. \$11.43
 - c. \$13.57
 - d. \$10.14

7. b

Initial position:

Stock $400 \times 2 = 800$	borrowed 3200
	Equity 4800

Let P be the price you would get a call

Position

Stock 400P	borrowed 3200
	Equity $400P - 3200$

To get a margin call

$$(400P - 3200)/400P = 0.3$$

$$P = 11.43$$

So when P is below 11.43, you will get a margin call

8. You sold short 200 shares of XYZ common stock at \$40 per share with an initial margin of 60%. Your initial investment was _____.
- a. \$3,200
 - b. \$4,800
 - c. \$6,000
 - d. \$8,000

8. b

Cash (Sale) 8000	borrowed 8000
Cash (deposit) 4800	Equity 4800

9. In buying on margin, the margin is the _____ of the investor's account
- a. loan amount
 - b. equity value
 - c. total value
 - d. none of the above

9. b

10. In a _____, the investment bankers purchase securities from the issuing company and then resell to the public.

- a. best-efforts agreement
- b. total package agreement
- c. firm commitment
- d. private placement

10. c

11. Electronic Communication Networks are private computer networks that link _____.

- a. buyers and sellers
- b. different stock exchanges
- c. different stock brokers
- d. global stock exchanges

11. a

12. You wish to sell short 100 shares of XYZ corporation stock. If the last two transactions were at \$34.12 followed by \$34.25, you can sell short on the next transaction only at a price of

- a. 34.12 or higher
- b. 34.25 or higher
- c. 34.25 or lower
- d. 34.12 or lower

12. b

As a regulation, you can only short sell if the price goes up compared with the last transaction. In this case, the current price is 34.25, the next price has to be higher than 34.25 in order for you to be able to short sell.

13. Consider the following limit order book of a specialist. The last trade occurred at a price of \$50.

Limit buy orders

Price	Shares
49.75	500
49.50	800
49.25	500
49.00	200
48.50	600

Limit sell orders

Price	Shares
50.25	100
51.50	100
54.75	300
58.25	100

- a. If a market buy order for 100 shares comes in, at what price will it be filled?

50.25

- b. At what price would the next market buy order be filled?

51.50

- c. If you were the specialists, would you want to increase or decrease your inventory of this stock

The responsibilities of the specialists are (1) match buyers and seller (i.e., find the best seller for the buyer and best buyer for the seller), (2) maintain the liquidity for the market (i.e., if there is no buyer for the seller, or no seller for the buyer, the specialists will come in and buy from the seller or sell to the buyer). In this case, the buy side has more order than the sell side, therefore, the specialists have to be ready to sell to the buyer, so they should increase their inventory

14. Here is some information on XYZ stock. Suppose first that XYZ trades in a dealer market such as Nasdaq

Bid	Ask
55.25	55.50

- a. Suppose you have submitted an order to your broker to buy at market. At what price will your trade be executed

55.50

- b. Suppose you have submitted an order to your broker to sell at market. At what price will your trade be executed

55.25

- c. Suppose you have submitted a limit order to sell at 55.62. What will happen

As soon as the price rises above 55.62, you sell the stock. In this case, the order will not be executed immediately. Since the price the dealer is willing to buy is 55.25 which is below the limit price you set.

- d. Suppose you have submitted a limit order to buy at 55.37. What will happen

As soon as the price fall below 55.37, you buy the stock. In this case, the order will not be executed immediately. Since the price the dealer is willing to sell is 55.50 which is above the limit price you set.

15. Now reconsider question 14, assume that XYZ trades in an exchange market like NYSE (specialist system). Is there any chance of an immediate trade at 55.37 for the limit buy order in part d. Explain

Whereas the limit order to buy at \$55.37 would not be executed in a dealer market (since the asked price is \$55.50), it could be executed in an exchange market. A broker for another customer with an order to sell at market would view the limit buy order as the best bid price; the two brokers could agree to the trade and bring it to the specialist, who would then execute the trade.

16. You are bearish on Telecom and decide to sell short 100 shares at the current market price of \$50 per share

- a. How much in cash or securities must you put into your brokerage account if the broker's initial requirements is 50%

Asset	Liabilities + Equity
Cash (sale): $100 * 50 = 5000$	Borrow: $100 * 50 = 5000$
Cash (deposit): $50\% * 5000 = 2500$	Equity: 2500

Answer: cash deposit is 2500

- b. How high can the price of the stock go before you get a margin call if the maintenance margin is 30%

Position

Asset	Liabilities + Equity
Cash (sale): $100 \times 50 = 5000$	Borrow: $100 \times P = 100P$
Cash (deposit): $50\% \times 5000 = 2500$	Equity: $7500 - 100P$

To get a margin call
 $(7500 - 100P) / 100P = 0.3$

$$P = \$57.69$$

So when $P = \$57.69$ or higher, you will get a margin call

17. You are bullish on Telecom stock. The current market price is \$50 per share, and you have \$5000 of your own to invest. You borrow an additional \$5000 from your broker at an interest rate 8% per year and invest \$10,000 in the stock.

a. What will be your rate of return if the price of Telecom stock goes up by 10% during the next year (ignore dividend)

a. You buy 200 shares of Telecom for \$10,000. These shares increase in value by 10%, or \$1,000. You pay interest of: $0.08 \times 5,000 = \$400$

The rate of return will be:

$$\frac{\$1,000 - \$400}{\$5,000} = 0.12 = 12\%$$

b. How far does the price of Telecom stock have to fall for you to get a margin call if the maintenance margin is 30%? Assume the price fall happens immediately.

b. The value of the 200 shares is $200P$. Equity is $(200P - \$5,000)$. You will receive a margin call when:

Initial position:

$$\text{Stock } 50 \times 200 = 10000$$

borrowed 5000

Equity 5000

Let P be the price you would get a call

Position

Stock $200P$

borrowed 5000

Equity $200P - 5000$

You will receive a margin call when:

$$\frac{200P - \$5,000}{200P} = 0.30 \quad \text{when } P = \$35.71 \text{ or lower}$$