**MBA 528:** **HW #4**
**Name:**

1. Your friend states that "if there wasn't any inflation then there would be no time value to money." Is this correct? Briefly explain.

2. Under what conditions is the effective annual rate the same as the APR?

3. Briefly define or describe each of these terms:
   a. Risk premium
   b. Variance
   c. Standard deviation
   d. CAPM beta coefficient
   e. SML

4. In finance we often use the word "expected" when talking about uncertain future cash flows or returns. Section 13.1 of the text talks about expected returns. Given different possible outcomes each with a different probability we "probability-weight" each outcome and thereby calculate the expected value. Assume for a moment that you are working for a company that wants you to model return outcomes in 3 possible states of the world: economic boom, normal growth, and economic recession. Based on macro economic indicators you feel there is a 25% probability of a boom, a 50% probability of normal growth, and a 25% probability of a recession. Given the table shown below what is the expected return?

| State of Economy | Probability of each state | Returns |
|---|---|---|
| Boom | .25 | 44% |
| Normal growth | .50 | 14% |
| Recession | .25 | -16% |

5. How is total risk different from systematic risk? As part of your answer be sure to explain what systematic risk is.

6. Assume you are surprised by the news today that Target is going to be acquired in February for $80 a share. Assume Target's stock was trading at $60 a share yesterday. What would you expect Target's share price to do today? (I made this news event up – Target is not going to be acquired to my knowledge). Be as specific as possible. If in your answer you say that it will not jump to $80 today then be sure to explain why.

7. Your friend argues that US stock prices are not efficient. You disagree and decide that you are going to list several examples of situations where stock prices move in intuitive ways following the release of new information. List 3 different announcement types that tend to move stock prices in intuitive ways. (I.e., I am not asking you to list 3 actual announcements – just 3 general types of announcements. For example, quarterly earnings announcements could be one type of announcement)

8. Your friend from question 7 listens to your list but then points out that sometimes stock prices move opposite from what you expect. For example, Goldman Sachs announced its earnings before the market opened on Jan 16, 2014. The analyst earnings consensus was for \$4.18 a share and Goldman announced \$4.60 a share. Your friend points out that Goldman announced *better* earnings per share than expected but experienced a 2% loss in share value on Jan 16$^{th}$ (the market only had a .1% loss on this day). You still think that prices are generally efficient. Provide a plausible explanation to your friend of how Goldman's price could tumble on the same day that it beat earnings.

9. What does it mean if someone says "markets are efficient"?

10. What is the mechanism that causes information to be impounded in prices? Does this mechanism depend on altruistic behavior?

11. What are some other names for "systematic" and "unsystematic" risk?

12. In section 13.7 of the text, the authors explained why the reward-to-risk ratio can't persistently be larger for one asset than for another asset in a well-organized, active market. Briefly describe their argument.