

### Session 6: Post Class Test

1. If stock prices follow a random walk, the chance of stock prices increasing (or decreasing) should be roughly 50% in each period.
  - a. Assume that you track a stock for 100 days, how many up days would you expect to find in your sample?
  - b. If you find 54 up days and 46 down days, can you reject the random walk hypothesis? Why or why not?
2. Staying with the random walk hypothesis, and stock price changes, estimate the probability of the following if stock prices follow a random walk.
  - a. Seven up days in a row
  - b. Seven down days in a row

How would your answers to (a) and (b) change if you were told that stocks have a 60% chance of going up and only a 40% chance of going down on a given day?

3. Assume that you are looking at the probability of bankruptcy at companies and have collected the following information on 200 firms, broken down by market capitalization into small and large, and by control into family group and non-family group firms, with the number of firms defaulting in each group listed in brackets next to the total number:

	<i>Family Group</i>	<i>Non-family Group</i>
<i>Large</i>	15 (1)	85 (9)
<i>Small</i>	35 (5)	65 (15)

Estimate the probability of bankruptcy for

- a. A large company
  - b. A family group company
  - c. A small, family group company?
  - d. A large, non-family group company?
4. In which of the following circumstances is a decision tree most useful as a tool for dealing with risk?
    - a. When the risks are independent and concurrent
    - b. When the risks are dependent and concurrent
    - c. When the risks are independent and sequential
    - d. When the risks are dependent and sequential
    - e. None of the above
  5. In which of the following circumstances is a scenario analysis most useful as a tool for dealing with risk?
    - a. When the risks are independent and concurrent
    - b. When the risks are dependent and concurrent
    - c. When the risks are independent and sequential
    - d. When the risks are dependent and sequential
    - e. None of the above