

MTH 1250

Worksheet (9/8/09)

“Counting Techniques”

- (1) In how many ways can eight people line up at a theater box office?
- (2) A student has 10 one dollar bills in his wallet of which 3 are counterfeit. He selects four bills at random. What is the probability that the selected group has exactly two good bills and two counterfeit bills?
- (3) A disc jockey has 12 records from which he can select the ones he plays on the air. He only has time to play nine records. In how many different ways can he choose to play nine different records?
- (4) In the Lottery you pick six numbers from 1 to 48, in any order. What is the probability of winning the lottery?
- (5) Upon stepping out of a taxi, a lady finds that she has a nickel, a dime, a quarter and a dollar in her purse. In how many ways can she give the driver a tip?
- (6) Three rats are selected from a group of 5 white rats and 4 brown rats. What is the probability that:
 - (a) all of the selected rats are white?
 - (b) the group of three rats contains two white rats and one brown rat?
 - (c) all of the selected rats are brown?