

PC40S Permutations Assignment #2

- 1.) *How many permutations are there of the word MISSISSIPPI?*
- 2.) *How many permutations are there of the word BABBLING BABY?*
- 3.) *In how many distinct ways can 3 red flags, 2 blue flags, 2 green flags, and 4 yellow flags be arranged in a row?*
- 4.) *How many 5 different digit numbers can be formed using the digits 1, 2, 3, 4, 5, if:*
 - a.) *the odd digits occupy the odd places?*
 - b.) *The odd digits occupy the odd places in ascending order?*
- 5.) *Using the digits 2, 2, 2, 3, 3, 4, 5 how many :*
 - a.) *seven digit numbers can be formed?*
 - b.) *seven digit numbers can be formed if the number is greater than 3 400 000?*
 - c.) *seven digit numbers can be formed if the number is greater than 3 400 000 and divisible by 5?*
- 6.) *Find the number of arrangements of the word TATTOO under each condition:*
 - a.) *begins with a T*
 - b.) *begins with two T's*
 - c.) *begins with three T's*
 - d.) *begins with exactly one T.*
 - e.) *begins with exactly two T's*
- 7.) *A man and his wife invite four couples to dinner. After the host and hostess sit at the table ends, the guests sit four to a side of the table. How many seating arrangements are there if:*
 - a.) *the men and women alternate?*
 - b.) *the men and women alternate and each man, other than the host, sits next to his wife?*

- 8.) *How many different arrangements can be made from the word LOGARITHM if the L, O, and G must be together and the L must precede the G?*
- 9.) *In how many orders can 7 students arrange themselves in a straight line?*
- 10.) *How many three letter arrangements can be formed from the word GROUP if:*
- a.) there are no restrictions?*
 - b.) the arrangement contains no vowels?*
 - c.) the arrangement contains at least one vowel?*
 - d.) the words begin and end in a vowel?*

Answers:

- 1.) 34 650
2.) 1 995 840
3.) 69 300
4a.) 12
b.) 2
5a.) 420
b.) 160
c.) 14
6a.) 30
b.) 12
c.) 3
d.) 18
e.) 9
7a.) 576
b.) 24
8.) 15 120
9.) 5040
10a.) 60
b.) 6
c.) 54
d.) 6