
Math 218: Combinatorics

HOMEWORK 13 : DUE NOVEMBER 10

1. Same problem as Morris Example 7.3.4 except Trent rolls a 6 sided dice 5 times.
 - (a) Create the rational function that accounts for all possible outputs of these rolls.
 - (b) Use (a) and ideas in Example 7.3.4 to determine how many ways he can roll a total of 11.

2. Bogart #201 (Note there is more information in Bogart that I wrote below, and that problem #200 which is referenced is very similar to a problem from the last HW.) I will accept q or x as a variable in your answers.
 - (a) Give the generating function for the number of partitions of an integer into parts of size one through ten.
 - (b) Give the generating function for the number of partitions of an integer k into parts of size at most m where m is fixed but k may vary.

3. Bogart #203 (**For (b) and (c) you must use your answer to (a).**)

4. (a) Bogart #205
(b) Bogart #207