Q1]...[5 points] In how many ways can 3 novels, 2 mathematics books, and 1 chemistry book be arranged on a bookshelf if

1. (1 point) the books can be arranged in any order?

2. (2 points) the mathematics books must be together and the novels must be together?

3. (2 points) the novels must be together, but the other books can be arranged in any order?
Q2]...[2 points] In how many different ways can the letters in the word ARRANGEMENT be arranged?

Q3]...[3 points] A bin of 50 manufactured parts contains three defective parts and 47 nondefective parts. A sample of six parts is selected from the 50 parts without replacement.

1. (1 point) How many different samples are there of size 6 that can be chosen from the 50 parts?

2. (2 points) How many different samples are there of size 6 that contain exactly two defective parts?

GOOD LUCK