

FRS HW1

Kouba

Fundamental Principle of Counting

1.) Jill, Jenny, Jasmine, Jane, Joe, Jake, and Jack are to be seated in a row of 7 chairs. How many ways can this be done if

- a.) the women and men can sit in any chair ?
- b.) the women must sit together ?
- c.) the men must sit together ?
- d.) the women must sit together and the men must sit together ?
- e.) no woman can sit next to a woman and no man can sit next to a man ?
- f.) Jack and Jill must sit next to each other ?



2.) Two identical red tennis balls and three identical green tennis balls are to be arranged in a row of 5 balls. How many ways can this be done if

- a.) the colors can be arranged in any order ?
- b.) the red balls must be next to each other ?
- c.) the green balls must be next to each other ?
- d.) the green balls cannot be adjacent to each other ?
- e.) the red balls cannot be adjacent to each other ?