1. How many ways are there to distribute $r$ distinct objects into $n$ different boxes? Why?

2. How many ways are there to distribute $r$ distinct objects into $n$ different boxes so that $r_1$ objects go into box 1, $r_2$ objects go into box 2, \ldots, and $r_n$ objects go into box $n$? Why?

3. How many ways are there to distribute $r$ identical objects into $n$ different boxes? Why?

4. Read and understand examples 1, 3, 5, 6, and 9.