

Name: _____

Pid: _____

1. (10 points) Let k be a positive integer. Find an explicit formula for the generating function for the sequence $\left\{\binom{n}{k}\right\}_{n \geq 0}$.

2. All n soldiers of a military squadron stand in a line. The officer in charge splits the line at several places, forming squads. Then she names one person in each unit to be the commander of that unit and a group of other soldiers to work in the kitchen. Find the number of different ways to do this.