Name_____**ID** _____

Activity 7-1 (20 Sep 2018)

1. How many anagrams can you make from the word INNOVATION?

2. (LPV-3.4.1) In how many ways can you distribute all n pennies to k children if each child is supposed to get at least 2?

3. (LPV-3.6.3) Prove the following identity

$$\binom{n}{0}\binom{m}{k}+\binom{n}{1}\binom{m}{k-1}+\binom{n}{2}\binom{m}{k-2}+\cdots+\binom{n}{k-1}\binom{m}{1}+\binom{n}{k}\binom{m}{0}=\binom{n+m}{k}$$

Hint: try bijection.