

Hint for Problem 72

We wish to prove that $\binom{n}{i} = \frac{n!}{i!(n-i)!}$. Mathematical induction allows us to assume that $\binom{n-1}{j} = \frac{(n-1)!}{j!(n-1-j)!}$ for every j between 0 and $n-1$. How does this put us into a position to use the Pascal relation? What special cases will be left over?