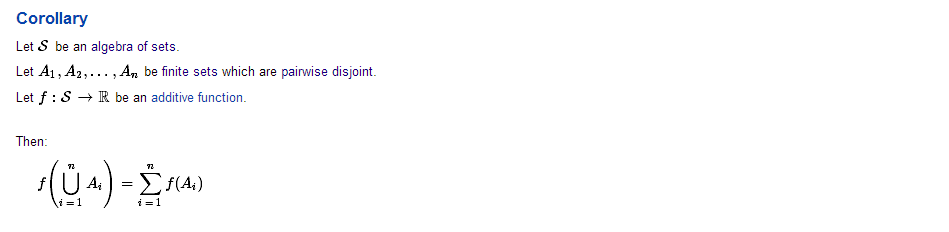
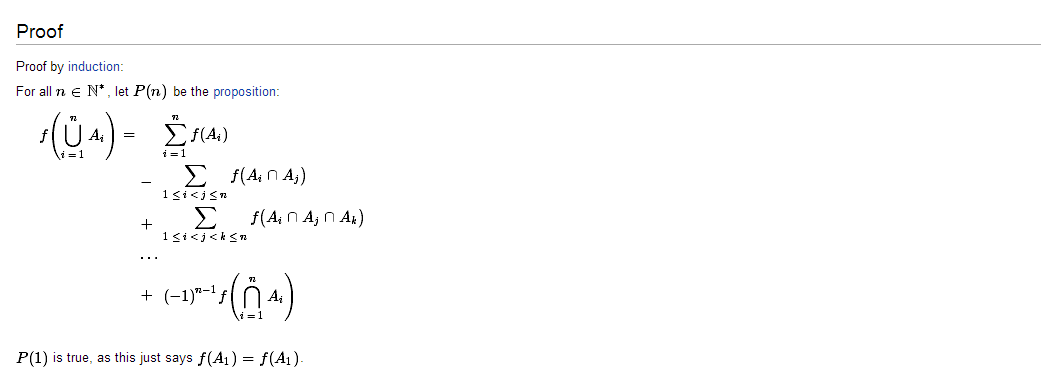
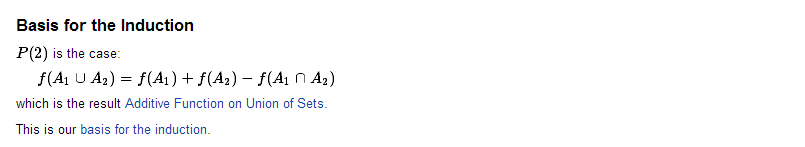
The two problems are taken from this derivation of the inclusion-exclusion principle:

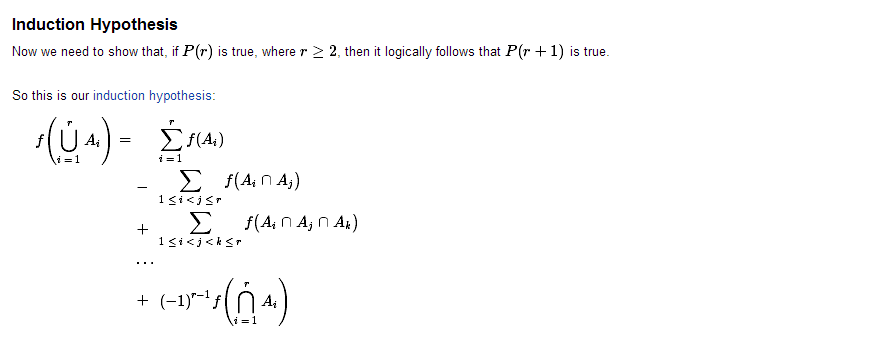
http://www.proofwiki.org/wiki/Inclusion-Exclusion\_Principle#Induction\_Hypothesis

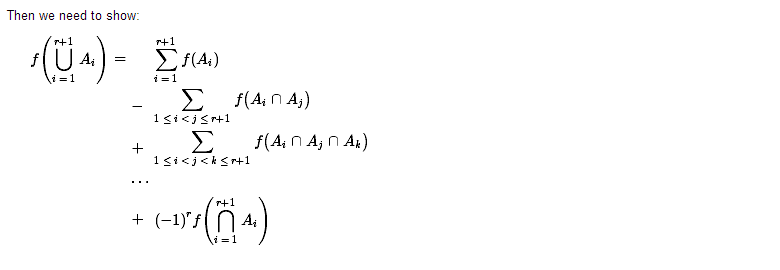


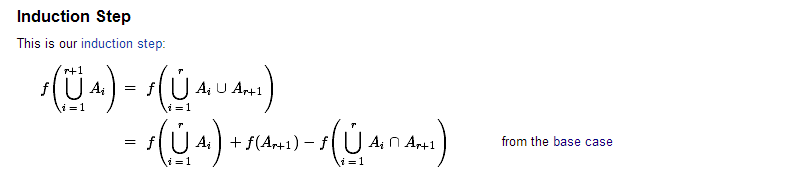


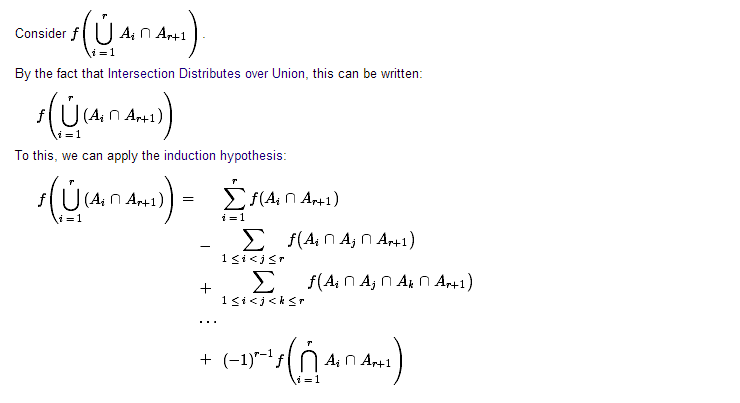




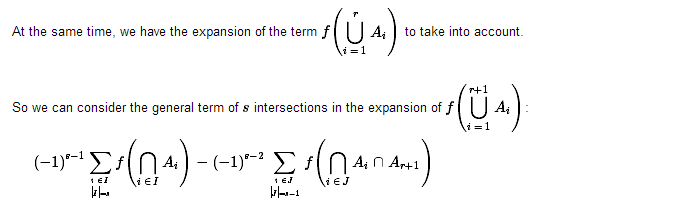


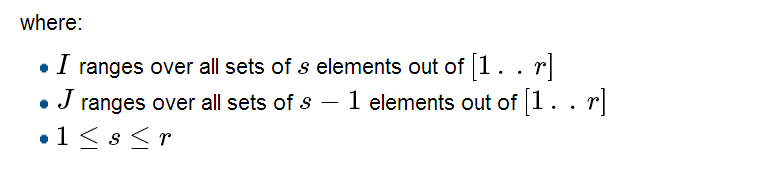






Why can they apply the induction hypothesis to the part here as well? Have they not changed the conditions by using ?





Where do we get to take into account the expansion of



? What does it mean? And how do they end up with the part



