Notes from 10/13

Rule of resolution:

Propositional resolutions:

P OR Q OR R

!P OR !W OR !X

= Q OR R OR !W OR !X

i.e. if you have the same literal in positive and negative form in the same literal, you can cancel them out and disjunction the two clauses.

Rule of Substitution:

Clauses C1 and C2, literal L1 in C1 and L2 in C2

Substitutions S1 and S2 such that S1(L1) = ! S2(L2)

Then L1, L2 are “unifiable”

If resolving C1, C2, have the same variable. Then its much easier if you change the name in one to avoid conflicts

Constructing resolution proofs is always a proof by contradiction. Note that if we are trying to prove P, then we just add NOT P to our set of clauses. We can always start with NOT P and then resolve clauses until we reach a NULL clause, i.e. a contradiction