```
lang_inters_union  THM

⊢  ∀L,M,N:LangOver(Alph). (L ∩ (M U N)) = ((L ∩ M) U (L ∩ N))
  by Unfold ‘languages‘ 0 THEN Unfold ‘lang_eq‘ 0
     THEN
     Unfold ‘lang_union‘ 0
     THEN
     Unfold ‘lang_inters‘ 0
     THEN
     UnivCD
     THEN
     Reduce 0
     THEN
     ProveProp
END
```