

Prove $(P \Rightarrow (Q \Rightarrow R)) \Rightarrow ((P \Rightarrow Q) \Rightarrow (P \Rightarrow R))$.

① $\{\neg P, \neg Q, R\} \top$

② $\{\neg P, Q\} \top$

③ $\{P\} \top$

④ $\{\neg R\} \top$

⑤ $\{\neg P, R\} \quad ①, ②$

⑥ $\{R\} \quad ③, ⑤$

⑦ $\{\} \quad ④, ⑥$

Negate it then
convert to clause
form to get \top .

Prove $(\forall x P(x) \Rightarrow Q(x)) \Rightarrow ((\forall x P(x)) \Rightarrow (\forall x Q(x)))$.

① $\{\neg P(x), Q(x)\} \top$

② $\{P(x)\} \top$

③ $\{\neg Q(x)\} \top$

④ $\{Q(x)\} \quad ①, ②$

⑤ $\{\} \quad ③, ④$

Negate it then
convert to clause
form to get \top .