

$$\neg \exists y.(g(y) \wedge \forall z.(r(z) \Rightarrow f(y,z)))$$

$$\text{I} \quad \neg \exists y.(g(y) \wedge \forall z.(\neg r(z) \vee f(y,z)))$$

$$\text{N} \quad \neg \exists y.(g(y) \wedge \forall z.(\neg r(z) \vee f(y,z)))$$

$$\forall y.\neg(g(y) \wedge \forall z.(\neg r(z) \vee f(y,z)))$$

$$\forall y.(\neg g(y) \vee \neg \forall z.(\neg r(z) \vee f(y,z)))$$

$$\forall y.(\neg g(y) \vee \exists z.\neg(\neg r(z) \vee f(y,z)))$$

$$\forall y.(\neg g(y) \vee \exists z.(\neg \neg r(z) \wedge \neg f(y,z)))$$

$$\forall y.(\neg g(y) \vee \exists z.(r(z) \wedge \neg f(y,z)))$$

$$\text{S} \quad \forall y.(\neg g(y) \vee \exists z.(r(z) \wedge \neg f(y,z)))$$