

Beispiel 2.11

$$(\forall x (G(x,x) \wedge (\forall y G(x,y) \vee \exists y \neg G(y,y))) \wedge G(x,0))$$

\rightsquigarrow
Le 2.13 iv)

$$(\forall x (G(x,x) \wedge (\forall y G(x,y) \vee \exists z \neg G(z,z))) \wedge G(x,0))$$

\rightsquigarrow
2x Le 2.13. ii)

$$\forall x ((G(x,x) \wedge (\forall y G(x,y) \vee \exists z \neg G(z,z))) \wedge G(x,0))$$

\rightsquigarrow
Le 2.13. iii)

$$\forall x ((G(x,x) \wedge \forall y (G(x,y) \vee \exists z \neg G(z,z))) \wedge G(x,0))$$

\rightsquigarrow
2x Le 2.13. iv)

$$\forall x \forall y ((G(x,x) \wedge (G(x,y) \vee \exists z \neg G(z,z))) \wedge G(x,0))$$

\rightsquigarrow
Le 2.13 v)

$$\forall x \forall y ((G(x,x) \wedge (\neg \forall z G(z,z))) \wedge G(x,0))$$

\rightsquigarrow
De Morgan

$$\forall x \forall y ((G(x,x) \wedge (\neg \forall z G(z,z) \vee \exists z \neg G(z,z))) \wedge G(x,0))$$

\rightsquigarrow
Le 2.13. ii)

(118)

$$\forall x \forall y ((G(x,x) \wedge \neg \forall z (\neg G(x,y) \wedge G(z,z))) \wedge G(w,0))$$

De Morgan

$$\forall x \forall y (\neg (\neg G(x,x) \vee \forall z (\neg G(x,y) \wedge G(z,z))) \wedge G(w,0))$$

Le 2.13 iii)

$$\forall x \forall y (\neg \forall z (\neg G(x,x) \vee (\neg G(x,y) \wedge G(z,z))) \wedge G(w,0))$$

De Morgan

$$\forall x \forall y \neg (\forall z (\neg G(x,x) \vee (\neg G(x,y) \wedge G(z,z))) \wedge \neg G(w,0))$$

Le 2.13 ii)

$$\forall x \forall y \neg \forall z (\neg G(x,x) \vee (\neg G(x,y) \wedge G(z,z))) \wedge \neg G(w,0)$$

Le 2.13 v)

$$\forall x \forall y \exists z \neg (\neg G(x,x) \vee (\neg G(x,y) \wedge G(z,z))) \wedge \neg G(w,0)$$