

t2\_goedelcp  
(TMFDgv5Ed4uHaqp7jfUkMfuqjjs7eXf5Tpo)

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Let  $m1\_qc\_lang1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k3\_cqc\_lang : \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r4\_calcul\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 \\ & X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2.(m2\_subset\_1 X2 (k9\_qc\_lang1 \\ & X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X3.(m2\_finseq\_1 X3 (k3\_cqc\_lang \\ & X0)) \Rightarrow (((r4\_calcul\_1 X0 (k8\_finseq\_1 (k3\_cqc\_lang X0) X3 (k12\_finseq\_1 \\ & (k3\_cqc\_lang X0) (k8\_cqc\_lang X0 X1 X2)))) \wedge (r4\_calcul\_1 X0 (k8\_finseq\_1 \\ & (k3\_cqc\_lang X0) X3 (k12\_finseq\_1 (k3\_cqc\_lang X0) X1)))) \Rightarrow (r4\_calcul\_1 \\ & X0 (k8\_finseq\_1 (k3\_cqc\_lang X0) X3 (k12\_finseq\_1 (k3\_cqc\_lang \\ & X0) X2))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_qc\_lang1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 (k9\_qc\_lang1 \\ & X0) (k3\_cqc\_lang X0)) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 (k3\_cqc\_lang \\ & X0)) \Rightarrow ((r4\_calcul\_1 X0 (k8\_finseq\_1 (k3\_cqc\_lang X0) X2 (k12\_finseq\_1 \\ & (k3\_cqc\_lang X0) X1))) \Rightarrow (r4\_calcul\_1 X0 (k8\_finseq\_1 (k3\_cqc\_lang \\ & X0) X2 (k12\_finseq\_1 (k3\_cqc\_lang X0) (k6\_cqc\_lang X0 (k6\_cqc\_lang \\ & X0 X1))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (k9\_cqc\_lang\ X0\ X1\ X2 = k8\_cqc\_lang\ X0\ (k6\_cqc\_lang \\ X0\ X1)\ X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k3\_cqc\_lang\ X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1\_qc\_lang1\ X0) \wedge (m1\_subset\_1\ X1\ (k3\_cqc\_lang \\ X0))) \Rightarrow (m2\_subset\_1\ (k6\_cqc\_lang\ X0\ X1)\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang \\ X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (m1\_subset\_1\ (k3\_cqc\_lang\ X0)\ (k1\_zfmisc\_1 \\ (k9\_qc\_lang1\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ X0)) \Rightarrow (v1\_xboole\_0\ X1)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X3.(m2\_finseq\_1\ X3\ (k3\_cqc\_lang \\ X0)) \Rightarrow (((r4\_calcul\_1\ X0\ (k8\_finseq\_1\ (k3\_cqc\_lang\ X0)\ X3\ (k12\_finseq\_1 \\ (k3\_cqc\_lang\ X0)\ (k9\_cqc\_lang\ X0)\ (k6\_cqc\_lang\ X0\ X1)\ X2)))) \wedge (r4\_calcul\_1 \\ X0\ (k8\_finseq\_1\ (k3\_cqc\_lang\ X0)\ X3\ (k12\_finseq\_1\ (k3\_cqc\_lang \\ X0)\ X1)))) \Rightarrow (r4\_calcul\_1\ X0\ (k8\_finseq\_1\ (k3\_cqc\_lang\ X0)\ X3\ (k12\_finseq\_1 \\ (k3\_cqc\_lang\ X0)\ X2)))))) \end{aligned}$$