

# t34\_substut1

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Let  $m1\_qc\_lang1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k3\_finseq\_1 X0 = k1\_card\_1 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_qc\_lang1 X0) \wedge (m1\_finseq\_1 X1 (k3\_qc\_lang1 X0))) \Rightarrow (m2\_finseq\_1 (k4\_substut1 X0 X1) (k2\_qc\_lang1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (v3\_card\_1 X1 X0) \Leftrightarrow (k1\_card\_1 X1 = X0) \quad (4)$$

Assume the following.

$$\forall X0. (m1\_qc\_lang1 X0) \Rightarrow (\forall X1. (m2\_finseq\_1 X1 (k3\_qc\_lang1 X0)) \Rightarrow (k4\_substut1 X0 X1 = X1)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((m1\_finseq\_1 X1 X0) \Leftrightarrow (r1\_tarski (k10\_xtuple\_0 X1) X0)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((v5\_relat\_1 X1 X0) \Leftrightarrow (r1\_tarski (k10\_xtuple\_0 X1) X0)) \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k5\_numbers) \Rightarrow \\ (\forall X2.((v1\_relat\_1\ X2) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_finseq\_1 \\ X2))) \Rightarrow (((v5\_relat\_1\ X2\ (k3\_qc\_lang1\ X0)) \wedge ((v3\_card\_1\ X2\ X1) \wedge \\ (m2\_finseq\_1\ X2\ (k2\_qc\_lang1\ X0)))) \Leftrightarrow ((m2\_finseq\_1\ X2\ (k3\_qc\_lang1 \\ X0)) \wedge (k3\_finseq\_1\ X2 = X1)))))) \end{aligned}$$