

# t17\_substut1 (TMZHB0BNZ- cEiT79VY1fyHRD2pbVWDiPoDXr)

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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  $k16\_substut1 : \iota \Rightarrow \iota$  be given. Let  $k19\_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k21\_substut1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v6\_substut1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k29\_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k28\_substut1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. ((m1\_qc\_lang1 X0) \wedge (m1\_subset\_1 X1 (k16\_substut1 X0))) \Rightarrow (k19\_substut1 X0 X1 = k2\_xtuple\_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_qc\_lang1 X0) \wedge ((m1\_subset\_1 X1 (k16\_substut1 X0)) \wedge (m1\_subset\_1 X2 (k16\_substut1 X0)))) \Rightarrow (m1\_subset\_1 (k21\_substut1 X0 X1 X2) (k16\_substut1 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (m1\_qc\_lang1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k16\_substut1 X0)) \Rightarrow ((v6\_substut1 X1 X0) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k16\_substut1 X0)) \Rightarrow ((X2 = k29\_substut1 X0 X1) \Leftrightarrow (\exists X3. (m1\_subset\_1 X3 (k16\_substut1 X0)) \wedge ((X1 = k21\_substut1 X0 X3 X2) \wedge (k19\_substut1 X0 X3 = k19\_substut1 X0 X2)))))))) \quad (3)$$

Assume the following.

$$\forall X0. (m1\_qc\_lang1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k16\_substut1 X0)) \Rightarrow ((v6\_substut1 X1 X0) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k16\_substut1 X0)) \Rightarrow ((X2 = k28\_substut1 X0 X1) \Leftrightarrow (\exists X3. (m1\_subset\_1 X3 (k16\_substut1 X0)) \wedge ((X1 = k21\_substut1 X0 X2 X3) \wedge (k19\_substut1 X0 X2 = k19\_substut1 X0 X3)))))))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k16\_subst1 \\ X0)) \Rightarrow ((v6\_subst1\ X1\ X0) \Leftrightarrow (\exists X2.(m1\_subset\_1\ X2\ (k16\_subst1 \\ X0)) \wedge (\exists X3.(m1\_subset\_1\ X3\ (k16\_subst1\ X0)) \wedge ((X1 = k21\_subst1 \\ X0\ X2\ X3) \wedge (k19\_subst1\ X0\ X2 = k19\_subst1\ X0\ X3)))))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k16\_subst1 \\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k16\_subst1\ X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1\ X3\ (k16\_subst1\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1 \\ X4\ (k16\_subst1\ X0)) \Rightarrow (((k19\_subst1\ X0\ X1 = k19\_subst1\ X0\ X2) \wedge \\ ((k19\_subst1\ X0\ X3 = k19\_subst1\ X0\ X4) \wedge (k21\_subst1\ X0\ X1\ X2 = \\ k21\_subst1\ X0\ X3\ X4)) \Rightarrow ((X1 = X3) \wedge (X2 = X4))))))) \end{aligned}$$