t23_calcul_1 (TMJKWWmrN-jwUPBsk2nv8CCV2WEx3AbrxFAB)

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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 $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_valuat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k2\_valuat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_substut1 : \iota \Rightarrow \iota$ be given. Let $r1\_sublemma : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_substut2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_valuat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k38\_substut1 : \iota \Rightarrow \iota$ be given. Let $k2\_sublemma : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k16\_substut1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0) \wedge ((m1\_subset\_1\ X1\ (k3\_cqc\_lang\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_substut1\ X0)))) \Rightarrow (k2\_substut2\ X0\ X1\ X2 = k4\_tarski\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1\ X0) \wedge (m1\_subset\_1\ X1\ (k38\_substut1\ X0))) \Rightarrow (k2\_sublemma\ X0\ X1 = k1\_xtuple\_0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k1\_xtuple\_0\ (k4\_tarski\ X0\ X1) = X0 \tag{4}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k38\_substut1\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k3\_cqc\_lang\ X0)) \tag{6}$$

Assume the following.

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

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(m1\_subset\_1\ (k38\_substut1\ X0)\ (k1\_zfmisc\_1\ (k16\_substut1\ X0))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k3\_cqc\_lang\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_substut1\ X0))))\Rightarrow(m2\_subset\_1\ (k2\_substut2\ X0\ X1\ X2)\ (k16\_substut1\ X0)\ (k38\_substut1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k16\_substut1\ X0)\ (k38\_substut1\ X0))\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(m2\_funct\_2\ X3\ (k3\_qc\_lang1\ X0)\ X2\ (k2\_valuat\_1\ X0\ X2))\Rightarrow(\forall X4.(m1\_valuat\_1\ X4\ X0\ X2)\Rightarrow((r1\_sublemma\ X0\ X1\ X2\ X3\ X4)\Leftrightarrow(r1\_valuat\_1\ X0\ X2\ (k2\_sublemma\ X0\ X1)\ X4\ X3)))))) \tag{10}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{11}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.(m1\_valuat\_1\ X3\ X0\ X2)\Rightarrow(\forall X4.(m2\_funct\_2\ X4\ (k3\_qc\_lang1\ X0)\ X2\ (k2\_valuat\_1\ X0\ X2))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (k1\_substut1\ X0))\Rightarrow((r1\_sublemma\ X0\ (k2\_substut2\ X0\ X1\ X5)\ X2\ X4\ X3)\Leftrightarrow(r1\_valuat\_1\ X0\ X2\ X1\ X3\ X4)))))))$$