t3_mmlquery (TMcAfoEfPqKeRHHCVWmbrZ3SBCqDy4RrY36)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_mmlquery : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_mmlquery : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $r1\_mmlquery : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)) \wedge (v1\_xboole\_0\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\neg(X1 \neq k1\_xboole\_0) \wedge (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow (\neg X2 \in X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X0) \Rightarrow ((r1\_mmlquery\ X1\ X3\ X2) \Leftrightarrow (X3 \in k1\_mmlquery\ X0\ X2\ X1)))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))) \wedge (m1\_subset\_1\ X2\ X0)) \Rightarrow (k1\_mmlquery\ X0\ X1\ X2 = k9\_relat\_1\ X1\ X2) \tag{6}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{7}$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0\ (k1\_zfmisc\_1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))\wedge(m1\_subset\_1\ X2\ X0))\Rightarrow(m1\_subset\_1\ (k1\_mmlquery\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(k4\_mmlquery\ X0\ X1\ X2 = ReplSep\ (toset\ (\lambda X3 : \iota.m1\_subset\_1\ X3\ X0))\ (\lambda X3 : \iota.\exists X4.(m1\_subset\_1\ X4\ X0)\wedge((r1\_mmlquery\ X3\ X4\ X1)\wedge(X3 \in X2)))\ (\lambda X3 : \iota.X3))) \tag{10}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\Rightarrow((m1\_subset\_1\ X1\ X0)\Leftrightarrow(X1 \in X0)))\wedge((v1\_xboole\_0\ X0)\Rightarrow((m1\_subset\_1\ X1\ X0)\Leftrightarrow(v1\_xboole\_0\ X1))) \tag{12}$$

Theorem 1

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))\Rightarrow((X2 \in k4\_mmlquery\ X0\ X3\ X1)\Leftrightarrow((X2 \in X1)\wedge(k1\_mmlquery\ X0\ X3\ X2 \neq k1\_xboole\_0))))))$$