

t52\_mmlquery  
(TMaVdD34wiH8oQhfcXqMQEnGZq1A9muUrvq)

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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  $k19\_mmlquery : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_mmlquery : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_xboole\_0 X0 (k4\_xboole\_0 X1 X2) = k4\_xboole\_0 (k3\_xboole\_0 X0 X1) X2 \quad (1)$$

Assume the following.

$$\forall X0.(k9\_xtuple\_0 (k4\_relat\_1 X0) = X0) \wedge (k10\_xtuple\_0 (k4\_relat\_1 X0) = X0) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (((k9\_xtuple\_0 X0 = k1\_xboole\_0) \vee (k10\_xtuple\_0 X0 = k1\_xboole\_0)) \Rightarrow (X0 = k1\_xboole\_0)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.k4\_xboole\_0 X0 k1\_xboole\_0 = X0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(k4\_xboole\_0 X0 X1 = k1\_xboole\_0) \Leftrightarrow (r1\_tarski X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))\Rightarrow(k18\_mmlquery X0 X1 = k4\_relat\_1 (k6\_subset\_1 X0 (k1\_relset\_1 X0 X1))) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0)\Rightarrow(\forall X1.(v1\_relat\_1 X1)\Rightarrow(r1\_tarski (k9\_xtuple\_0 (k3\_xboole\_0 X0 X1)) (k3\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1)\Rightarrow(k3\_xboole\_0 X0 X1 = X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski X0 X0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(k8\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0))))\Rightarrow(k19\_mmlquery X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(m1\_subset\_1 (k8\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))\Rightarrow(m1\_subset\_1 (k18\_mmlquery X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (19)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0))) \Rightarrow (k19\_mmlquery X0 X1 (k18\_mmlquery X0 X1) = k1\_xboole\_0)$$