t13_normform (TMYfRpi1Q5GJzgizgdMLFhtRdcJPEtq3NUT)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v4\_finsub\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_normform : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_normform : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_finsub\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_finsub\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ (k4\_xboole\_0\ X1\ X0) = k2\_xboole\_0\ X0\ X1 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow(k3\_domain\_1\ X0\ X1\ X2 = k2\_xtuple\_0\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\wedge((m1\_subset\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k2\_finsub\_1\ X0\ X1\ X2 = k4\_xboole\_0\ X1\ X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow(k2\_domain\_1\ X0\ X1\ X2 = k1\_xtuple\_0\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\wedge((m1\_subset\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k1\_finsub\_1\ X0\ X1\ X2 = k2\_xboole\_0\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge ((\neg v1\_xboole\_0\ X1)\wedge((m1\_subset\_1\ X2\ X0)\wedge(m1\_subset\_1\ X3\ X1))))\Rightarrow (k1\_domain\_1\ X0\ X1\ X2\ X3 = k4\_tarski\ X2\ X3) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xtuple\_0\ (k4\_tarski\ X0\ X1) = X1 \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.k1\_xtuple\_0\ (k4\_tarski\ X0\ X1) = X0 \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(v4\_finsub\_1\ X1))\wedge((m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))\wedge(m1\_subset\_1\ X3\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(m1\_subset\_1\ (k3\_normform\ X0\ X1\ X2\ X3)\ (k2\_zfmisc\_1\ X0\ X1)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow(m1\_subset\_1\ (k3\_domain\_1\ X0\ X1\ X2)\ X1) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\wedge((m1\_subset\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(m1\_subset\_1\ (k2\_finsub\_1\ X0\ X1\ X2)\ X0) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow(m1\_subset\_1\ (k2\_domain\_1\ X0\ X1\ X2)\ X0) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v4\_finsub\_1\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(k3\_normform\ X0\ X1\ X2\ X3 = k1\_domain\_1\ X0\ X1\ (k2\_finsub\_1\ X0\ (k2\_domain\_1\ X0\ X1\ X2)\ (k2\_domain\_1\ X0\ X1\ X3))\ (k2\_finsub\_1\ X1\ (k3\_domain\_1\ X0\ X1\ X2)\ (k3\_domain\_1\ X0\ X1\ X3)))))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v4\_finsub\_1\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(k1\_normform\ X0\ X1\ X2\ X3 = k1\_domain\_1\ X0\ X1\ (k1\_finsub\_1\ X0\ (k2\_domain\_1\ X0\ X1\ X2)\ (k2\_domain\_1\ X0\ X1\ X3))\ (k1\_finsub\_1\ X1\ (k3\_domain\_1\ X0\ X1\ X2)\ (k3\_domain\_1\ X0\ X1\ X3))))))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(v4\_finsub\_1\ X1))\wedge((m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))\wedge(m1\_subset\_1\ X3\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(k1\_normform\ X0\ X1\ X2\ X3 = k1\_normform\ X0\ X1\ X3\ X2) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\wedge((m1\_subset\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k1\_finsub\_1\ X0\ X1\ X2 = k1\_finsub\_1\ X0\ X2\ X1) \tag{16}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v4\_finsub\_1\ X0))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v4\_finsub\_1\ X1))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(k1\_normform\ X0\ X1\ (k3\_normform\ X0\ X1\ X2\ X3)\ X3 = k1\_normform\ X0\ X1\ X2\ X3))))$$