t13_heyting2 (TMJaksURNsBN-twgKug9quSUdyzQHVNDYoXm)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_finsub\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k3\_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_heyting2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_lattices : \iota \Rightarrow \iota$ be given. Let $k5\_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.k1\_tarski\ k1\_xboole\_0 \in k1\_substlat\ X0\ X1 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.k6\_lattices\ (k5\_substlat\ X0\ X1) = k1\_tarski\ k1\_xboole\_0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m2\_subset\_1\ X2\ (k5\_finsub\_1\ (k4\_partfun1\ X0\ X1))\ (k1\_substlat\ X0\ X1)) \Rightarrow (k3\_substlat\ X0\ X1\ X2 = X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_finset\_1\ X1) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k5\_finsub\_1\ (k4\_partfun1\ X0\ X1))\ (k1\_substlat\ X0\ X1)) \Rightarrow ((X2 = k1\_xboole\_0) \Rightarrow (k2\_heyting2\ X0\ X1\ X2 = k1\_tarski\ k1\_xboole\_0))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\neg v1\_xboole\_0\ (k1\_substlat\ X0\ X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.m1\_subset\_1\ (k1\_substlat\ X0\ X1)\ (k1\_zfmisc\_1\ (k5\_finsub\_1\ (k4\_partfun1\ X0\ X1))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\Rightarrow((m1\_subset\_1\ X1\ X0)\Leftrightarrow(X1 \in X0)))\wedge((v1\_xboole\_0\ X0)\Rightarrow((m1\_subset\_1\ X1\ X0)\Leftrightarrow(v1\_xboole\_0\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{9}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v1\_finset\_1\ X1))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k5\_finsub\_1\ (k4\_partfun1\ X0\ X1))\ (k1\_substlat\ X0\ X1))\Rightarrow((X2 = k1\_xboole\_0)\Rightarrow(k3\_substlat\ X0\ X1\ (k2\_heyting2\ X0\ X1\ X2) = k6\_lattices\ (k5\_substlat\ X0\ X1)))))$$