t15_modal_1 (TML6PTxPq2AunX5bs6bRrUc9yc5n3FKfMuv)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_trees\_1 : \iota \Rightarrow o$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $m1\_trees\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_trees\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_trees\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. 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 $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (v1\_trees\_1\ X0)) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (v1\_trees\_1\ X1)) \Rightarrow (\forall X2.(m2\_finseq\_1\ X2\ k5\_numbers) \Rightarrow ((X2 \in X0) \Rightarrow (\forall X3.(m1\_trees\_1\ X3\ (k5\_trees\_1\ X0\ X2\ X1)) \Rightarrow (\forall X4.(m1\_trees\_1\ X4\ X1) \Rightarrow ((r2\_relset\_1\ k5\_numbers\ k5\_numbers\ X3\ (k8\_finseq\_1\ k5\_numbers\ X2\ X4)) \Rightarrow (r2\_tarski\ (k1\_trees\_2\ (k5\_trees\_1\ X0\ X2\ X1)\ X3)\ (k1\_trees\_2\ X1\ X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow (r2\_relset\_1\ X0\ X1\ X2\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(r2\_wellord2\ X0\ X1) \Leftrightarrow (r2\_tarski\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Rightarrow ((v1\_funct\_1\ X1) \wedge ((v1\_finseq\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0))))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_trees\_1\ X0))\Rightarrow(\forall X1.\ (m1\_trees\_1\ X1\ X0)\Rightarrow(m2\_finseq\_1\ X1\ k5\_numbers)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1\ X1\ X0)\wedge(m1\_finseq\_1\ X2\ X0))\Rightarrow(m2\_finseq\_1\ (k8\_finseq\_1\ X0\ X1\ X2)\ X0) \tag{7}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_trees\_1\ X0))\Rightarrow(\forall X1.\ ((\neg v1\_xboole\_0\ X1)\wedge(v1\_trees\_1\ X1))\Rightarrow(\forall X2.(m2\_finseq\_1\ X2\ k5\_numbers)\Rightarrow((X2\in X0)\Rightarrow(\forall X3.(m1\_trees\_1\ X3\ (k5\_trees\_1\ X0\ X2\ X1))\Rightarrow(\forall X4.(m1\_trees\_1\ X4\ X1)\Rightarrow((X3 = k8\_finseq\_1\ k5\_numbers\ X2\ X4)\Rightarrow(r2\_wellord2\ (k1\_trees\_2\ (k5\_trees\_1\ X0\ X2\ X1)\ X3)\ (k1\_trees\_2\ X1\ X4)))))))$$