t2_bintree1 (TMarsVJYXzqU8tGgxSvRYhZVfg4Uwsyfsjh)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v3\_trees\_2 : \iota \Rightarrow o$ be given. Let $k14\_trees\_3 : \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bintree1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v3\_trees\_2\ X0))) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge (v3\_trees\_2\ X1))) \Rightarrow (k14\_trees\_3\ (k10\_finseq\_1\ X0\ X1) = k10\_finseq\_1\ (k1\_funct\_1\ X0\ k1\_xboole\_0)\ (k1\_funct\_1\ X1\ k1\_xboole\_0))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge ((m1\_subset\_1\ X1\ X0) \wedge (m1\_subset\_1\ X2\ X0))) \Rightarrow (k4\_pre\_poly\ X0\ X1\ X2 = k10\_finseq\_1\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((v1\_relat\_1\ X1) \wedge ((v5\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v3\_trees\_2\ X1))))) \Rightarrow (m1\_subset\_1\ (k1\_bintree1\ X0\ X1)\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v5\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v3\_trees\_2\ X1))))) \Rightarrow (k1\_bintree1\ X0\ X1 = k1\_funct\_1\ X1\ k1\_xboole\_0)) \tag{4}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v3\_trees\_2\ X1))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v5\_relat\_1\ X2\ X0)\wedge((v1\_funct\_1\ X2)\wedge(v3\_trees\_2\ X2))))\Rightarrow(k14\_trees\_3\ (k10\_finseq\_1\ X1\ X2) = k4\_pre\_poly\ X0\ (k1\_bintree1\ X0\ X1)\ (k1\_bintree1\ X0\ X2))))$$