t14_trees_4 (TM-FizyMG9D8NgppBaPa7my5CvyVWqzBwiqt)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v3\_trees\_2 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_trees\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_trees\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_funct\_6 : \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_6 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $v6\_trees\_3 : \iota \Rightarrow o$ be given. Let $k4\_trees\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_trees\_3 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_trees\_1 : \iota \Rightarrow o$ be given. Let $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_finseq\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((k2\_funct\_6\ (k10\_finseq\_1\ X0\ X1) = k10\_finseq\_1\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ X1)) \wedge (k3\_funct\_6\ (k10\_finseq\_1\ X0\ X1) = k10\_finseq\_1\ (k10\_xtuple\_0\ X0)\ (k10\_xtuple\_0\ X1)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_finseq\_1\ X1) \wedge (v6\_trees\_3\ X1)))) \Rightarrow (k9\_xtuple\_0\ (k4\_trees\_4\ X0\ X1) = k11\_trees\_3\ (k2\_funct\_6\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k10\_finseq\_1\ X0\ X1)) \wedge (v1\_funct\_1\ (k10\_finseq\_1\ X0\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v3\_trees\_2\ X0))) \Rightarrow ((\neg v1\_xboole\_0\ (k9\_xtuple\_0\ X0)) \wedge (v1\_trees\_1\ (k9\_xtuple\_0\ X0))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v3\_trees\_2\ X0)))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_trees\_2\ X1))))\Rightarrow((\neg v1\_xboole\_0\ (k10\_finseq\_1\ X0\ X1))\wedge(v6\_trees\_3\ (k10\_finseq\_1\ X0\ X1))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.v1\_finseq\_1\ (k10\_finseq\_1\ X0\ X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k10\_finseq\_1\ X0\ X1 = k7\_finseq\_1\ (k9\_finseq\_1\ X0)\ (k9\_finseq\_1\ X1) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_trees\_2\ X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v3\_trees\_2\ X2)))\Rightarrow(k6\_trees\_4\ X0\ X1\ X2 = k4\_trees\_4\ X0\ (k10\_finseq\_1\ X1\ X2))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_trees\_1\ X0))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v1\_trees\_1\ X1))\Rightarrow(k13\_trees\_3\ X0\ X1 = k11\_trees\_3\ (k10\_finseq\_1\ X0\ X1))) \tag{9}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_trees\_2\ X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v3\_trees\_2\ X2)))\Rightarrow(k9\_xtuple\_0\ (k6\_trees\_4\ X0\ X1\ X2) = k13\_trees\_3\ (k9\_xtuple\_0\ X1)\ (k9\_xtuple\_0\ X2)))$$