t66_trees_3 (TMZwuBka5W76magdhx5TpN7QT3UcHkBYM3F)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_trees\_1 : \iota \Rightarrow o$ be given. Let $k5\_trees\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_trees\_3 : \iota \Rightarrow \iota$ be given. Let $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $v4\_trees\_3 : \iota \Rightarrow o$ be given. Let $k11\_trees\_3 : \iota \Rightarrow \iota$ be given. Let $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_card\_1 : \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $v1\_card\_1 : \iota \Rightarrow o$ be given. Let $v5\_trees\_3 : \iota \Rightarrow o$ be given. Let $v6\_trees\_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\begin{gathered}\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge ((v1\_finseq\_1\ X0) \wedge (v4\_trees\_3\ X0)))) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_finseq\_1\ X1) \wedge (v4\_trees\_3\ X1)))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge (v1\_trees\_1\ X2)) \Rightarrow (\forall X3.((\neg v1\_xboole\_0\ X3) \wedge (v1\_trees\_1\ X3)) \Rightarrow (k11\_trees\_3\ (k7\_finseq\_1\ (k7\_finseq\_1\ X0\ (k9\_finseq\_1\ X2))\ X1) = k5\_trees\_1\ (k11\_trees\_3\ (k7\_finseq\_1\ (k7\_finseq\_1\ X0\ (k9\_finseq\_1\ X3))\ X1))\ (k12\_finseq\_1\ k5\_numbers\ (k3\_finseq\_1\ X0))\ X2))))\end{gathered} \tag{2}$$

Assume the following.

$$\begin{gathered}\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finseq\_1\ X0))) \Rightarrow \\ ((k7\_finseq\_1\ X0\ k1\_xboole\_0 = X0) \wedge (k7\_finseq\_1\ k1\_xboole\_0\ X0 = X0))\end{gathered} \tag{3}$$

Assume the following.

$$\forall X0.k9\_finseq\_1\ X0 = k5\_finseq\_1\ X0 \tag{4}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow (k3\_finseq\_1\ X0 = k1\_card\_1\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\exists X1.(m1\_finseq\_1\ X1\ X0)\wedge((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k5\_numbers)\wedge((v5\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_xboole\_0\ X1)\wedge((v1\_finset\_1\ X1)\wedge(v1\_finseq\_1\ X1))))))) \tag{7}$$

Assume the following.

$$\forall X0.v1\_finseq\_1\ (k5\_finseq\_1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k5\_finseq\_1\ X0))\wedge(v1\_funct\_1\ (k5\_finseq\_1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow((v1\_xboole\_0\ (k1\_card\_1\ X0))\wedge(v1\_card\_1\ (k1\_card\_1\ X0))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_trees\_1\ X0))\Rightarrow(k12\_trees\_3\ X0 = k11\_trees\_3\ (k9\_finseq\_1\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v1\_relat\_1\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v1\_funct\_1\ X0) \tag{13}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_xboole\_0\ X0)))\Rightarrow((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v4\_trees\_3\ X0)\wedge((v5\_trees\_3\ X0)\wedge(v6\_trees\_3\ X0))))) \tag{14}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_trees\_1\ X0))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(v1\_trees\_1\ X1))\Rightarrow(k5\_trees\_1\ (k12\_trees\_3\ X0)\ (k12\_finseq\_1\ k5\_numbers\ k6\_numbers)\ X1 = k12\_trees\_3\ X1))$$