t31_random_1 (TMHew2isgv7bTBCHq7PYhHeCEnguSwi8Hay)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $m2\_prob\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_random\_1 : \iota \Rightarrow \iota$ be given. Let $m1\_random\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_funct\_1 : \iota \Rightarrow o$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k4\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k8\_random\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18\_rvsum\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_random\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k1\_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_prob\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (v1\_finset\_1\ X0)) \Rightarrow (\forall X1.\ (m2\_prob\_1\ X1\ X0\ (k1\_random\_1\ X0)) \Rightarrow (\forall X2.(m1\_random\_1\ X2\ X0\ (k1\_random\_1\ X0)) \Rightarrow (r1\_random\_1\ X0\ (k1\_random\_1\ X0)\ X2\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (v1\_finset\_1\ X0)) \Rightarrow (\forall X1.\ (m2\_prob\_1\ X1\ X0\ (k1\_random\_1\ X0)) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ k1\_numbers) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))) \Rightarrow (\forall X3.(m2\_finseq\_1\ X3\ k1\_numbers) \Rightarrow (\forall X4.(m2\_finseq\_1\ X4\ X0) \Rightarrow (((k3\_finseq\_1\ X3 = k5\_card\_1\ X0) \wedge ((v2\_funct\_1\ X4) \wedge ((k2\_relset\_1\ X0\ X4 = X0) \wedge ((k3\_finseq\_1\ X4 = k5\_card\_1\ X0) \wedge (\forall X5.(v7\_ordinal1\ X5) \Rightarrow ((X5 \in k4\_finseq\_1\ X3) \Rightarrow (k1\_seq\_1\ X3\ X5 = k8\_real\_1\ (k1\_seq\_1\ X2\ (k1\_funct\_1\ X4\ X5))\ (k1\_seq\_1\ X1\ (k1\_tarski\ (k1\_funct\_1\ X4\ X5))))))))))) \Rightarrow (k1\_mesfunc6\ X0\ (k1\_random\_1\ X0)\ (k2\_prob\_4\ X0\ (k1\_random\_1\ X0)\ X1)\ X2 = k18\_rvsum\_1\ X3)))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge((v1\_prob\_1\ X1\ X0)\wedge((v4\_prob\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))))))\Rightarrow(\forall X2.(m1\_random\_1\ X2\ X0\ X1)\Rightarrow((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow((\neg v1\_xboole\_0\ (k1\_random\_1\ X0))\wedge((v1\_prob\_1\ (k1\_random\_1\ X0)\ X0)\wedge((v4\_prob\_1\ (k1\_random\_1\ X0)\ X0)\wedge(m1\_subset\_1\ (k1\_random\_1\ X0)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))))) \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_prob\_1\ X1\ X0)\wedge((v4\_prob\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))))))\Rightarrow(\forall X2.(m2\_prob\_1\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1\_random\_1\ X3\ X0\ X1)\Rightarrow((r1\_random\_1\ X0\ X1\ X3\ X2)\Rightarrow(k8\_random\_1\ X0\ X1\ X2\ X3 = k1\_mesfunc6\ X0\ X1\ (k2\_prob\_4\ X0\ X1\ X2)\ X3))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_finset\_1\ X0))\Rightarrow(\forall X1.(m2\_prob\_1\ X1\ X0\ (k1\_random\_1\ X0))\Rightarrow(\forall X2.(m1\_random\_1\ X2\ X0\ (k1\_random\_1\ X0))\Rightarrow(\forall X3.(m2\_finseq\_1\ X3\ k1\_numbers)\Rightarrow(\forall X4.(m2\_finseq\_1\ X4\ X0)\Rightarrow(((k3\_finseq\_1\ X3 = k5\_card\_1\ X0)\wedge((v2\_funct\_1\ X4)\wedge((k2\_relset\_1\ X0\ X4 = X0)\wedge((k3\_finseq\_1\ X4 = k5\_card\_1\ X0)\wedge(\forall X5.(v7\_ordinal1\ X5)\Rightarrow((X5 \in k4\_finseq\_1\ X3)\Rightarrow(k1\_seq\_1\ X3\ X5 = k8\_real\_1\ (k1\_seq\_1\ X2\ (k1\_funct\_1\ X4\ X5))\ (k1\_seq\_1\ X1\ (k1\_tarski\ (k1\_funct\_1\ X4\ X5))))))))))\Rightarrow(k8\_random\_1\ X0\ (k1\_random\_1\ X0)\ X1\ X2 = k18\_rvsum\_1\ X3))))))$$