t12_gr_cy_1 (TM-FWGdWhs3ToM47QPvddiEoAW4591DikgP7)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v8\_struct\_0 : \iota \Rightarrow o$ be given. Let $v15\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_group\_1 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k7\_group\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_int\_2 : \iota \Rightarrow o$ be given. Let $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_group\_2 : \iota \Rightarrow \iota$ be given. Let $g3\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $v6\_membered : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v8\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0))))) \Rightarrow (\forall X1.(m1\_group\_2\ X1\ X0) \Rightarrow ((k7\_group\_1\ X0 = k7\_group\_1\ X1) \Rightarrow (g3\_algstr\_0\ (u1\_struct\_0\ X1)\ (u2\_algstr\_0\ X1) = g3\_algstr\_0\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0)))) \Rightarrow (\forall X1.((v8\_struct\_0\ X1) \wedge ((v15\_algstr\_0\ X1) \wedge (m1\_group\_2\ X1\ X0))) \Rightarrow ((k7\_group\_1\ X1 = np\_\_1) \Rightarrow (r1\_group\_2\ X0\ X1\ (k6\_group\_2\ X0)))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v8\_struct\_0\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge (l3\_algstr\_0\ X0))))) \Rightarrow (\forall X1.(m1\_group\_2\ X1\ X0) \Rightarrow (r1\_nat\_d\ (k7\_group\_1\ X1)\ (k7\_group\_1\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow((r1\_nat\_d\ X0\ X1)\Leftrightarrow(r1\_int\_1\ X0\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$\neg v1\_finset\_1\ k4\_ordinal1 \tag{7}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0)))\Rightarrow(\forall X1.(m1\_group\_2\ X1\ X0)\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v2\_group\_1\ X1)\wedge(l3\_algstr\_0\ X1)))) \tag{9}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{10}$$

Assume the following.

$$\forall X0.((v8\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(m2\_subset\_1\ (k7\_group\_1\ X0)\ k1\_numbers\ k5\_numbers) \tag{11}$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \tag{12}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v1\_int\_2\ X0)\Leftrightarrow((\neg r1\_xxreal\_0\ X0\ np\_\_1)\wedge(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\neg(r1\_int\_1\ X1\ X0)\wedge((X1\neq np\_\_1)\wedge(X1\neq X0)))))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v8\_struct\_0\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge(l3\_algstr\_0\ X0)))))\Rightarrow(\forall X1.(m1\_group\_2\ X1\ X0)\Rightarrow(v8\_struct\_0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v1\_finset\_1\ X0) \tag{16}$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v7\_ordinal1\ X1)) \tag{17}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow((v15\_algstr\_0\ X0)\Rightarrow(X0 = g3\_algstr\_0\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0))) \tag{18}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v8\_struct\_0\ X1)\wedge((v15\_algstr\_0\ X1)\wedge((v2\_group\_1\ X1)\wedge((v3\_group\_1\ X1)\wedge(l3\_algstr\_0\ X1)))))\Rightarrow(((k7\_group\_1\ X1 = X0)\wedge(v1\_int\_2\ X0))\Rightarrow(\forall X2.((v15\_algstr\_0\ X2)\wedge(m1\_group\_2\ X2\ X1))\Rightarrow((r1\_group\_2\ X1\ X2\ (k6\_group\_2\ X1))\vee(X2 = X1)))))$$