t6_triang_1 (TMW7bEmtR8gkif3v1XwLeCHGCrvFiKSzYFa)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_triang\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k7\_pre\_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_orders\_2 : \iota \Rightarrow \iota$ be given. Let $k2\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_relat\_2 : \iota \Rightarrow o$ be given. Let $v4\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3\_orders\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_finsub\_1 : \iota \Rightarrow \iota$ 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 $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v2\_orders\_2 : \iota \Rightarrow o$ be given. Let $v2\_setfam\_1 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_finset\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))) \Rightarrow (\forall X2.((v1\_partfun1\ X2\ X0) \wedge ((v1\_relat\_2\ X2) \wedge ((v4\_relat\_2\ X2) \wedge ((v8\_relat\_2\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))))) \Rightarrow ((r3\_orders\_1\ X2\ X1) \Rightarrow (k3\_finseq\_1\ (k7\_pre\_poly\ X0\ X1\ X2) = k5\_card\_1\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k5\_finsub\_1\ X0))))\Rightarrow(\forall X2.(m1\_pre\_poly\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(k4\_finseq\_1\ X0 = k9\_xtuple\_0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.((v2\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))\Rightarrow(v8\_relat\_2\ (u1\_orders\_2\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.((v2\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))\Rightarrow(v4\_relat\_2\ (u1\_orders\_2\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))))\Rightarrow(\neg v2\_setfam\_1\ (k1\_triang\_1\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(v1\_relat\_2\ (u1\_orders\_2\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((v2\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(v1\_partfun1\ (u1\_orders\_2\ X0)\ (u1\_struct\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(m1\_subset\_1\ (u1\_orders\_2\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow((v1\_funct\_1\ X1)\wedge((v1\_finseq\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ X0))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k5\_finsub\_1\ X0))))\Rightarrow(\forall X2.(m1\_pre\_poly\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_finset\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))\wedge((v1\_partfun1\ X2\ X0)\wedge((v1\_relat\_2\ X2)\wedge((v4\_relat\_2\ X2)\wedge((v8\_relat\_2\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))))))\Rightarrow(m2\_finseq\_1\ (k7\_pre\_poly\ X0\ X1\ X2)\ X0) \tag{15}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(m2\_subset\_1\ (k3\_finseq\_1\ X0)\ k1\_numbers\ k5\_numbers) \tag{16}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))))\Rightarrow(m1\_subset\_1\ (k1\_triang\_1\ X0)\ (k1\_zfmisc\_1\ (k5\_finsub\_1\ (u1\_struct\_0\ X0)))) \tag{17}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers)\Rightarrow((X1 = k3\_finseq\_1\ X0)\Leftrightarrow(k2\_finseq\_1\ X1 = k9\_xtuple\_0\ X0))) \tag{18}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))))\Rightarrow(k1\_triang\_1\ X0 = ReplSep\ (toset\ (\lambda X1 : \iota.m1\_subset\_1\ X1\ (k5\_finsub\_1\ (u1\_struct\_0\ X0))))\ (\lambda X1 : \iota.r3\_orders\_1\ (u1\_orders\_2\ X0)\ X1)\ (\lambda X1 : \iota.X1)) \tag{19}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow(\neg v1\_xboole\_0\ X0) \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k5\_finsub\_1\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ X1)\Rightarrow(v1\_finset\_1\ X2)) \tag{21}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow((v3\_orders\_2\ X0)\Rightarrow(v2\_orders\_2\ X0)) \tag{22}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v3\_orders\_2\ X1)\wedge((v4\_orders\_2\ X1)\wedge((v5\_orders\_2\ X1)\wedge(l1\_orders\_2\ X1)))))\Rightarrow(\forall X2.((\neg v1\_xboole\_0\ X2)\wedge(m1\_pre\_poly\ X2\ (u1\_struct\_0\ X1)\ (k1\_triang\_1\ X1)))\Rightarrow((k5\_card\_1\ X2 = X0)\Rightarrow(k4\_finseq\_1\ (k7\_pre\_poly\ (u1\_struct\_0\ X1)\ X2\ (u1\_orders\_2\ X1)) = k2\_finseq\_1\ X0))))$$