t43_yellow16 (TMErTm-FGspQhZTmv52emzs8SYFYERSYHqRU)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $v24\_waybel\_0 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $k6\_yellow\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_yellow\_1 : \iota \Rightarrow o$ be given. Let $v4\_waybel\_3 : \iota \Rightarrow o$ be given. Let $v5\_waybel\_3 : \iota \Rightarrow o$ be given. Let $k5\_yellow\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_yellow16 : \iota \Rightarrow o$ be given. Let $k2\_yellow16 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_card\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_orders\_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(X1 \in X0) \Rightarrow (k1\_funct\_1\ (k2\_funcop\_1\ X0\ X2)\ X1 = X2) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0)))) \Rightarrow ((v24\_waybel\_0\ X0) \Leftrightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_waybel\_0\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (r1\_yellow\_0\ X0\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v1\_yellow\_1\ X1)\wedge((v4\_waybel\_3\ X1)\wedge(v5\_waybel\_3\ X1)))))))\Rightarrow(\forall X2.((v1\_waybel\_0\ X2\ (k5\_yellow\_1\ X0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k5\_yellow\_1\ X0\ X1)))))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow(v1\_waybel\_0\ (k5\_waybel\_3\ X0\ X1\ X3\ X2)\ (k3\_waybel\_3\ X0\ X1\ X3)))))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v4\_waybel\_3\ X1)\wedge(v1\_yellow16\ X1)))))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k5\_yellow\_1\ X0\ X1))))\Rightarrow((r1\_yellow\_0\ (k5\_yellow\_1\ X0\ X1)\ X2)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow(r1\_yellow\_0\ (k2\_yellow16\ X0\ X1\ X3)\ (k5\_waybel\_3\ X0\ X1\ X3\ X2)))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1)\Rightarrow((v1\_xboole\_0\ X1)\vee(X0\in X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k7\_funcop\_1\ X0\ X1 = k2\_funcop\_1\ X0\ X1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v1\_yellow\_1\ X1)\wedge(v4\_waybel\_3\ X1)))))))\wedge((m1\_subset\_1\ X2\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k5\_yellow\_1\ X0\ X1)))))))\Rightarrow(k5\_waybel\_3\ X0\ X1\ X2\ X3 = k5\_card\_3\ X2\ X3) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge(v1\_yellow\_1\ X1)))))\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k3\_waybel\_3\ X0\ X1\ X2 = k1\_funct\_1\ X1\ X2) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v4\_waybel\_3\ X1)\wedge(v1\_yellow16\ X1)))))))\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k2\_yellow16\ X0\ X1\ X2 = k1\_funct\_1\ X1\ X2) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_struct\_0\ X1))\Rightarrow (v4\_waybel\_3\ (k2\_funcop\_1\ X0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge (((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v1\_yellow\_1\ X1)\wedge(v4\_waybel\_3\ X1))))))\wedge((\neg v1\_xboole\_0\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k5\_yellow\_1\ X0\ X1)))))))\Rightarrow(\neg v1\_xboole\_0\ (k5\_card\_3\ X3\ X2)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k2\_funcop\_1\ X0\ X1))\wedge((v4\_relat\_1\ (k2\_funcop\_1\ X0\ X1)\ X0)\wedge((v1\_funct\_1\ (k2\_funcop\_1\ X0\ X1))\wedge(v1\_partfun1\ (k2\_funcop\_1\ X0\ X1)\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_orders\_2\ X1)\wedge((v4\_orders\_2\ X1)\wedge((v5\_orders\_2\ X1)\wedge(l1\_orders\_2\ X1))))\Rightarrow(v1\_yellow16\ (k2\_funcop\_1\ X0\ X1)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_orders\_2\ X1)\wedge(l1\_orders\_2\ X1))\Rightarrow(v5\_waybel\_3\ (k2\_funcop\_1\ X0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.v4\_relat\_1\ (k2\_funcop\_1\ X0\ X1)\ X0 \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v5\_orders\_2\ X1)\wedge(l1\_orders\_2\ X1)))\Rightarrow((v1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))\wedge(v5\_orders\_2\ (k6\_yellow\_1\ X0\ X1))) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v3\_orders\_2\ X1)\wedge(l1\_orders\_2\ X1)))\Rightarrow((v1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))\wedge(v3\_orders\_2\ (k6\_yellow\_1\ X0\ X1))) \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_orders\_2\ X1))\Rightarrow((\neg v2\_struct\_0\ (k6\_yellow\_1\ X0\ X1))\wedge(v1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))) \tag{18}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2\ X1)\Rightarrow(v1\_yellow\_1\ (k2\_funcop\_1\ X0\ X1)) \tag{19}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2\ X1)\Rightarrow((v1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))\wedge(l1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))) \tag{21}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge((v1\_yellow\_1\ X1)\wedge(v4\_waybel\_3\ X1))))))\wedge((m1\_subset\_1\ X2\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k5\_yellow\_1\ X0\ X1)))))))\Rightarrow(m1\_subset\_1\ (k5\_waybel\_3\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_waybel\_3\ X0\ X1\ X2)))) \tag{22}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2\ X1)\Rightarrow(k6\_yellow\_1\ X0\ X1 = k5\_yellow\_1\ X0\ (k7\_funcop\_1\ X0\ X1)) \tag{23}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v3\_orders\_2\ X1)\wedge((v4\_orders\_2\ X1)\wedge((v5\_orders\_2\ X1)\wedge((v24\_waybel\_0\ X1)\wedge(l1\_orders\_2\ X1))))))\Rightarrow(v24\_waybel\_0\ (k6\_yellow\_1\ X0\ X1)))$$