t40_waybel_2 (TMZCrM86jsEkPLLgJCeLEPM7S1wmQ5L97Mx)

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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 $v2\_lattice3 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k12\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_yellow\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_yellow\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0)))) \Rightarrow ((v24\_waybel\_0\ X0) \Leftrightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_waybel\_0\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (r1\_yellow\_0\ X0\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge ((v2\_lattice3\ X0) \wedge (l1\_orders\_2\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (k3\_waybel\_0\ X0\ (k4\_yellow\_4\ X0\ (k3\_waybel\_0\ X0\ X1)\ (k3\_waybel\_0\ X0\ X2)) = k3\_waybel\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0)))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((r1\_yellow\_0\ X0\ X1) \Rightarrow (k1\_yellow\_0\ X0\ X1 = k1\_yellow\_0\ X0\ (k3\_waybel\_0\ X0\ X1)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5\_orders\_2\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0)))\wedge((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(k4\_yellow\_4\ X0\ X1\ X2 = k3\_yellow\_4\ X0\ X1\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0))))\wedge(((v1\_waybel\_0\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((v1\_waybel\_0\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(v1\_waybel\_0\ (k3\_yellow\_4\ X0\ X1\ X2)\ X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(\neg v1\_xboole\_0\ (k3\_waybel\_0\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge(l1\_orders\_2\ X0))\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((\neg v1\_xboole\_0\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(\neg v1\_xboole\_0\ (k3\_yellow\_4\ X0\ X1\ X2)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))))\wedge((v1\_waybel\_0\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(v1\_waybel\_0\ (k3\_waybel\_0\ X0\ X1)\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v4\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(v12\_waybel\_0\ (k3\_waybel\_0\ X0\ X1)\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5\_orders\_2\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0)))\wedge((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(m1\_subset\_1\ (k4\_yellow\_4\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_orders\_2\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k3\_waybel\_0\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow((v2\_lattice3\ X0)\Rightarrow(\neg v2\_struct\_0\ X0)) \tag{12}$$

Theorem 1

$$\forall X0.((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v24\_waybel\_0\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0))))))\Rightarrow((\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_waybel\_0\ X1\ X0)\wedge((v12\_waybel\_0\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(\forall X2.((\neg v1\_xboole\_0\ X2)\wedge((v1\_waybel\_0\ X2\ X0)\wedge((v12\_waybel\_0\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(k12\_lattice3\ X0\ (k1\_yellow\_0\ X0\ X1)\ (k1\_yellow\_0\ X0\ X2) = k1\_yellow\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_waybel\_0\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(\forall X2.((\neg v1\_xboole\_0\ X2)\wedge((v1\_waybel\_0\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(k12\_lattice3\ X0\ (k1\_yellow\_0\ X0\ X1)\ (k1\_yellow\_0\ X0\ X2) = k1\_yellow\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2)))))$$