t42_yellow_7 (TMGD8yjMFP9wD4vVFBXrjHbMpNxNRZwjLLE)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ 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 $u1\_struct\_0 : \iota \Rightarrow \iota$ 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 $k7\_lattice3 : \iota \Rightarrow \iota$ be given. Let $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_orders\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_orders\_2\ X0)) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l1\_orders\_2\ X1)) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k7\_lattice3\ X1))) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k7\_lattice3\ X1)))))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (u1\_struct\_0\ (k7\_lattice3\ X0))\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k7\_lattice3\ X0))\ (u1\_struct\_0\ X1)))))) \Rightarrow ((r1\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k7\_lattice3\ X1))\ (u1\_struct\_0\ (k7\_lattice3\ X0))\ (u1\_struct\_0\ X1)\ X2\ X3) \Rightarrow (((v5\_orders\_3\ X2\ X0\ (k7\_lattice3\ X1)) \Rightarrow (v5\_orders\_3\ X3\ (k7\_lattice3\ X0)\ X1)) \wedge (((v5\_orders\_3\ X3\ (k7\_lattice3\ X0)\ X1) \Rightarrow (v5\_orders\_3\ X2\ X0\ (k7\_lattice3\ X1))) \wedge (((v5\_waybel\_0\ X2\ X0\ (k7\_lattice3\ X1)) \Rightarrow (v5\_waybel\_0\ X3\ (k7\_lattice3\ X0)\ X1)) \wedge ((v5\_waybel\_0\ X3\ (k7\_lattice3\ X0)\ X1) \Rightarrow (v5\_waybel\_0\ X2\ X0\ (k7\_lattice3\ X1))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_orders\_2\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k7\_lattice3\ X1)))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k7\_lattice3\ X1)))))))\Rightarrow((r1\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k7\_lattice3\ X1))\ X2\ X3)\Rightarrow(((v5\_orders\_3\ X2\ X0\ X1)\Rightarrow(v5\_waybel\_0\ X3\ X0\ (k7\_lattice3\ X1)))\wedge(((v5\_waybel\_0\ X3\ X0\ (k7\_lattice3\ X1))\Rightarrow(v5\_orders\_3\ X2\ X0\ X1))\wedge(((v5\_waybel\_0\ X2\ X0\ X1)\Rightarrow(v5\_orders\_3\ X3\ X0\ (k7\_lattice3\ X1)))\wedge((v5\_orders\_3\ X3\ X0\ (k7\_lattice3\ X1))\Rightarrow(v5\_waybel\_0\ X2\ X0\ X1)))))))))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(u1\_struct\_0\ X0 = u1\_struct\_0\ (k7\_lattice3\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.((\neg v1\_xboole\_0\ X1)\wedge((\neg v1\_xboole\_0\ X3)\wedge(((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X0\ X1)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ X2\ X3)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X3))))))))\Rightarrow((r1\_funct\_2\ X0\ X1\ X2\ X3\ X4\ X5)\Leftrightarrow(X4 = X5)) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow((\neg v2\_struct\_0\ (k7\_lattice3\ X0))\wedge(v1\_orders\_2\ (k7\_lattice3\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow((v1\_orders\_2\ (k7\_lattice3\ X0))\wedge(l1\_orders\_2\ (k7\_lattice3\ X0))) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_orders\_2\ X1))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (u1\_struct\_0\ (k7\_lattice3\ X0))\ (u1\_struct\_0\ (k7\_lattice3\ X1)))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k7\_lattice3\ X0))\ (u1\_struct\_0\ (k7\_lattice3\ X1)))))))\Rightarrow((r1\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ (k7\_lattice3\ X0))\ (u1\_struct\_0\ (k7\_lattice3\ X1))\ X2\ X3)\Rightarrow(((v5\_orders\_3\ X2\ X0\ X1)\Rightarrow(v5\_orders\_3\ X3\ (k7\_lattice3\ X0)\ (k7\_lattice3\ X1)))\wedge(((v5\_orders\_3\ X3\ (k7\_lattice3\ X0)\ (k7\_lattice3\ X1))\Rightarrow(v5\_orders\_3\ X2\ X0\ X1))\wedge(((v5\_waybel\_0\ X2\ X0\ X1)\Rightarrow(v5\_waybel\_0\ X3\ (k7\_lattice3\ X0)\ (k7\_lattice3\ X1)))\wedge((v5\_waybel\_0\ X3\ (k7\_lattice3\ X0)\ (k7\_lattice3\ X1))\Rightarrow(v5\_waybel\_0\ X2\ X0\ X1)))))))))$$