t69_yellow_0 (TMQvMDK3GUHExNkg8sTSjYeTegfZJm6q5Vc)

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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 $v2\_lattice3 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v4\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k12\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v4\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v4\_yellow\_0\ X1\ X0) \wedge (m1\_yellow\_0\ X1\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (((r2\_yellow\_0\ X0\ X2) \wedge (k2\_yellow\_0\ X0\ X2 \in u1\_struct\_0\ X1)) \Rightarrow ((r2\_yellow\_0\ X1\ X2) \wedge (k2\_yellow\_0\ X1\ X2 = k2\_yellow\_0\ X0\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge ((v2\_lattice3\ X0) \wedge (l1\_orders\_2\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k2\_yellow\_0\ X0\ (k7\_domain\_1\ (u1\_struct\_0\ X0)\ X1\ X2) = k12\_lattice3\ X0\ X1\ X2))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{3}$$

Assume the following.

$$\forall X0.((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow((v2\_lattice3\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(r2\_yellow\_0\ X0\ (k2\_tarski\ X1\ X2))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((m1\_subset\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(k7\_domain\_1\ X0\ X1\ X2 = k2\_tarski\ X1\ X2) \tag{5}$$

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.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(\forall X1.(m1\_yellow\_0\ X1\ X0)\Rightarrow(l1\_orders\_2\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((m1\_subset\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ X0)))\Rightarrow(m1\_subset\_1\ (k7\_domain\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.(m1\_yellow\_0\ X1\ X0)\Rightarrow((v5\_yellow\_0\ X1\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(((X2\in u1\_struct\_0\ X1)\wedge((X3\in u1\_struct\_0\ X1)\wedge(r2\_yellow\_0\ X0\ (k7\_domain\_1\ (u1\_struct\_0\ X0)\ X2\ X3))))\Rightarrow(k2\_yellow\_0\ X0\ (k7\_domain\_1\ (u1\_struct\_0\ X0)\ X2\ X3)\in u1\_struct\_0\ X1)))))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{11}$$

Assume the following.

$$\forall X0.((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.(m1\_yellow\_0\ X1\ X0)\Rightarrow((v4\_yellow\_0\ X1\ X0)\Rightarrow((v5\_orders\_2\ X1)\wedge(v4\_yellow\_0\ X1\ X0)))) \tag{12}$$

Assume the following.

$$\forall X0.((v4\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.\ (m1\_yellow\_0\ X1\ X0)\Rightarrow((v4\_yellow\_0\ X1\ X0)\Rightarrow((v4\_orders\_2\ X1)\wedge(\ v4\_yellow\_0\ X1\ X0)))) \quad (13)$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1.\ (m1\_yellow\_0\ X1\ X0)\Rightarrow((v4\_yellow\_0\ X1\ X0)\Rightarrow((v3\_orders\_2\ X1)\wedge(\ v4\_yellow\_0\ X1\ X0)))) \quad (14)$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow((v2\_lattice3\ X0)\Rightarrow(\neg v2\_struct\_0\ X0)) \quad (15)$$

Assume the following.

$$\forall X0.((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0))))\Rightarrow(\forall X1.(m1\_yellow\_0\ X1\ X0)\Rightarrow(((\neg v2\_struct\_0\ X1)\wedge((v4\_yellow\_0\ X1\ X0)\wedge(v5\_yellow\_0\ X1\ X0)))\Rightarrow((\neg v2\_struct\_0\ X1)\wedge((v2\_lattice3\ X1)\wedge((v4\_yellow\_0\ X1\ X0)\wedge(\ v5\_yellow\_0\ X1\ X0)))))) \quad (16)$$

Theorem 1

$$\forall X0.((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v4\_yellow\_0\ X1\ X0)\wedge((v5\_yellow\_0\ X1\ X0)\wedge(m1\_yellow\_0\ X1\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1))\Rightarrow(\forall X3.\ (m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(((X4 = X2)\wedge(X5 = X3))\Rightarrow(k12\_lattice3\ X1\ X2\ X3 = k12\_lattice3\ X0\ X4\ X5)))))))$$