t13_yellow21 (TMWUQ5pEiEXLqJj95EJqw3FPWdRemBksPwa)

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Let $v2\_setfam\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_yellow21 : \iota \Rightarrow \iota$ 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 $v1\_lattice3 : \iota \Rightarrow o$ be given. Let $v2\_lattice3 : \iota \Rightarrow o$ be given. Let $v3\_lattice3 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $k2\_yellow21 : \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v11\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v12\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v3\_yellow21 : \iota \Rightarrow o$ be given. Let $l2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $k4\_yellow21 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_yellow21 : \iota \Rightarrow \iota$ be given. Let $v6\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v2\_yellow21 : \iota \Rightarrow o$ be given. Let $v4\_yellow21 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v1\_orders\_2 : \iota \Rightarrow o$ be given. Let $g1\_struct\_0 : \iota \Rightarrow \iota$ 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 $k3\_yellow21 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5\_orders\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_altcat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v22\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{2}$$

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.

$$\forall X0.(\neg v2\_setfam\_1\ X0) \Rightarrow (r1\_tarski\ (u1\_struct\_0\ (k6\_yellow21\ X0))\ (k2\_yellow21\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v11\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge((v3\_yellow21\ X0)\wedge(l2\_altcat\_1\ X0))))))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow(k4\_yellow21\ X0\ X1 = k1\_yellow21\ X1) \tag{5}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow(\exists X1.(m1\_subset\_1\ X1\ X0)\wedge(\neg v1\_xboole\_0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow((\neg v2\_struct\_0\ (k6\_yellow21\ X0))\wedge((v2\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v6\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v11\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v12\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v2\_yellow21\ (k6\_yellow21\ X0))\wedge((v3\_yellow21\ (k6\_yellow21\ X0))\wedge(v4\_yellow21\ (k6\_yellow21\ X0))))))))) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\neg v1\_xboole\_0\ (k2\_yellow21\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0)\Rightarrow(l1\_altcat\_1\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_altcat\_1\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow((\neg v2\_struct\_0\ (k6\_yellow21\ X0))\wedge((v2\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v6\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v11\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v12\_altcat\_1\ (k6\_yellow21\ X0))\wedge((v2\_yellow21\ (k6\_yellow21\ X0))\wedge(l2\_altcat\_1\ (k6\_yellow21\ X0))))))))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v11\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge((v3\_yellow21\ X0)\wedge(l2\_altcat\_1\ X0))))))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow((v3\_orders\_2\ (k4\_yellow21\ X0\ X1))\wedge((v4\_orders\_2\ (k4\_yellow21\ X0\ X1))\wedge((v5\_orders\_2\ (k4\_yellow21\ X0\ X1))\wedge((v1\_lattice3\ (k4\_yellow21\ X0\ X1))\wedge((v2\_lattice3\ (k4\_yellow21\ X0\ X1))\wedge((v3\_lattice3\ (k4\_yellow21\ X0\ X1))\wedge(l1\_orders\_2\ (k4\_yellow21\ X0\ X1)))))))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k2\_yellow21\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(((v1\_orders\_2\ X2)\wedge((v3\_orders\_2\ X2)\wedge((v4\_orders\_2\ X2)\wedge((v5\_orders\_2\ X2)\wedge(l1\_orders\_2\ X2)))))\wedge(u1\_struct\_0\ (k1\_yellow21\ X2) \in X0))) \tag{15}$$

Assume the following.

$$\forall X0.((l1\_struct\_0\ X0)\Rightarrow(k1\_yellow21\ X0 = X0))\wedge((\neg l1\_struct\_0\ X0)\Rightarrow(k1\_yellow21\ X0 = g1\_struct\_0\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow((\neg\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xboole\_0\ X1))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_altcat\_1\ X1)\wedge((v6\_altcat\_1\ X1)\wedge((v11\_altcat\_1\ X1)\wedge((v12\_altcat\_1\ X1)\wedge((v2\_yellow21\ X1)\wedge(l2\_altcat\_1\ X1)))))))\Rightarrow((X1 = k6\_yellow21\ X0)\Leftrightarrow((\forall X2.((v3\_orders\_2\ X2)\wedge((v4\_orders\_2\ X2)\wedge((v5\_orders\_2\ X2)\wedge((v1\_lattice3\ X2)\wedge((v2\_lattice3\ X2)\wedge(l1\_orders\_2\ X2))))))\Rightarrow((m1\_subset\_1\ X2\ (u1\_struct\_0\ X1))\Leftrightarrow((v1\_orders\_2\ X2)\wedge((v3\_lattice3\ X2)\wedge(u1\_struct\_0\ X2 \in X0)))))\wedge(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0\ (k3\_yellow21\ X1\ X2))\ (u1\_struct\_0\ (k3\_yellow21\ X1\ X3)))\wedge((v5\_orders\_3\ X4\ (k3\_yellow21\ X1\ X2)\ (k3\_yellow21\ X1\ X3))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k3\_yellow21\ X1\ X2))\ (u1\_struct\_0\ (k3\_yellow21\ X1\ X3))))))))\Rightarrow((X4 \in k1\_altcat\_1\ X1\ X2\ X3)\Leftrightarrow(v22\_waybel\_0\ X4\ (k3\_yellow21\ X1\ X2)\ (k3\_yellow21\ X1\ X3)))))))))) \tag{17}$$

Assume the following.

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow(\neg v1\_xboole\_0\ X0) \tag{18}$$

Theorem 1

$$\forall X0.(\neg v2\_setfam\_1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k6\_yellow21\ X0)))\Leftrightarrow(((v3\_orders\_2\ X1)\wedge((v4\_orders\_2\ X1)\wedge((v5\_orders\_2\ X1)\wedge((v1\_lattice3\ X1)\wedge((v2\_lattice3\ X1)\wedge((v3\_lattice3\ X1)\wedge(l1\_orders\_2\ X1)))))))\wedge(X1 \in k2\_yellow21\ X0)))$$