t12_orders_2 (TMMFgr-wYXUw1QcJH3UPFadW3sVY6exNVez6)

October 27, 2020

Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v6\_orders\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r2\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\neg(r1\_orders\_2\ X0\ X1\ X2) \wedge (r2\_orders\_2\ X0\ X2\ X1)))) \tag{1}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((\neg(\exists X3.((v6\_orders\_2\ X3\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \wedge ((X1 \in X3) \wedge (X2 \in X3))) \wedge ((\neg r1\_orders\_2\ X0\ X1\ X2) \wedge (\neg r1\_orders\_2\ X0\ X2\ X1))) \wedge (\neg((r1\_orders\_2\ X0\ X1\ X2) \vee (r1\_orders\_2\ X0\ X2\ X1)) \wedge (\forall X3.((v6\_orders\_2\ X3\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (\neg(X1 \in X3) \wedge (X2 \in X3))))))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_orders\_2\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((r2\_orders\_2\ X0\ X1\ X2) \Leftrightarrow ((r1\_orders\_2\ X0\ X1\ X2) \wedge (X1 \neq X2))))) \tag{3}$$

Theorem 1

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.\ (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((\exists X3.((v6\_orders\_2\ X3\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \wedge ((X1 \in X3) \wedge (X2 \in X3))) \Leftrightarrow ((r2\_orders\_2\ X0\ X1\ X2) \Leftrightarrow (\neg r1\_orders\_2\ X0\ X2\ X1)))))$$