

# t10\_yellow\_7 (TMRnTo- VAEQ1mkg3GHTwYcAbJMKW6SPWLUpw)

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Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_lattice3 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.((r1\_lattice3 X0 X2 X1) \Rightarrow (r2\_lattice3 (k7\_lattice3 \\ & X0) X2 (k8\_lattice3 X0 X1))) \wedge (((r2\_lattice3 (k7\_lattice3 X0) X2 \\ & (k8\_lattice3 X0 X1)) \Rightarrow (r1\_lattice3 X0 X2 X1)) \wedge (((r2\_lattice3 X0 \\ & X2 X1) \Rightarrow (r1\_lattice3 (k7\_lattice3 X0) X2 (k8\_lattice3 X0 X1))) \wedge \\ & ((r1\_lattice3 (k7\_lattice3 X0) X2 (k8\_lattice3 X0 X1)) \Rightarrow (r2\_lattice3 \\ & X0 X2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k7\_lattice3 X0))) \Rightarrow \\ & (((r1\_orders\_2 X0 X1 (k9\_lattice3 X0 X2)) \Rightarrow (r1\_orders\_2 (k7\_lattice3 \\ & X0) X2 (k8\_lattice3 X0 X1))) \wedge (((r1\_orders\_2 (k7\_lattice3 X0) X2 \\ & (k8\_lattice3 X0 X1)) \Rightarrow (r1\_orders\_2 X0 X1 (k9\_lattice3 X0 X2))) \wedge \\ & (((r1\_orders\_2 X0 (k9\_lattice3 X0 X2) X1) \Rightarrow (r1\_orders\_2 (k7\_lattice3 \\ & X0) (k8\_lattice3 X0 X1) X2)) \wedge ((r1\_orders\_2 (k7\_lattice3 X0) (k8\_lattice3 \\ & X0 X1) X2) \Rightarrow (r1\_orders\_2 X0 (k9\_lattice3 X0 X2) X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (k3\_relset\_1 X0 X1 X2 = k2\_relat\_1 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))\Rightarrow(\forall X2.\forall X3.(g1\_orders\_2 X0 X1 = g1\_orders\_2 X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(m1\_subset\_1 (u1\_orders\_2 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow((v1\_orders\_2 (k7\_lattice3 X0))\wedge (l1\_orders\_2 (k7\_lattice3 X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(r2\_yellow\_0 X0 X1)\Leftrightarrow \\ (\exists X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\wedge((r1\_lattice3 \\ X0 X1 X2)\wedge((\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((r1\_lattice3 \\ X0 X1 X3)\Rightarrow(r1\_orders\_2 X0 X3 X2))))\wedge(\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0))\Rightarrow(((r1\_lattice3 X0 X1 X3)\wedge(\forall X4.(m1\_subset\_1 \\ X4 (u1\_struct\_0 X0))\Rightarrow((r1\_lattice3 X0 X1 X4)\Rightarrow(r1\_orders\_2 X0 X4 \\ X3))))\Rightarrow(X3 = X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(r1\_yellow\_0 X0 X1)\Leftrightarrow \\ (\exists X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\wedge((r2\_lattice3 \\ X0 X1 X2)\wedge((\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((r2\_lattice3 \\ X0 X1 X3)\Rightarrow(r1\_orders\_2 X0 X2 X3))))\wedge(\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0))\Rightarrow(((r2\_lattice3 X0 X1 X3)\wedge(\forall X4.(m1\_subset\_1 \\ X4 (u1\_struct\_0 X0))\Rightarrow((r2\_lattice3 X0 X1 X4)\Rightarrow(r1\_orders\_2 X0 X3 \\ X4))))\Rightarrow(X3 = X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k7\_lattice3 X0)))\Rightarrow(k9\_lattice3 X0 X1 = X1)) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(k8\_lattice3 X0 X1 = X1)) \quad (10)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(k7\_lattice3 X0 = g1\_orders\_2 (u1\_struct\_0 X0) (k3\_relset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0) (u1\_orders\_2 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v1\_orders\_2 X0) \Rightarrow (X0 = g1\_orders\_2 (u1\_struct\_0 X0) (u1\_orders\_2 X0))) \quad (12)$$

**Theorem 1**

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(r1\_yellow\_0 X0 X1) \Leftrightarrow (r2\_yellow\_0 (k7\_lattice3 X0) X1))$$