

# t32\_yellow\_3 (TMW- BQtqa6bnXCqi1ySf2vwQ6WWGMMQtLRy8)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4\_tarski\ X0\ X1 \in k2\_zfmisc\_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0\ X0) \wedge (l1\_orders\_2\ X0)) \Rightarrow (\forall X1. \\ & ((\neg v2\_struct\_0\ X1) \wedge (l1\_orders\_2\ X1)) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3. (m1\_subset\_1\ X3\ (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X4. (m1\_subset\_1\ X4\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X5. \\ & (m1\_subset\_1\ X5\ (u1\_struct\_0\ X1)) \Rightarrow (((r1\_orders\_2\ X0\ X2\ X3) \wedge (r1\_orders\_2 \\ & X1\ X4\ X5)) \Leftrightarrow (r1\_orders\_2\ (k3\_yellow\_3\ X0\ X1)\ (k7\_yellow\_3\ X0\ X1\ X2 \\ & X4)\ (k7\_yellow\_3\ X0\ X1\ X3\ X5))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2\_struct\_0 \\ & X0) \wedge (l1\_orders\_2\ X0)) \wedge (((\neg v2\_struct\_0\ X1) \wedge (l1\_orders\_2\ X1)) \wedge \\ & ((m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X3\ (u1\_struct\_0 \\ & X1)))))) \Rightarrow (k7\_yellow\_3\ X0\ X1\ X2\ X3 = k4\_tarski\ X2\ X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((l1\_orders\_2 X0)\wedge \\ & ((l1\_orders\_2 X1)\wedge((m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X1))))))\Rightarrow(k6\_yellow\_3 \\ & X0 X1 X2 X3 = k2\_zfmisc\_1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\exists X1.m1\_subset\_1 X1 X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0 \\ & X0)\wedge(l1\_orders\_2 X0))\wedge(((\neg v2\_struct\_0 X1)\wedge(l1\_orders\_2 X1))\wedge \\ & ((m1\_subset\_1 X2 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X1))))))\Rightarrow(m1\_subset\_1 (k7\_yellow\_3 X0 X1 X2 X3) (u1\_struct\_0 (k3\_yellow\_3 \\ & X0 X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1\_orders\_2 X0)\wedge(l1\_orders\_2 X1))\Rightarrow( \\ & (v1\_orders\_2 (k3\_yellow\_3 X0 X1))\wedge(l1\_orders\_2 (k3\_yellow\_3 \\ & X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0))\Rightarrow((r1\_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1\_subset\_1 \\ & X3 (u1\_struct\_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1\_orders\_2 X0 X2 X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 X1) (k1\_tarski X0) \quad (11)$$

### Theorem 1

$$\begin{aligned} & \forall X0.(((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 X0))\Rightarrow(\forall X1. \\ & (((\neg v2\_struct\_0 X1)\wedge(l1\_orders\_2 X1))\Rightarrow(\forall X2.((\neg v1\_xboole\_0 \\ & X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(\forall X3. \\ & ((\neg v1\_xboole\_0 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X1))))\Rightarrow(\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0))\Rightarrow(\forall X5. \\ & (m1\_subset\_1 X5 (u1\_struct\_0 X1))\Rightarrow((r1\_lattice3 (k3\_yellow\_3 \\ & X0 X1) (k6\_yellow\_3 X0 X1 X2 X3) (k7\_yellow\_3 X0 X1 X4 X5))\Rightarrow((r1\_lattice3 \\ & X0 X2 X4)\wedge(r1\_lattice3 X1 X3 X5)))))))))) \end{aligned}$$