

t23\_net\_1  
(TMHHJ29ko9DjsRfHiiJCmpsd7VzwLfg22G3)

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Let  $v1\_net.1 : \iota \Rightarrow o$  be given. Let  $l1\_petri : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_net.1 : \iota \Rightarrow \iota$  be given. Let  $k12\_net.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_net.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc.1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole.0 : \iota$  be given. Let  $k10\_net.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg(X0 \in X1) \wedge ((m1\_subset.1 X1 (k1\_zfmisc.1 X2)) \wedge (v1\_xboole.0 X2)) \quad (1)$$

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.

$$\forall X0. \forall X1. (m1\_subset.1 X0 (k1\_zfmisc.1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_net.1 X0) \wedge (l1\_petri X0)) \Rightarrow (\forall X1. (m1\_subset.1 X1 (k2\_net.1 X0)) \Rightarrow (\forall X2. (X1 \in X2) \Rightarrow ((k2\_net.1 X0 = k1\_xboole.0) \vee (k5\_net.1 X0 X1 \in k10\_net.1 X0 X2)))) \quad (4)$$

Assume the following.

$$v1\_xboole.0 k1\_xboole.0 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k3\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. (X2 \in X3) \wedge (X3 \in X0))) \quad (6)$$

Assume the following.

$$\forall X0. ((v1\_net.1 X0) \wedge (l1\_petri X0)) \Rightarrow (\forall X1. k12\_net.1 X0 X1 = k3\_tarski (k10\_net.1 X0 X1)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_net\_1 X0) \wedge (l1\_petri X0)) \Rightarrow (\forall X1. \forall X2. \\ & (X2 = k10\_net\_1 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((r1\_tarski X3 (k2\_net\_1 \\ & X0)) \wedge (\exists X4. (m1\_subset\_1 X4 (k2\_net\_1 X0)) \wedge ((X4 \in X1) \wedge (X3 = \\ & k5\_net\_1 X0 X4)))))) \end{aligned} \tag{8}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_net\_1 X0) \wedge (l1\_petri X0)) \Rightarrow (\forall X1. \forall X2. \\ & (r1\_tarski X2 (k2\_net\_1 X0)) \Rightarrow ((X1 \in k12\_net\_1 X0 X2) \Leftrightarrow (\exists X3. \\ & (m1\_subset\_1 X3 (k2\_net\_1 X0)) \wedge ((X3 \in X2) \wedge (X1 \in k5\_net\_1 X0 X3)))))) \end{aligned}$$