

# t13\_urysohn3 (TML- Ncw9S43JYomEBkQyYmWgHncKpUVU38mg)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  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  $m2\_urysohn3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_urysohn3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_urysohn1 : \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_urysohn3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2\_struct\_0 \\ & X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0))) \wedge ((m1\_subset\_1 X1 ( \\ & k1\_zfmisc\_1 (u1\_struct\_0 X0))) \wedge ((m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \wedge ((m2\_urysohn3 X3 X0 X1 X2) \wedge (m1\_subset\_1 X4 \\ & (u1\_struct\_0 X0)))))) \Rightarrow (m1\_subset\_1 (k5\_urysohn3 X0 X1 X2 X3 X4) \\ & (k1\_zfmisc\_1 k7\_numbers)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X3. (m2\_urysohn3 X3 X0 X1 X2) \Rightarrow (\forall X4. (m1\_subset\_1 \\ & X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5. (m1\_subset\_1 X5 (k1\_zfmisc\_1 \\ & k7\_numbers)) \Rightarrow ((X5 = k5\_urysohn3 X0 X1 X2 X3 X4) \Leftrightarrow (\forall X6. (X6 \in \\ & X5) \Leftrightarrow ((X6 \in k2\_urysohn1) \wedge (\forall X7. (m1\_subset\_1 X7 k1\_numbers) \Rightarrow \\ & (\neg (X7 = X6) \wedge (X4 \in k1\_funct\_1 (k3\_urysohn3 X0 X1 X2 X3) X7)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \tag{3}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X3.(m2\_urysohn3 X3 X0 X1 X2) \Rightarrow (\forall X4.(m1\_subset\_1 \\ & X4 (u1\_struct\_0 X0) \Rightarrow (r1\_tarski (k5\_urysohn3 X0 X1 X2 X3 X4) k2\_urysohn1)))))) \end{aligned}$$