

t60\_tsep\_1  
(TMLF6triUBkwF7wh8NhQH7g6BreyUikUk6E)

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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  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_tsep\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))) \Rightarrow ((r2\_tsep\_1 X0 X1 X2) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \wedge (\exists X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \wedge (\exists X5.(m1\_subset\_1 X5 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \wedge ((r1\_tarski (k9\_subset\_1 (u1\_struct\_0 X0) \\
& X3 (k4\_subset\_1 (u1\_struct\_0 X0) X1 X2)) X1) \wedge ((r1\_tarski (k9\_subset\_1 \\
& (u1\_struct\_0 X0) X4 (k4\_subset\_1 (u1\_struct\_0 X0) X1 X2)) X2) \wedge \\
& (r1\_tarski (k9\_subset\_1 (u1\_struct\_0 X0) X5 (k4\_subset\_1 (u1\_struct\_0 \\
& X0) X1 X2)) (k9\_subset\_1 (u1\_struct\_0 X0) X1 X2)) \wedge ((u1\_struct\_0 \\
& X0 = k4\_subset\_1 (u1\_struct\_0 X0) (k4\_subset\_1 (u1\_struct\_0 X0) \\
& X3 X4) X5) \wedge ((v3\_pre\_topc X3 X0) \wedge ((v3\_pre\_topc X4 X0) \wedge (v4\_pre\_topc \\
& X5 X0)))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (k3\_xboole\_0 X0 X1 = X0) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)))\Rightarrow(m1\_subset\_1 (k4\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow((k4\_subset\_1 (u1\_struct\_0 X0) X1 X2 = u1\_struct\_0 X0)\Rightarrow( \\ & (r2\_tsep\_1 X0 X1 X2)\Leftrightarrow(\exists X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\wedge(\exists X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\wedge(\exists X5.(m1\_subset\_1 X5 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\wedge((k4\_subset\_1 (u1\_struct\_0 X0) X1 X2 = k4\_subset\_1 (u1\_struct\_0 X0) (k4\_subset\_1 (u1\_struct\_0 X0) X3 X4) X5)\wedge((r1\_tarski X3 X1)\wedge((r1\_tarski X4 X2)\wedge((r1\_tarski X5 (k9\_subset\_1 (u1\_struct\_0 X0) X1 X2))\wedge((v3\_pre\_topc X3 X0)\wedge((v3\_pre\_topc X4 X0)\wedge(v4\_pre\_topc X5 X0))))))))))))))))) \end{aligned}$$