

l9\_csspace2  
(TMXBqjdDoHRkmqS4UrpvNcYeX49k1xhj6K1)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k18\_csspace : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_series\_1 : \iota \Rightarrow o$  be given. Let  $k20\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k55\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_csspace : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $g1\_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k11\_csspace : \iota$  be given. Let  $k10\_csspace : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_csspace : \iota$  be given. Let  $k8\_csspace : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_csspace : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_csspace : \iota$  be given. Let  $v1\_csspace : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v1\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v2\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $k1\_csspace : \iota$  be given. Let  $l1\_csspace : \iota \Rightarrow o$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_clvect\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_csspace : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((m1\_subset\_1 \\
& X1 X0) \wedge (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 X0) X0) \wedge \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) \\
& X0)))))) \wedge (((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 (k2\_zfmisc\_1 k2\_numbers \\
& X0) X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k2\_numbers X0) X0)))))) \wedge ((v1\_funct\_1 X4) \wedge ((v1\_funct\_2 X4 (k2\_zfmisc\_1 \\
& X0 X0) k2\_numbers) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X0) k2\_numbers)))))) \Rightarrow (\forall X5. \forall X6. \\
& \forall X7. \forall X8. \forall X9. (g1\_csspace X0 X1 X2 X3 X4 = g1\_csspace \\
& X5 X6 X7 X8 X9) \Rightarrow ((X0 = X5) \wedge ((X1 = X6) \wedge ((X2 = X7) \wedge ((X3 = X8) \wedge (X4 = X9))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& (\neg v2\_struct\_0 (g1\_csspace k11\_csspace (k10\_csspace k7\_csspace \\
& k11\_csspace) (k8\_csspace k7\_csspace k11\_csspace) (k9\_csspace \\
& k7\_csspace k11\_csspace) k17\_csspace)) \wedge (v1\_csspace (g1\_csspace \\
& k11\_csspace (k10\_csspace k7\_csspace k11\_csspace) (k8\_csspace \\
& k7\_csspace k11\_csspace) (k9\_csspace k7\_csspace k11\_csspace) \\
& k17\_csspace))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& (\neg v2\_struct\_0 k7\_csspace) \wedge ((v13\_algstr\_0 k7\_csspace) \wedge ((v2\_rlvect\_1 \\
& k7\_csspace) \wedge ((v3\_rlvect\_1 k7\_csspace) \wedge ((v4\_rlvect\_1 k7\_csspace) \wedge \\
& ((v1\_clvect\_1 k7\_csspace) \wedge ((v2\_clvect\_1 k7\_csspace) \wedge ((v3\_clvect\_1 \\
& k7\_csspace) \wedge ((v4\_clvect\_1 k7\_csspace) \wedge (v5\_clvect\_1 k7\_csspace)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge \\
& ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_clvect\_1 \\
& X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 X0) \wedge ((v5\_clvect\_1 X0) \wedge \\
& (l1\_clvect\_1 X0))))))))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0)))) \Rightarrow ((v1\_funct\_1 (k9\_csspace X0 X1) \wedge (v1\_funct\_2 (k9\_csspace \\
& X0 X1) (k2\_zfmisc\_1 k2\_numbers X1) X1) \wedge (m1\_subset\_1 (k9\_csspace \\
& X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 k2\_numbers X1) X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge \\
& ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_clvect\_1 \\
& X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 X0) \wedge ((v5\_clvect\_1 X0) \wedge \\
& (l1\_clvect\_1 X0))))))))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0)))) \Rightarrow ((v1\_funct\_1 (k8\_csspace X0 X1) \wedge (v1\_funct\_2 (k8\_csspace \\
& X0 X1) (k2\_zfmisc\_1 X1 X1) X1) \wedge (m1\_subset\_1 (k8\_csspace X0 X1) ( \\
& k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X1 X1) X1))))))
\end{aligned} \tag{7}$$

Assume the following.

$$(\neg v2\_struct\_0\ k7\_csspace) \wedge ((v1\_clvect\_1\ k7\_csspace) \wedge (l1\_clvect\_1\ k7\_csspace)) \quad (8)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_csspace \quad (9)$$

Assume the following.

$$(\neg v2\_struct\_0\ k18\_csspace) \wedge (l1\_csspace\ k18\_csspace) \quad (10)$$

Assume the following.

$$(v1\_funct\_1\ k17\_csspace) \wedge ((v1\_funct\_2\ k17\_csspace\ (k2\_zfmisc\_1\ k11\_csspace\ k11\_csspace)\ k2\_numbers) \wedge (m1\_subset\_1\ k17\_csspace\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k11\_csspace\ k11\_csspace)\ k2\_numbers)))) \quad (11)$$

Assume the following.

$$m1\_subset\_1\ k11\_csspace\ (k1\_zfmisc\_1\ (u1\_struct\_0\ k7\_csspace)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v2\_clvect\_1\ X0) \wedge ((v3\_clvect\_1\ X0) \wedge ((v4\_clvect\_1\ X0) \wedge ((v5\_clvect\_1\ X0) \wedge (l1\_clvect\_1\ X0)))))))))) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1\ (k10\_csspace\ X0\ X1)\ X1) \quad (13)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow ((X0 = k1\_csspace) \Leftrightarrow (\forall X1. (X1 \in X0) \Leftrightarrow ((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ k2\_numbers) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers))))))) \quad (14)$$

Assume the following.

$$k18\_csspace = g1\_csspace\ k11\_csspace\ (k10\_csspace\ k7\_csspace\ k11\_csspace)\ (k8\_csspace\ k7\_csspace\ k11\_csspace)\ (k9\_csspace\ k7\_csspace\ k11\_csspace)\ k17\_csspace \quad (15)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ k7\_csspace))) \Rightarrow ((X0 = k11\_csspace) \Leftrightarrow ((\neg v1\_xboole\_0\ X0) \wedge (\forall X1.(X1 \in X0) \Leftrightarrow ((X1 \in k1\_csspace) \wedge (v1\_series\_1\ (k20\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k55\_valued\_1\ k5\_numbers\ k2\_numbers\ (k2\_csspace\ X1))\ (k55\_valued\_1\ k5\_numbers\ k2\_numbers\ (k2\_csspace\ X1)))))))) \quad (16)$$

Assume the following.

$$\forall X0.(l1\_csspace\ X0)\Rightarrow((v1\_csspace\ X0)\Rightarrow(X0 = g1\_csspace\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_clvect\_1\ X0)\ (u1\_csspace\ X0))) \quad (17)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ k18\_csspace))\Leftrightarrow(((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ k5\_numbers\ k2\_numbers)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers))))))\wedge(v1\_series\_1\ (k20\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k55\_valued\_1\ k5\_numbers\ k2\_numbers\ (k2\_csspace\ X0))\ (k55\_valued\_1\ k5\_numbers\ k2\_numbers\ (k2\_csspace\ X0))))))$$