

t74_valued_2 (TMTMNq-
jaJU4Xtw78R5mQkFY2SCMMB2AFxgQ)

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Let $v1_valued_2 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k73_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k72_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v7_valued_2 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((v1_valued_2 X2) \wedge (v1_valued_2 X3) \wedge (((v1_funct_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3)))))) \Rightarrow (k73_valued_2 X0 X1 \\ & X2 X3 X4 X5 = k72_valued_2 X2 X3 X4 X5) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v7_valued_2 X0))) \Rightarrow (v1_valued_0 (k1_funct_1 X0 X1)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v7_valued_2 X0))) \Rightarrow ((v1_relat_1 (k1_funct_1 X0 X1)) \wedge (v1_funct_1 (k1_funct_1 X0 X1))) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_valued_2 X0) \wedge \\ & ((v1_valued_2 X1) \wedge (((v1_relat_1 X2) \wedge ((v5_relat_1 X2 X0) \wedge (v1_funct_1 \\ & X2)))) \wedge ((v1_relat_1 X3) \wedge ((v5_relat_1 X3 X1) \wedge (v1_funct_1 X3)))))) \Rightarrow \\ & ((v1_relat_1 (k72_valued_2 X0 X1 X2 X3)) \wedge (v1_funct_1 (k72_valued_2 \\ & X0 X1 X2 X3))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_valued_2 X0) \Rightarrow (\forall X1.(v1_valued_2 X1) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v5_relat_1 X2 X0) \wedge (v1_funct_1 X2))) \Rightarrow (\forall X3. \\
& ((v1_relat_1 X3) \wedge ((v5_relat_1 X3 X1) \wedge (v1_funct_1 X3))) \Rightarrow (\forall X4. \\
& ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow ((X4 = k72_valued_2 X0 X1 X2 \\
& X3) \Leftrightarrow ((k9_xtuple_0 X4 = k3_xboole_0 (k9_xtuple_0 X2) (k9_xtuple_0 \\
& X3)) \wedge (\forall X5.(X5 \in k9_xtuple_0 X4) \Rightarrow (k1_funct_1 X4 X5 = k1_valued_1 \\
& (k1_funct_1 X2 X5) (k1_funct_1 X3 X5)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 \\
& X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\
& (k1_valued_1 X0 X1 = k1_valued_1 X1 X0)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_valued_2 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((\\
& v5_relat_1 X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 X1) \wedge ((v5_relat_1 \\
& X1 X0) \wedge ((v1_funct_1 X1) \wedge (v7_valued_2 X1))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2)
\end{aligned} \tag{10}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(v1_valued_2 X2) \Rightarrow (\forall X3. \\
& (v1_valued_2 X3) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))) \Rightarrow (\forall X5.((v1_funct_1 \\
& X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3)))) \Rightarrow (k73_valued_2 \\
& X0 X1 X2 X3 X4 X5 = k73_valued_2 X1 X0 X3 X2 X5 X4)))
\end{aligned}$$