

t66_valued_2 (TMLMQmNbQxE- SoDw64RoE84BP9Z2A2WcwGy1)

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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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k52_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_valued_2 : \iota \Rightarrow \iota$ be given. Let $k1_valued_2 : \iota \Rightarrow \iota$ be given. Let $k58_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k57_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k51_valued_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad ((k9_xtuple_0 (k30_valued_1 X0) = k9_xtuple_0 X0) \wedge (\forall X1. \\ & \quad k1_funct_1 (k30_valued_1 X0) X1 = k4_xcmplx_0 (k1_funct_1 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_valued_2 X1) \Rightarrow (\forall X2. ((v1_funct_1 \\ & \quad X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (\forall X3. \\ & \quad ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_valued_0 X3))) \Rightarrow (k58_valued_2 \\ & \quad X0 X1 X2 (k30_valued_1 X3) = k52_valued_2 X0 X1 X2 X3)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_valued_2 X1) \Rightarrow (\forall X2. ((v1_funct_1 \\ & \quad X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (\forall X3. \\ & \quad ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_valued_0 X3))) \Rightarrow (\forall X4. \\ & \quad ((v1_relat_1 X4) \wedge ((v1_funct_1 X4) \wedge (v1_valued_0 X4))) \Rightarrow (k52_valued_2 \\ & \quad (k3_xboole_0 X0 (k9_xtuple_0 X3)) (k2_valued_2 (k1_valued_2 X1)) \\ & \quad (k52_valued_2 X0 X1 X2 X3) X4 = k52_valued_2 X0 X1 X2 (k1_valued_1 \\ & \quad X3 X4)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1)))) \Rightarrow (k45_valued_1 X0 X1 = k30_valued_1 (k45_valued_1 X1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_valued_2 X1) \wedge \\ & (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_valued_0 X3)))))) \Rightarrow \\ & (k58_valued_2 X0 X1 X2 X3 = k57_valued_2 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_valued_2 X1) \wedge \\ & (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_valued_0 X3)))))) \Rightarrow \\ & (k52_valued_2 X0 X1 X2 X3 = k51_valued_2 X1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (k30_valued_1 (k30_valued_1 X0) = X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 \\ & X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & ((v1_relat_1 (k45_valued_1 X0 X1)) \wedge ((v1_funct_1 (k45_valued_1 \\ & X0 X1)) \wedge (v1_valued_0 (k45_valued_1 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & ((v1_relat_1 (k30_valued_1 X0)) \wedge ((v1_funct_1 (k30_valued_1 \\ & X0)) \wedge (v1_valued_0 (k30_valued_1 X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1)))) \Rightarrow (k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 \\ & X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & (k1_valued_1 X0 X1 = k1_valued_1 X1 X0) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (v1_valued_2 X1) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (\forall X3. \\ & ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_valued_0 X3))) \Rightarrow (\forall X4. \\ & ((v1_relat_1 X4) \wedge ((v1_funct_1 X4) \wedge (v1_valued_0 X4))) \Rightarrow (k52_valued_2 \\ & (k3_xboole_0 X0 (k9_xtuple_0 X3)) (k2_valued_2 (k1_valued_2 X1)) \\ & (k58_valued_2 X0 X1 X2 X3) X4 = k58_valued_2 X0 X1 X2 (k45_valued_1 \\ & X3 X4)))))) \end{aligned}$$