

t56_funcop_1

(TMWet6hMqXttcjGozGGgFuBoigH1aP2M5VS)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
 & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\
 & X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
 & X0 X0) X0)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 \\
 & X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \Rightarrow (\forall X4. \\
 & (m1_subset_1 X4 X0) \Rightarrow (\forall X5.(m1_subset_1 X5 X1) \Rightarrow (k3_funct_2 \\
 & X1 X0 (k10_funcop_1 X0 X1 X2 X4 X3) X5 = k5_binop_1 X0 X2 X4 (k3_funct_2 \\
 & X1 X0 X3 X5))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
 & (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (\forall X2.(m1_subset_1 \\
 & X2 X0) \Rightarrow (k3_funct_2 X0 X0 (k6_funcop_1 X0 X0 X1 (k6_partfun1 X0) (\\
 & k6_partfun1 X0)) X2 = k5_binop_1 X0 X1 X2 X2))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 X0) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X0) \wedge (m1_subset_1 \\ X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow (k3_funct_2 X0 X0 (k6_funcop_1 \\ X0 X0 X1 (k6_partfun1 X0) X3) X2 = k5_binop_1 X0 X1 X2 (k3_funct_2 X0 \\ X0 X3 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (4)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0) \wedge ((v4_relat_1 (k4_relat_1 \\ X0) X0) \wedge ((v1_funct_1 (k4_relat_1 X0) \wedge (v1_partfun1 (k4_relat_1 \\ X0) X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 \\ X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 X0) \Rightarrow (k3_funct_2 X0 X0 (k10_funcop_1 X0 X0 X1 X2 (k6_partfun1 X0) \\ X2 = k5_binop_1 X0 X1 X2 X2))) \end{aligned}$$