

t34_cfunct_1

(TMV9Xaz1fZYRnNZrVQQWdNDe9hQXmFhHHh1)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k2_numbers : \iota$ be given. Let $r2_rerset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_cfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rerset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_complex1 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_rerset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow (k9_xtuple_0 (k5_relat_1 X1 X0) = k3_xboole_0 (k9_xtuple_0 X1) X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))) \Rightarrow (((k1_rerset_1 X1 X2 = k1_rerset_1 X1 X3) \wedge \\ & (\forall X4. (m1_subset_1 X4 X1) \Rightarrow ((X4 \in k1_rerset_1 X1 X2) \Rightarrow (k7_partfun1 X0 X2 X4 = k7_partfun1 X0 X3 X4)))) \Rightarrow (r2_rerset_1 X1 X0 X2 X3)))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X2 X1)))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X2 X1)))) \Rightarrow ((r2_rerset_1 X2 X1 X3 (k2_partfun1 X2 X1 X4 X0)) \Leftrightarrow ((k1_rerset_1 X2 X3 = k8_subset_1 X2 (k1_rerset_1 X2 X4) X0) \wedge (\forall X5. (m1_subset_1 X5 X2) \Rightarrow ((X5 \in k1_rerset_1 X2 X3) \Rightarrow (k7_partfun1 X1 X3 X5 = k7_partfun1 X1 X4 X5)))))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (\\ k1_relset_1 X0 (k2_cfunct_1 X0 (k2_cfunct_1 X0 X1)) = k1_relset_1 \\ X0 (k2_partfun1 X0 k2_numbers X1 (k1_relset_1 X0 (k2_cfunct_1 X0 \\ X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 \\ X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ k1_relset_1 X0 X1 = k9_xtuple_0 X1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (k12_complex1 (k12_complex1 \\ X0) = X0) \end{aligned} \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_relat_1 X1) \wedge ((v5_relat_1 \\ X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow (m1_subset_1 (k7_partfun1 X0 X1 X2) X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_relat_1 X0) \Rightarrow (v1_relat_1 (k5_relat_1 \\ X0 X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((v1_funct_1 \\ (k2_partfun1 X0 X1 X2 X3)) \wedge (m1_subset_1 (k2_partfun1 X0 X1 X2 X3) \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge \\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow \\ ((v1_funct_1 (k2_cfunct_1 X0 X1))\wedge(m1_subset_1 (k2_cfunct_1 \\ X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1)\Leftrightarrow(\forall X3. \\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow(\\ \forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k2_numbers))))\Rightarrow((X2 = k2_cfunct_1 X0 X1)\Leftrightarrow((k1_relset_1 X0 X2 = \\ k7_subset_1 X0 (k1_relset_1 X0 X1) (k8_relset_1 X0 k2_numbers X1 \\ (k1_tarski k6_numbers))))\wedge(\forall X3.(m1_subset_1 X3 X0)\Rightarrow((\\ X3 \in k1_relset_1 X0 X2)\Rightarrow(k7_partfun1 k2_numbers X2 X3 = k12_complex1 \\ (k7_partfun1 k2_numbers X1 X3)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \quad (17)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge \\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers))))\Rightarrow(\\ r2_relset_1 X0 k2_numbers (k2_cfunct_1 X0 (k2_cfunct_1 X0 X1)) \\ (k2_partfun1 X0 k2_numbers X1 (k1_relset_1 X0 (k2_cfunct_1 X0 X1)))) \end{aligned}$$