

t64_cfunct_1

(TMS4MYGMuj4zSBQo7TxCSYcJhqNHNcdKF9J)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k46_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
 & \quad m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (\\
 & \quad \forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & \quad X0 k2_numbers)))) \Rightarrow ((k1_relset_1 X0 (k19_valued_1 X0 k2_numbers \\
 & \quad k2_numbers X1 X2) = k9_subset_1 X0 (k1_relset_1 X0 X1) (k1_relset_1 \\
 & \quad X0 X2)) \wedge (\forall X3. (m1_subset_1 X3 X0) \Rightarrow ((X3 \in k1_relset_1 X0 (\\
 & \quad k19_valued_1 X0 k2_numbers k2_numbers X1 X2)) \Rightarrow (k7_partfun1 k2_numbers \\
 & \quad (k19_valued_1 X0 k2_numbers k2_numbers X1 X2) X3 = k9_complex1 (\\
 & \quad k7_partfun1 k2_numbers X1 X3) (k7_partfun1 k2_numbers X2 X3)))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee \\
 & \quad (X0 \in X1)) \\
 & \tag{2}
 \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (\\ \forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k2_numbers)))) \Rightarrow ((k1_relset_1 X0 (k46_valued_1 X0 k2_numbers \\ k2_numbers X1 X2) = k9_subset_1 X0 (k1_relset_1 X0 X1) (k1_relset_1 \\ X0 X2)) \wedge (\forall X3.(m1_subset_1 X3 X0) \Rightarrow ((X3 \in k1_relset_1 X0 (\\ k46_valued_1 X0 k2_numbers k2_numbers X1 X2)) \Rightarrow (k7_partfun1 k2_numbers \\ (k46_valued_1 X0 k2_numbers k2_numbers X1 X2) X3 = k11_complex1 \\ (k7_partfun1 k2_numbers X1 X3) (k7_partfun1 k2_numbers X2 X3))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (\\ \forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k2_numbers)))) \Rightarrow ((k1_relset_1 X0 (k2_valued_1 X0 k2_numbers \\ k2_numbers X1 X2) = k9_subset_1 X0 (k1_relset_1 X0 X1) (k1_relset_1 \\ X0 X2)) \wedge (\forall X3.(m1_subset_1 X3 X0) \Rightarrow ((X3 \in k1_relset_1 X0 (\\ k2_valued_1 X0 k2_numbers k2_numbers X1 X2)) \Rightarrow (k7_partfun1 k2_numbers \\ (k2_valued_1 X0 k2_numbers k2_numbers X1 X2) X3 = k8_complex1 (k7_partfun1 \\ k2_numbers X1 X3) (k7_partfun1 k2_numbers X2 X3))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X1 = X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers)))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (((v1_partfun1 \\ & X2 X0) \wedge (v1_partfun1 X3 X0)) \Rightarrow ((k7_partfun1 k2_numbers (k2_valued_1 \\ & X0 k2_numbers k2_numbers X2 X3) X1 = k8_complex1 (k7_partfun1 k2_numbers \\ & X2 X1) (k7_partfun1 k2_numbers X3 X1)) \wedge ((k7_partfun1 k2_numbers \\ & (k46_valued_1 X0 k2_numbers k2_numbers X2 X3) X1 = k11_complex1 \\ & (k7_partfun1 k2_numbers X2 X1) (k7_partfun1 k2_numbers X3 X1)) \wedge \\ & (k7_partfun1 k2_numbers (k19_valued_1 X0 k2_numbers k2_numbers \\ & X2 X3) X1 = k9_complex1 (k7_partfun1 k2_numbers X2 X1) (k7_partfun1 \\ & k2_numbers X3 X1))))))))) \end{aligned}$$