

t12_partfun2 (TMdnVweWomLyXCF- fkpFXjUWuXs8RxPtPLyn)

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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 $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X1 X2)))) \Rightarrow (((X3 \in k1_relset_1 X0 X4) \wedge (k7_partfun1 \\
& X1 X4 X3 \in k1_relset_1 X1 X5)) \Rightarrow (k7_partfun1 X2 (k1_partfun1 X0 X1 \\
& X1 X2 X4 X5) X3 = k7_partfun1 X2 X5 (k7_partfun1 X1 X4 X3))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge ((v2_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (\forall X3.((v1_funct_1 \\
& X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))) \Rightarrow ((r2_relset_1 \\
& X1 X0 X3 (k2_partfun2 X0 X1 X2)) \Leftrightarrow ((k1_relset_1 X1 X3 = k2_relset_1 \\
& X1 X2) \wedge (\forall X4.(m1_subset_1 X4 X1) \Rightarrow (\forall X5.(m1_subset_1 \\
& X5 X0) \Rightarrow (((X4 \in k2_relset_1 X1 X2) \wedge (X5 = k7_partfun1 X0 X3 X4)) \Rightarrow (\\
& (X5 \in k1_relset_1 X0 X2) \wedge (X4 = k7_partfun1 X1 X2 X5))) \wedge (((X5 \in k1_relset_1 \\
& X0 X2) \wedge (X4 = k7_partfun1 X1 X2 X5)) \Rightarrow ((X4 \in k2_relset_1 X1 X2) \wedge (X5 = \\
& k7_partfun1 X0 X3 X4))))))))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(r2_relset_1 X0 X1 X2 X2)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow(k2_partfun2 X0 X1 X2 = k2_funct_1 X2)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(m1_subset_1 (k7_partfun1 X0 X1 X2) X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow((v1_funct_1 (k2_partfun2 X0 X1 X2))\wedge(m1_subset_1 (k2_partfun2 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (8)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.(m1_subset_1 X2 X0)\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge((v2_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow((X2 \in k1_relset_1 X0 X3)\Rightarrow((X2 = k7_partfun1 X0 (k2_partfun2 X0 X1 X3) (k7_partfun1 X1 X3 X2))\wedge(X2 = k7_partfun1 X0 (k1_partfun1 X0 X1 X1 X0 X3 (k2_partfun2 X0 X1 X3) X2)))))))$$