

t7_partfun2

(TMXqNh4w4WQxyXyP5Y1EGiswansdH83tA8d)

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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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & X0)) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0)))) \Rightarrow ((r2_relset_1 X0 X0 X2 (k1_partfun1 X0 X1)) \Leftrightarrow \\ & ((k1_relset_1 X0 X2 = X1) \wedge (\forall X3.(m1_subset_1 X3 X0) \Rightarrow ((X3 \in \\ & X1) \Rightarrow (k7_partfun1 X0 X2 X3 = X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X2 X0)))) \Rightarrow (\forall X4. \\ & ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ & X1)))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X2 X1)))) \Rightarrow ((r2_relset_1 X2 X1 X5 (k1_partfun1 X2 X0 \\ & X0 X1 X3 X4)) \Leftrightarrow ((\forall X6.(m1_subset_1 X6 X2) \Rightarrow ((X6 \in k1_relset_1 \\ & X2 X5) \Leftrightarrow ((X6 \in k1_relset_1 X2 X3) \wedge (k7_partfun1 X0 X3 X6 \in k1_relset_1 \\ & X0 X4)))) \wedge (\forall X6.(m1_subset_1 X6 X2) \Rightarrow ((X6 \in k1_relset_1 X2 \\ & X5) \Rightarrow (k7_partfun1 X1 X5 X6 = k7_partfun1 X1 X4 (k7_partfun1 X0 X3 X6)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(r2_relset_1 X0 X1 X2 X2)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0)))\Rightarrow((v1_funct_1 (k1_partfun2 X0 X1))\wedge(m1_subset_1 (k1_partfun2 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))\Rightarrow((v1_funct_1 (k1_partfun1 X0 X1 X2 X3 X4 X5))\wedge(m1_subset_1 (k1_partfun1 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 X0 X3)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (9)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 X0)\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))\Rightarrow((X2 \in k9_subset_1 X0 (k1_relset_1 X0 X3) X1)\Rightarrow(k7_partfun1 X0 X3 X2 = k7_partfun1 X0 (k1_partfun1 X0 X0 X0 X0 (k1_partfun2 X0 X1) X3) X2))))))$$