

t84_funct_2
(TMN4KR1ujews4VvgUoAM7d67z5Aqb6usaqm)

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Let $k5_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow \\ & (((X1 = k1_xboole_0) \Rightarrow (X0 = k1_xboole_0)) \Rightarrow (X2 \in k1_funct_2 X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X2 \in k1_funct_2 X0 X1) \Rightarrow ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow (r1_partfun1 (k3_partfun1 k1_xboole_0 X0 X1) X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (v1_xboole_0 X1)) \Rightarrow \\ & (v1_xboole_0 (k1_funct_2 X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_relat_1 \ X0)\wedge(v1_funct_1 \\ & X0))\Rightarrow((v1_funct_1 \ (k3_partfun1 \ X0 \ X1 \ X2))\wedge(m1_subset_1 \ (k3_partfun1 \\ & X0 \ X1 \ X2) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X1 \ X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1 \ X2)\wedge(m1_subset_1 \\ & X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))))\Rightarrow(\forall X3.(X3 = k5_partfun1 \\ & X0 \ X1 \ X2)\Leftrightarrow(\forall X4.(X4 \in X3)\Leftrightarrow(\exists X5.((v1_funct_1 \ X5)\wedge(\\ & m1_subset_1 \ X5 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))))\wedge((X5 = X4)\wedge \\ & ((v1_partfun1 \ X5 \ X0)\wedge(r1_partfun1 \ X2 \ X5)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 \ X0)\Rightarrow(\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X1 \ X0)))\Rightarrow(v1_xboole_0 \ X2)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1_xboole_0 \ X1)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow((v1_funct_2 \ X2 \ X0 \ X1)\Rightarrow(\\ & v1_partfun1 \ X2 \ X0))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 \ X0)\wedge(v1_xboole_0 \ X1))\Rightarrow \\ & (\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow \\ & (\neg v1_partfun1 \ X2 \ X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow(v1_relat_1 \ X2) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0)\Rightarrow(v1_relat_1 \ X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 \ X0)\Rightarrow(\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow(v1_partfun1 \ X2 \ X0)) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow((v1_partfun1 \ X2 \ X0)\Rightarrow(v1_funct_2 \ X2 \ X0 \ X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_funct_1 X0) \quad (17)$$

Theorem 1

$$\forall X0.\forall X1.k5_partfun1 X0 X1 (k3_partfun1 k1_xboole_0 X0 X1) = k1_funct_2 X0 X1$$