

t3_partfun3
(TMR16f6kgL2fDpiSM32ivFZj6DN5bJtrze6)

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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 $k1_numbers : \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_rfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.k4_xboole_0 X0 k1_xboole_0 = X0 \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered\ X1)\wedge \\ & (((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))\wedge((v1_funct_1\ X3)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))))\Rightarrow(k3_rfunct_1\ X0\ X1\ X2\ X3 = k1_rfunct_1\ X2\ X3) \end{aligned} \quad (6)$$

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.

$$\begin{aligned} & \forall X0.((v1_relat_1\ X0)\wedge((v2_relat_1\ X0)\wedge(v1_funct_1\ X0)))\Rightarrow \\ & (v1_xboole_0\ (k8_relat_1\ X0\ (k1_tarski\ k6_numbers))) \end{aligned} \quad (8)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.m1_subset_1\ (k6_subset_1\ X0\ X1)\ (k1_zfmisc_1 \\ & X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered\ X1)\wedge \\ & (((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))\wedge((v1_funct_1\ X3)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))))\Rightarrow((v1_funct_1\ (k3_rfunct_1\ X0\ X1\ X2\ X3))\wedge(m1_subset_1 \\ & (k3_rfunct_1\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k1_numbers)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_valued_0 \\ & X0)))\wedge((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_valued_0\ X1))))\Rightarrow \\ & ((v1_relat_1\ (k1_rfunct_1\ X0\ X1))\wedge(v1_funct_1\ (k1_rfunct_1\ X0 \\ & X1))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1\ X1)\wedge(v4_relat_1\ X1\ X0))\Rightarrow(\\ & m1_subset_1\ (k1_relset_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\
& \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\
& \quad X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k1_rfunct_1 \\
& \quad X0 X1) \Leftrightarrow ((k9_xtuple_0 X2 = k9_subset_1 (k9_xtuple_0 X1) (k9_xtuple_0 \\
& \quad X0) (k6_subset_1 (k9_xtuple_0 X1) (k8_relat_1 X1 (k1_tarski k6_numbers)))))) \wedge \\
& \quad (\forall X3.(X3 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X2 X3 = k3_xcmplx_0 \\
& \quad (k1_funct_1 X0 X3) (k5_xcmplx_0 (k1_funct_1 X1 X3))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \tag{15}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \tag{16}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \tag{17}$$

Assume the following.

$$\forall X0. \forall X1. (v3_membered X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v3_valued_0 X2)) \tag{18}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
& \quad m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\
& \quad \forall X2. ((v2_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (m1_subset_1 X2 \\
& \quad (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow (k1_relset_1 X0 \\
& \quad (k3_rfunct_1 X0 k1_numbers X1 X2) = k9_subset_1 X0 (k1_relset_1 \\
& \quad X0 X1) (k1_relset_1 X0 X2)))
\end{aligned}$$