

t54_comseq_3

(TMZjon1SJyAEgCZHAfsJoMxxkcXeaQgLA2J)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k2_numbers : \iota$ 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 $v1_comseq_3 : \iota \Rightarrow o$ be given. Let $k1_series_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_comseq_3 : \iota \Rightarrow \iota$ be given. Let $k8_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_comseq_3 : \iota \Rightarrow \iota$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $k3_comseq_2 : \iota \Rightarrow \iota$ be given. Let $k2_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_membered : \iota \Rightarrow o$ be given. Let $k2_series_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\
 & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
 & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\
 & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
 & (r2_funct_2 k5_numbers k2_numbers (k1_series_1 k2_numbers (k10_comseq_3 \\
 & X0) (k10_comseq_3 X1)) (k10_comseq_3 (k1_series_1 k2_numbers \\
 & X0 X1))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\
 & ((v2_comseq_2 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & k5_numbers k2_numbers)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
 & (v1_funct_2 X1 k5_numbers k2_numbers) \wedge ((v2_comseq_2 X1) \wedge (m1_subset_1 \\
 & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow (k3_comseq_2 \\
 & (k2_valued_1 k5_numbers k2_numbers k2_numbers X0 X1) = k8_complex1 \\
 & (k3_comseq_2 X0) (k3_comseq_2 X1))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1))))\wedge((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((r2_funct_2 X0 X1 X2 \\ & X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered \\ & X1)\wedge((v1_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow(k2_valued_1 X0 X1 X2 X3 X4 = k1_valued_1 \\ & X3 X4) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X0)\wedge((v1_membered \\ & X0)\wedge(v7_membered X0)))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers \\ & X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))\wedge \\ & ((v1_funct_1 X2)\wedge((v1_funct_2 X2 k5_numbers X0)\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))))\Rightarrow(k1_series_1 \\ & X0 X1 X2 = k1_valued_1 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0)\wedge((v1_funct_2 X0 k5_numbers k2_numbers)\wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers))))\Rightarrow \\ & (k10_comseq_3 X0 = k2_series_1 X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0)\wedge((v1_funct_2 X0 k5_numbers k2_numbers)\wedge \\ & ((v1_comseq_3 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k2_numbers))))\Rightarrow((v1_funct_1 (k2_series_1 X0))\wedge \\ & ((v1_funct_2 (k2_series_1 X0) k5_numbers k2_numbers)\wedge(v2_comseq_2 \\ & (k2_series_1 X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$v7_membered k2_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers \\ & k2_numbers) \wedge ((v2_comseq_2 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers k2_numbers)))))) \wedge ((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge ((v2_comseq_2 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow (\\ & (v1_funct_1 (k1_valued_1 X0 X1)) \wedge ((v1_funct_2 (k1_valued_1 X0 \\ & X1) k5_numbers k2_numbers) \wedge (v2_comseq_2 (k1_valued_1 X0 X1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (11)$$

Assume the following.

$$v1_membered k2_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v1_xboole_0 X0) \wedge ((v1_membered \\ & X0) \wedge (v7_membered X0))) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \wedge \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers X0) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \Rightarrow ((v1_funct_1 \\ & (k1_series_1 X0 X1 X2)) \wedge ((v1_funct_2 (k1_series_1 X0 X1 X2) k5_numbers \\ & X0) \wedge (m1_subset_1 (k1_series_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers X0)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & ((v1_funct_1 (k10_comseq_3 X0)) \wedge ((v1_funct_2 (k10_comseq_3 \\ & X0) k5_numbers k2_numbers) \wedge (m1_subset_1 (k10_comseq_3 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers k2_numbers)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & ((v1_comseq_3 X0) \Leftrightarrow (v2_comseq_2 (k10_comseq_3 X0))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (k11_comseq_3 X0 = k3_comseq_2 (k10_comseq_3 X0)) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v1_xboole_0 X0) \wedge ((v1_membered \\
& X0) \wedge (v7_membered X0))) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\
& X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \wedge \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers X0) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \Rightarrow (k1_series_1 \\
& X0 X1 X2 = k1_series_1 X0 X2 X1)
\end{aligned} \tag{17}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge \\
& (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
& (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\
& (((v1_comseq_3 X0) \wedge (v1_comseq_3 X1)) \Rightarrow ((v1_comseq_3 (k1_series_1 \\
& k2_numbers X0 X1)) \wedge (k11_comseq_3 (k1_series_1 k2_numbers X0 X1) = \\
& k8_complex1 (k11_comseq_3 X0) (k11_comseq_3 X1))))
\end{aligned}$$