

t51_comseq_3 (TM-
cUaZRtRomkpZGJ7Hd8XpagfDt7jSGMgMd)

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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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_complex1 : \iota$ be given. Let $v2_comseq_3 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v2_series_1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k54_valued_1 : \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $k55_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k16_complex1 : \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_series_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))) \Rightarrow \\ & ((\forall X1. (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (k8_nat_1 \\ & k1_numbers X0 X1 = k6_numbers)) \Rightarrow (v2_series_1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1. k1_funct_1 (k54_valued_1 X0) X1 = k17_complex1 (k1_funct_1 X0 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))))\wedge(v7_ordinal1 X2))\Rightarrow(k8_nat_1 X0 X1 X2 = k1_funct_1 X1 X2) \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$k5_complex1 = k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered X1)\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow(k55_valued_1 X0 X1 X2 = k54_valued_1 X2) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(k17_complex1 X0 = k16_complex1 X0) \quad (10)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0)\wedge((v1_xcmplx_0 X0)\wedge((v1_xreal_0 X0)\wedge(v1_xreal_0 X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X1)\wedge(v1_membered X1))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((v1_funct_1 (k54_valued_1 X2))\wedge(v1_partfun1 (k54_valued_1 X2) X0)) \quad (12)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (13)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (14)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (15)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (16)$$

Assume the following.

$$v1_membered \ k2_numbers \quad (17)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_membered \ X1)\wedge((v1_funct_1 \\ & X2)\wedge(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))))\Rightarrow((v1_funct_1 \\ & (k55_valued_1 \ X0 \ X1 \ X2))\wedge(m1_subset_1 \ (k55_valued_1 \ X0 \ X1 \ X2) \ (\\ & k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ k1_numbers)))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 \ X0)\wedge((v1_funct_2 \ X0 \ k5_numbers \ k2_numbers)\wedge \\ & (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k2_numbers))))\Rightarrow \\ & ((v2_comseq_3 \ X0)\Leftrightarrow(v1_series_1 \ (k55_valued_1 \ k5_numbers \ k2_numbers \\ & X0))) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 \ X0)\Rightarrow(((r1_xxreal_0 \ k6_numbers \ X0)\Rightarrow(k16_complex1 \\ & X0 = X0))\wedge((\neg r1_xxreal_0 \ k6_numbers \ X0)\Rightarrow(k16_complex1 \ X0 = k4_xcmplx_0 \\ & X0))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xxreal_0 \ X0)\wedge(v1_xxreal_0 \ X1))\Rightarrow(\\ & (r1_xxreal_0 \ X0 \ X1)\vee(r1_xxreal_0 \ X1 \ X0)) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1)\Rightarrow(v7_ordinal1 \ X0) \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \\ & k1_numbers)))\Rightarrow(((v1_funct_1 \ X0)\wedge((v1_funct_2 \ X0 \ k5_numbers \\ & k1_numbers)\wedge(v2_series_1 \ X0)))\Rightarrow((v1_funct_1 \ X0)\wedge((v1_funct_2 \\ & X0 \ k5_numbers \ k1_numbers)\wedge(v1_series_1 \ X0)))) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow(v1_relat_1 \ X2) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_partfun1 X2 X0)\Rightarrow(v1_funct_2 X2 X0 X1)) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v1_membered X1)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_valued_0 X2)) \end{aligned} \quad (27)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 X0)\wedge((v1_funct_2 X0 k5_numbers k2_numbers)\wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers))))))\Rightarrow \\ & ((\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow(k8_nat_1 \\ & k2_numbers X0 X1 = k5_complex1))\Rightarrow(v2_comseq_3 X0)) \end{aligned}$$