

t5_integr19

(TMZ1bioZZXZbFeMPvFERmRygG7R4La826fT)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $k1_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xbool_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k6_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k1_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $k2_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_normsp_0 : \iota \Rightarrow \iota$ be given. Let $k3_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be

given. Let $k6_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (\neg v1_xboole_0 X1) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow (\forall X4.((v1_funct_1 \\
& X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X1 (k1_euclid X0)))))) \Rightarrow \\
& (\forall X5.((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 (k1_euclid X0)))))) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (k6_vfunct_1 X1 (k4_real_ns1 \\
& X0) X2 X3 = k7_integr15 X0 X1 X4 X5))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 \\
& X3) \Rightarrow (\forall X4.(v1_xreal_0 X4) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge \\
& (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid \\
& X0)))))) \Rightarrow (\forall X6.((v1_funct_1 X6) \wedge (m1_subset_1 X6 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k1_numbers (k1_euclid X0)))))) \Rightarrow (((r1_xxreal_0 X1 \\
& X2) \wedge ((r1_xxreal_0 X2 X3) \wedge ((r1_xxreal_0 X3 X4) \wedge ((r1_tarski (k3_integra5 \\
& X1 X4) (k1_relset_1 k1_numbers X5)) \wedge (r1_tarski (k3_integra5 X1 \\
& X4) (k1_relset_1 k1_numbers X6)))))) \Rightarrow (r1_tarski (k3_integra5 \\
& X2 X3) (k1_relset_1 k1_numbers (k7_integr15 X0 k1_numbers X5 X6))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\
& (k1_euclid X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid X0)))))) \Rightarrow (\\
& r2_relset_1 k1_numbers (k1_euclid X0) (k8_integr15 X0 k1_numbers \\
& X1 X2) (k7_integr15 X0 k1_numbers X1 (k2_nfcont_4 X0 k1_numbers \\
& X2))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (\neg v1_xboole_0 X1) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow (\forall X4.((v1_funct_1 \\
& X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X1 (k1_euclid X0)))))) \Rightarrow \\
& (\forall X5.((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 (k1_euclid X0)))))) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (k2_vfunct_1 X1 (k4_real_ns1 \\
& X0) X2 X3 = k8_integr15 X0 X1 X4 X5))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((r2_relset_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (6)$$

Assume the following.

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

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow((\neg v2_struct_0 (k4_real_ns1 X0))\wedge((v13_algstr_0 (k4_real_ns1 X0))\wedge((v2_rlvect_1 (k4_real_ns1 X0))\wedge((v3_rlvect_1 (k4_real_ns1 X0))\wedge((v4_rlvect_1 (k4_real_ns1 X0))\wedge((v5_rlvect_1 (k4_real_ns1 X0))\wedge((v6_rlvect_1 (k4_real_ns1 X0))\wedge((v7_rlvect_1 (k4_real_ns1 X0))\wedge((v8_rlvect_1 (k4_real_ns1 X0))\wedge((v3_normsp_0 (k4_real_ns1 X0))\wedge((v4_normsp_0 (k4_real_ns1 X0))\wedge((v1_normsp_1 (k4_real_ns1 X0))\wedge((v2_normsp_1 (k4_real_ns1 X0)))))))))))))) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (10)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l2_normsp_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge(((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v5_rlvect_1 X1)\wedge((v6_rlvect_1 X1)\wedge((v7_rlvect_1 X1)\wedge((v8_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge((v4_normsp_0 X1)\wedge((v2_normsp_1 X1)\wedge(l1_normsp_1 X1))))))))))))))\wedge(((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\wedge((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1)))))))\Rightarrow((v1_funct_1 (k6_vfunct_1 X0 X1 X2 X3))\wedge(m1_subset_1 (k6_vfunct_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \quad (13)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (l1_normsp_1\ (k4_real_ns1\ X0)))) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0) \wedge \\ & (((\neg v2_struct_0\ X1) \wedge (l2_algstr_0\ X1)) \wedge ((v1_funct_1\ X2) \wedge (m1_subset_1 \\ & X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ (u1_struct_0\ X1)))))) \wedge ((v1_funct_1 \\ & X3) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ (u1_struct_0 \\ & X1)))))) \Rightarrow ((v1_funct_1\ (k2_vfunct_1\ X0\ X1\ X2\ X3)) \wedge (m1_subset_1 \\ & (k2_vfunct_1\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ (u1_struct_0 \\ & X1)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_subset_1\ X0\ k5_numbers) \wedge \\ & ((\neg v1_xboole_0\ X1) \wedge ((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X1\ (k1_euclid\ X0)))))) \Rightarrow ((v1_funct_1\ (k2_nfcont_4 \\ & X0\ X1\ X2)) \wedge (m1_subset_1\ (k2_nfcont_4\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X1\ (k1_euclid\ X0)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ & ((v1_normsp_1\ X1) \wedge (l1_normsp_1\ X1))) \Rightarrow ((X1 = k4_real_ns1\ X0) \Leftrightarrow \\ & ((u1_struct_0\ X1 = k1_euclid\ X0) \wedge ((k4_struct_0\ X1 = k5_euclid\ X0) \wedge \\ & ((r1_funct_2\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)) \\ & (u1_struct_0\ X1)\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ (\\ & k1_euclid\ X0)\ (u1_algstr_0\ X1)\ (k1_real_ns1\ X0)) \wedge ((r1_funct_2 \\ & (k2_zfmisc_1\ k1_numbers\ (u1_struct_0\ X1))\ (u1_struct_0\ X1)\ (k2_zfmisc_1 \\ & k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_rlvect_1\ X1)\ (k2_real_ns1 \\ & X0)) \wedge (r1_funct_2\ (u1_struct_0\ X1)\ k1_numbers\ (k1_euclid\ X0)\ k1_numbers \\ & (u1_normsp_0\ X1)\ (k3_real_ns1\ X0)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 (k1_euclid X0)))))) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 \\
& (k1_euclid X0)))))) \Rightarrow ((X3 = k2_nfcont_4 X0 X1 X2) \Leftrightarrow ((k1_relset_1 \\
& X1 X3 = k1_relset_1 X1 X2) \wedge (\forall X4. (X4 \in k1_relset_1 X1 X3) \Rightarrow (\\
& k7_partfun1 (k1_euclid X0) X3 X4 = k6_euclid X0 (k7_partfun1 (k1_euclid \\
& X0) X2 X4))))))
\end{aligned} \tag{19}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{20}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 \\
& X3) \Rightarrow (\forall X4.(v1_xreal_0 X4) \Rightarrow (\forall X5. ((v1_funct_1 X5) \wedge \\
& (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid \\
& X0)))))) \Rightarrow (\forall X6. ((v1_funct_1 X6) \wedge (m1_subset_1 X6 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k1_numbers (k1_euclid X0)))))) \Rightarrow (((r1_xreal_0 X1 \\
& X2) \wedge ((r1_xreal_0 X2 X3) \wedge ((r1_xreal_0 X3 X4) \wedge ((r1_tarski (k3_integra5 \\
& X1 X4) (k1_relset_1 k1_numbers X5) \wedge (r1_tarski (k3_integra5 X1 \\
& X4) (k1_relset_1 k1_numbers X6)))))) \Rightarrow (r1_tarski (k3_integra5 \\
& X2 X3) (k1_relset_1 k1_numbers (k8_integr15 X0 k1_numbers X5 X6))))))
\end{aligned}$$