

t5_integr18 (TMSaAjwXSH- FgGN23o435FKLqwTTMSEQkodd)

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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 $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_measure5 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_integr18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_integr18 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v2_measure5 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X1 (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X1 (u1_struct_0 \\
& X0)))))) \Rightarrow (((r2_relset_1 X1 (u1_struct_0 X0) X4 (k4_vfunct_1 X1 \\
& X0 X3 X2) \wedge (v1_integr18 X3 X0 X1)) \Rightarrow ((v1_integr18 X4 X0 X1) \wedge (k4_integr18 \\
& X0 X1 X4 = k1_rlvect_1 X0 (k4_integr18 X0 X1 X3) X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\ & ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\ & X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1)))) \Rightarrow (r2_relset_1 X0 (u1_struct_0 X1) (k5_vfunct_1 X0 X1 X2) \\ & (k4_vfunct_1 X0 X1 X2 (k1_real_1 np_1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (k4_algstr_0 X0 X1 = k1_rlvect_1 X0 X1 (k1_real_1 np_1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l2_normsp_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((\neg v2_struct_0 \\ & X1) \wedge (l2_algstr_0 X1)) \wedge ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow ((v1_funct_1 (k5_vfunct_1 \\ & X0 X1 X2)) \wedge (m1_subset_1 (k5_vfunct_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 (u1_struct_0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\
& X0) \wedge ((v3_normsp_0 X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge \\
& (l1_normsp_1 X0)))))))))) \wedge (((\neg v1_xboole_0 X1) \wedge ((v2_measure5 \\
& X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 k1_numbers)))) \wedge ((v1_funct_1 \\
& X2) \wedge ((v1_funct_2 X2 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X1 (u1_struct_0 X0)))))) \Rightarrow (m1_subset_1 (k4_integr18 \\
& X0 X1 X2) (u1_struct_0 X0))
\end{aligned} \tag{9}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (m1_subset_1 (k1_real_1 X0) k1_numbers) \tag{10}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v2_measure5 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\
& ((v1_funct_2 X2 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X1 (u1_struct_0 X0)))))) \Rightarrow (\forall X3. ((v1_funct_1 \\
& X3) \wedge ((v1_funct_2 X3 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X1 (u1_struct_0 X0)))))) \Rightarrow (((r2_relset_1 X1 (u1_struct_0 \\
& X0) X3 (k5_vfunct_1 X1 X0 X2)) \wedge (v1_integr18 X2 X0 X1)) \Rightarrow ((v1_integr18 \\
& X3 X0 X1) \wedge (k4_integr18 X0 X1 X3 = k4_algstr_0 X0 (k4_integr18 X0 X1 \\
& X2))))))
\end{aligned}$$