

t16_integr18 (TM-
PvMWQ63RWb6QyTHu9TYjzC9hwvzVu63eS)

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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 $v1_funct_1 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_measure5 : \iota \Rightarrow o$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_integr18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_integr18 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
 & \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1. (v1_xreal_0 X1) \Rightarrow \\
 & \quad (\forall X2. (v1_xreal_0 X2) \Rightarrow (\forall X3. (v1_xreal_0 X3) \Rightarrow (\forall X4. \\
 & (v1_xreal_0 X4) \Rightarrow (((X0 = k1_rcomp_1 X1 X3) \wedge (X0 = k1_rcomp_1 X2 X4)) \Rightarrow \\
 & \quad ((X1 = X2) \wedge (X3 = X4)))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (((\neg v1_xboole_0 \\
 & \quad X0) \wedge (v2_measure5 X0)) \Leftrightarrow (\exists X1. (m1_subset_1 X1 k1_numbers) \wedge \\
 & \quad (\exists X2. (m1_subset_1 X2 k1_numbers) \wedge ((r1_xxreal_0 X1 X2) \wedge \\
 & \quad (X0 = k1_rcomp_1 X1 X2))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow \\
& (\forall X3.(v1_xreal_0 X3) \Rightarrow (((r1_xxreal_0 X2 X3) \Rightarrow (k6_integr18 \\
& X0 X1 X2 X3 = k5_integr18 X0 (k3_integra5 X2 X3) X1)) \wedge ((\neg r1_xxreal_0 \\
& X2 X3) \Rightarrow (k6_integr18 X0 X1 X2 X3 = k4_algstr_0 X0 (k5_integr18 X0 (\\
& k3_integra5 X3 X2) X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (k3_integra5 X0 X1 = k1_rcomp_1 X0 X1))) \tag{4}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 \\
& X2) \wedge ((v2_measure5 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 k1_numbers)))) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 k1_numbers) \Rightarrow ((X2 = k1_rcomp_1 X3 X4) \Rightarrow (k5_integr18 X0 X2 X1 = k6_integr18 \\
& X0 X1 X3 X4))))))
\end{aligned}$$