

t17_hilbasis

(TMTZgM9nokhyCWgygo2ht32j3x4hvkbi cv)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k14_polynom3 : \iota \Rightarrow \iota$ be given. 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 $v1_algseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_hilbasis : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_algseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. (X2 \in X1) \Rightarrow (X2 \in X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k14_polynom3 X0)))))) \Rightarrow ((\neg v1_xboole_0 (k4_hilbasis X0 X1)) \wedge (m1_subset_1 (k4_hilbasis X0 X1) (k1_zfmisc_1 X1))) \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\
& (l6_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (u1_struct_0 (k14_polynom3 X0)))))) \Rightarrow (k4_hilbasis \\
& X0 X1 = ReplSep (toset (\lambda X2 : \iota. m2_subset_1 X2 (u1_struct_0 \\
& (k14_polynom3 X0)) X1)) (\lambda X2 : \iota. \forall X3. ((v1_funct_1 \\
& X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 \\
& X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\
& u1_struct_0 X0)))))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 \\
& X4 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 X4 X0) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\
& (((X3 = X2) \wedge (X4 \in X1)) \Rightarrow (r1_xxreal_0 (k1_algseq_1 X0 X3) (k1_algseq_1 \\
& X0 X4)))))) (\lambda X2 : \iota. X2))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\
& (l6_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (u1_struct_0 (k14_polynom3 X0)))))) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 X0)) \wedge \\
& ((v1_algseq_1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X3. ((v1_funct_1 \\
& X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 \\
& X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\
& u1_struct_0 X0)))))) \Rightarrow (((X2 \in k4_hilbasis X0 X1) \wedge (X3 \in X1)) \Rightarrow ((\\
& X2 \in X1) \wedge (r1_xxreal_0 (k1_algseq_1 X0 X2) (k1_algseq_1 X0 X3))))))
\end{aligned}$$