

t14_ratfunc1

(TMVbBokHvAUsdEw1yeqCea7R2R3Bgo7dz4C)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_group_1 : \iota \Rightarrow o$ be given. Let $v2_vectsp_1 : \iota \Rightarrow o$ 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 $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_algseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $r1_ratfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_polynom5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_polynom3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_polynom4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k2_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v1_group_1 X0) \wedge (\\
& (v2_vectsp_1 X0) \wedge (l6_algstr_0 X0))))))) \Rightarrow (\forall X1.((v1_funct_1 \\
& X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 \\
& X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\
& u1_struct_0 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 X2 X0) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k2_polynom4 X0 \\
& (k8_polynom3 X0 X1 X2) X3 = k3_rlvect_1 X0 (k2_polynom4 X0 X1 X3) (\\
& k2_polynom4 X0 X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge (l2_algstr_0 X0))) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 \ k5_numbers \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X0)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 \ k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ k5_numbers (u1_struct_0 X0))))))) \Rightarrow (k8_polynom3 \\ & X0 \ X1 \ X2 = k2_normsp_1 X0 \ X1 \ X2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v2_rlvect_1 X0) \wedge (l1_algstr_0 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & X0)))) \Rightarrow (k3_rlvect_1 X0 \ X1 \ X2 = k1_algstr_0 X0 \ X1 \ X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_rlvect_1 \\ & X0) \wedge (l2_algstr_0 X0))) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 \ k5_numbers \\ & (u1_struct_0 X0)) \wedge ((v1_algseq_1 X1 \ X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ k5_numbers (u1_struct_0 X0)))))) \wedge ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 \ k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 \\ & X2 \ X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \ k5_numbers (\\ & u1_struct_0 X0)))))))) \Rightarrow ((v1_funct_1 (k2_normsp_1 X0 \ X1 \ X2)) \wedge \\ & ((v1_funct_2 (k2_normsp_1 X0 \ X1 \ X2) \ k5_numbers (u1_struct_0 X0)) \wedge \\ & (v1_algseq_1 (k2_normsp_1 X0 \ X1 \ X2) \ X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (m1_subset_1 (u2_struct_0 X0) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (l2_algstr_0 X0)) \wedge (((v1_funct_1 X1) \wedge (v1_funct_2 X1 k5_numbers \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X0)))))) \wedge ((v1_funct_1 X2) \wedge (v1_funct_2 \\ & X2 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow ((v1_funct_1 \\ & (k8_polynom3 X0 X1 X2)) \wedge (v1_funct_2 (k8_polynom3 X0 X1 X2) k5_numbers \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 (k8_polynom3 X0 X1 X2) (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (k4_struct_0 X0 = u2_struct_0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l6_algstr_0 \\ & X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (v1_funct_2 X1 k5_numbers \\ & (u1_struct_0 X0)) \wedge ((v1_algseq_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_polynom5 X0 X1 X2) \Leftrightarrow (k2_polynom4 \\ & X0 X1 X2 = k4_struct_0 X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l2_algstr_0 X0) \Rightarrow ((v4_rlvect_1 X0) \Leftrightarrow (\forall X1. (\\ & m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_algstr_0 X0 X1 (k4_struct_0 \\ & X0) = X1))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l6_algstr_0 \\ & X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (v1_funct_2 X1 k5_numbers \\ & (u1_struct_0 X0)) \wedge ((v1_algseq_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge (v1_funct_2 X2 k5_numbers (u1_struct_0 X0)) \wedge \\ & ((v1_algseq_1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((r1_ratfunc1 X0 X1 X2 X3) \Leftrightarrow ((r1_polynom5 \\ & X0 X1 X3) \wedge (r1_polynom5 X0 X2 X3)))))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v1_group_1 \\ & X0) \wedge ((v2_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ & ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0))))))) \Rightarrow (\forall X1.((v1_funct_1 \\ & X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\ & u1_struct_0 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 k5_numbers (u1_struct_0 X0)) \wedge ((v1_algseq_1 X2 X0) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_ratfunc1 \\ & X0 X1 X2 X3) \Rightarrow (r1_polynom5 X0 (k8_polynom3 X0 X1 X2) X3)))))) \end{aligned}$$