

t31_rmod_4

(TMYEQT9KmMXfSEGXCesHzdzQUCqWCZzUpfL)

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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 $v3_group_1 : \iota \Rightarrow o$ 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 $v4_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_rmod_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_subset_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_rmod_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k3_rmod_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_rmod_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_rmod_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(r1_tarski\ X0\ k1_xboole_0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0) \wedge ((v13_algstr_0\ X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1\ X0) \wedge ((v4_rlvect_1\ X0) \wedge ((v3_group_1\ X0) \wedge (\\ & (v4_vectsp_1\ X0) \wedge ((v5_vectsp_1\ X0) \wedge (l6_algstr_0\ X0)))))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_2\ X1\ X0) \wedge \\ & (l1_vectsp_2\ X1\ X0)))))))) \Rightarrow (k5_rmod_4\ X0\ X1\ (k3_rmod_4\ X0\ X1) = k4_struct_0 \\ & X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1\ X0) \wedge ((v3_rlvect_1\ X0) \wedge ((v4_rlvect_1\ X0) \wedge \\ & ((v3_group_1\ X0) \wedge ((v4_vectsp_1\ X0) \wedge ((v5_vectsp_1\ X0) \wedge (l6_algstr_0 \\ & X0)))))))) \wedge (((\neg v2_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_2\ X1\ X0) \wedge \\ & (l1_vectsp_2\ X1\ X0)))))))) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ & X1)))) \Rightarrow (\forall X3.(m2_rmod_4\ X3\ X0\ X1\ X2) \Rightarrow (m1_rmod_4\ X3\ X0\ X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.m1_subset_1 (k1_subset_1 X0) (k1_zfmisc_1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\ & (l1_vectsp_2 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 X1))) \Rightarrow (\forall X3.(m1_rmod_4 X3 X0 X1) \Rightarrow ((m2_rmod_4 \\ & X3 X0 X1 X2) \Leftrightarrow (r1_tarski (k2_rmod_4 X0 X1 X3) X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\ & (l1_vectsp_2 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_rmod_4 X2 X0 X1) \Rightarrow ((\\ & X2 = k3_rmod_4 X0 X1) \Leftrightarrow (k2_rmod_4 X0 X1 X2 = k1_xboole_0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.k1_subset_1 X0 = k1_xboole_0 \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\ & (l1_vectsp_2 X1 X0)))))))))) \Rightarrow (\forall X2.(m2_rmod_4 X2 X0 X1 (k1_subset_1 \\ & (u1_struct_0 X1))) \Rightarrow (k5_rmod_4 X0 X1 X2 = k4_struct_0 X1))) \end{aligned}$$