

t13_grcat_1

(TMY6bAs6GBbfX3TkxHQKjKNhJB7xZsQeP5E)

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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 $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_grcat_1 : \iota \Rightarrow o$ be given. Let $m1_grcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_grcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_grcat_1 : \iota \Rightarrow \iota$ be given. Let $u2_grcat_1 : \iota \Rightarrow \iota$ be given. Let $u3_grcat_1 : \iota \Rightarrow \iota$ be given. Let $v13_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_grcat_1 : \iota \Rightarrow o$ be given. Let $l1_grcat_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
 & \quad X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg \\
 & v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
 & \quad X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m1_grcat_1 X2 X0 X1) \Rightarrow (\\
 & \quad \exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X0) \\
 & \quad (u1_struct_0 X1)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & \quad (u1_struct_0 X0) (u1_struct_0 X1)))))) \wedge ((g1_grcat_1 (u1_grcat_1 \\
 & X2) (u2_grcat_1 X2) (u3_grcat_1 X2) = g1_grcat_1 X0 X1 X3) \wedge (v13_vectsp_1 \\
 & \quad X3 X0 X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1.(((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\
 & \quad ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \wedge (\\
 & (\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
 & \quad X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m1_grcat_1 X2 X0 X1) \Rightarrow \\
 & \quad ((v2_grcat_1 X2) \wedge (l1_grcat_1 X2)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l1_grcat_1 X0) \Rightarrow ((v1_grcat_1 X0) \Rightarrow (X0 = g1_grcat_1 \\
 (u1_grcat_1 X0) (u2_grcat_1 X0) (u3_grcat_1 X0))) \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\ & \quad X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg \\ & v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & \quad X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.((v1_gcat_1 X2) \wedge (m1_gcat_1 \\ & X2 X0 X1)) \Rightarrow (\exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\ & \quad X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad (u1_struct_0 X0) (u1_struct_0 X1)))))) \wedge (X2 = g1_gcat_1 X0 X1 X3)))) \end{aligned}$$