

t10_ringcat1

(TMd7jW1mLyBbK7hgEyndfDFKdpKHccqWUzL)

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Let $v2_ringcat1 : \iota \Rightarrow o$ be given. Let $v3_ringcat1 : \iota \Rightarrow o$ be given. Let $l1_ringcat1 : \iota \Rightarrow o$ be given. Let $k1_ringcat1 : \iota \Rightarrow \iota$ be given. Let $k2_ringcat1 : \iota \Rightarrow \iota$ be given. Let $k6_ringcat1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. 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 $m1_ringcat1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_ringcat1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_ringcat1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_group_1 X1) \wedge (v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))))) \Rightarrow \\
& (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v3_group_1 X2) \wedge (v4_vectsp_1 X2) \wedge ((v5_vectsp_1 X2) \wedge (l6_algstr_0 X2)))))))) \Rightarrow \\
& (\forall X3. ((\neg v2_struct_0 X3) \wedge ((v13_algstr_0 X3) \wedge ((v2_rlvect_1 X3) \wedge ((v3_rlvect_1 X3) \wedge ((v4_rlvect_1 X3) \wedge ((v3_group_1 X3) \wedge (v4_vectsp_1 X3) \wedge ((v5_vectsp_1 X3) \wedge (l6_algstr_0 X3)))))))) \Rightarrow \\
& (\forall X4. (m1_ringcat1 X4 X0 X1) \Rightarrow (\forall X5. (m1_ringcat1 X5 X1 X2) \Rightarrow (\forall X6. (m1_ringcat1 X6 X2 X3) \Rightarrow (((r1_ringcat1 X0 X1) \wedge ((r1_ringcat1 X1 X2) \wedge (r1_ringcat1 X2 X3))) \Rightarrow (k6_ringcat1 X6 (k6_ringcat1 X5 X4) = k6_ringcat1 (k6_ringcat1 X6 X5) X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((v2_ringcat1 X0) \wedge ((v3_ringcat1 X0) \wedge (l1_ringcat1 X0))) \Rightarrow ((m1_ringcat1 X0 (k1_ringcat1 X0) (k2_ringcat1 X0)) \wedge (r1_ringcat1 (k1_ringcat1 X0) (k2_ringcat1 X0))) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_ringcat1\ X0) \Rightarrow & ((\neg v2_struct_0\ (u1_ringcat1\ X0)) \wedge \\ & ((v13_algstr_0\ (u1_ringcat1\ X0)) \wedge ((v2_rlvect_1\ (u1_ringcat1 \\ & X0)) \wedge ((v3_rlvect_1\ (u1_ringcat1\ X0)) \wedge ((v4_rlvect_1\ (u1_ringcat1 \\ & X0)) \wedge ((v3_group_1\ (u1_ringcat1\ X0)) \wedge ((v4_vectsp_1\ (u1_ringcat1 \\ & X0)) \wedge ((v5_vectsp_1\ (u1_ringcat1\ X0)) \wedge (l6_algstr_0\ (u1_ringcat1 \\ & X0)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_ringcat1\ X0) \Rightarrow & ((\neg v2_struct_0\ (k2_ringcat1\ X0)) \wedge \\ & ((v13_algstr_0\ (k2_ringcat1\ X0)) \wedge ((v2_rlvect_1\ (k2_ringcat1 \\ & X0)) \wedge ((v3_rlvect_1\ (k2_ringcat1\ X0)) \wedge ((v4_rlvect_1\ (k2_ringcat1 \\ & X0)) \wedge ((v3_group_1\ (k2_ringcat1\ X0)) \wedge ((v4_vectsp_1\ (k2_ringcat1 \\ & X0)) \wedge ((v5_vectsp_1\ (k2_ringcat1\ X0)) \wedge (l6_algstr_0\ (k2_ringcat1 \\ & X0)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1_ringcat1\ X0) \Rightarrow (k1_ringcat1\ X0 = u1_ringcat1\ X0) \quad (5)$$

Theorem 1

$$\begin{aligned} \forall X0.((v2_ringcat1\ X0) \wedge ((v3_ringcat1\ X0) \wedge (l1_ringcat1 \\ X0))) \Rightarrow & (\forall X1.((v2_ringcat1\ X1) \wedge ((v3_ringcat1\ X1) \wedge (l1_ringcat1 \\ X1))) \Rightarrow & (\forall X2.((v2_ringcat1\ X2) \wedge ((v3_ringcat1\ X2) \wedge (l1_ringcat1 \\ X2))) \Rightarrow & (((k1_ringcat1\ X2 = k2_ringcat1\ X1) \wedge (k1_ringcat1\ X1 = k2_ringcat1 \\ X0)) \Rightarrow & (k6_ringcat1\ X2\ (k6_ringcat1\ X1\ X0) = k6_ringcat1\ (k6_ringcat1 \\ X2\ X1\ X0)))))) \end{aligned}$$