

t36_rusub_3

(TMa7G7rnFynk9EipRCNXb7km8fbNMSFjonq)

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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 $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v2_bhsp_1 : \iota \Rightarrow o$ be given. Let $l1_bhsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rusub_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k1_rlvect_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
 & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
 & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
 & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (r1_struct_0 (\\
 & k1_rusub_3 X0 (k8_domain_1 (u1_struct_0 X0) X1 X2 X3)) X4) \Leftrightarrow (\exists X5. \\
 & (m1_subset_1 X5 k1_numbers) \wedge (\exists X6. (m1_subset_1 X6 k1_numbers) \wedge \\
 & (\exists X7. (m1_subset_1 X7 k1_numbers) \wedge (X4 = k3_rlvect_1 X0 (\\
 & k3_rlvect_1 X0 (k1_rlvect_1 X0 X1 X5) (k1_rlvect_1 X0 X2 X6)) (k1_rlvect_1 \\
 & X0 X3 X7))))))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((r1_struct_0 (k1_rlvect_3 X0 (k8_domain_1 \\
& (u1_struct_0 X0) X1 X2 X3)) X1) \wedge ((r1_struct_0 (k1_rlvect_3 X0 (\\
& k8_domain_1 (u1_struct_0 X0) X1 X2 X3)) X2) \wedge (r1_struct_0 (k1_rlvect_3 \\
& X0 (k8_domain_1 (u1_struct_0 X0) X1 X2 X3)) X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
& ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 \\
& X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge \\
& (l1_rlvect_1 X1)))))))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow ((r1_struct_0 (k1_rlvect_3 \\
& X1 (k8_domain_1 (u1_struct_0 X1) X2 X3 X4)) X0) \Leftrightarrow (\exists X5.(m1_subset_1 \\
& X5 k1_numbers) \wedge (\exists X6.(m1_subset_1 X6 k1_numbers) \wedge (\exists X7. \\
& (m1_subset_1 X7 k1_numbers) \wedge (X0 = k3_rlvect_1 X1 (k3_rlvect_1 \\
& X1 (k1_rlvect_1 X1 X2 X5) (k1_rlvect_1 X1 X3 X6)) (k1_rlvect_1 X1 \\
& X4 X7))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l1_bhsp_1 X0) \Rightarrow (l1_rlvect_1 X0) \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_struct_0 (k1_rusub_3 \\
& X0 (k8_domain_1 (u1_struct_0 X0) X1 X2 X3)) X1) \wedge ((r1_struct_0 (\\
& k1_rusub_3 X0 (k8_domain_1 (u1_struct_0 X0) X1 X2 X3)) X2) \wedge (r1_struct_0 \\
& (k1_rusub_3 X0 (k8_domain_1 (u1_struct_0 X0) X1 X2 X3)) X3))))))
\end{aligned}$$