

t25_rusub_5 (TMaBzGFijNVWgTtztpm- MACAzVyz5mu16Ngo)

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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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_rusub_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rusub_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_rusub_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_bhsp_1 : \iota \Rightarrow o$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g1_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $u1_bhsp_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge ((v2_bhsp_1 X0) \wedge (l1_bhsp_1 X0)))))))))) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r1_bhsp_1 \\ & X0 X1 X2) \Rightarrow (r1_bhsp_1 X0 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhspl_1 \\ X0) \wedge (l1_bhspl_1 X0)))))))))) \Rightarrow (\forall X1.(m1_rusub_1 X1 X0) \Rightarrow \\ ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((\\ v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 \\ X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge ((v2_bhspl_1 X1) \wedge (l1_bhspl_1 \\ X1))))))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l1_bhspl_1 X0) \Rightarrow (l1_rlvect_1 X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\ ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 \\ X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge \\ ((v2_bhspl_1 X0) \wedge (l1_bhspl_1 X0)))))))))) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((v1_bhspl_1 \\ (k3_rusub_5 X0 X1)) \wedge (m1_rusub_1 (k3_rusub_5 X0 X1) X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\ ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 \\ X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge \\ ((v2_bhspl_1 X0) \wedge (l1_bhspl_1 X0)))))))))) \wedge (m1_rusub_1 X1 X0)) \Rightarrow \\ ((v1_bhspl_1 (k2_rusub_5 X0 X1)) \wedge (m1_rusub_1 (k2_rusub_5 X0 X1) \\ X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(r1_struct_0 X0 X1) \Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\forall X2. \\
& ((v1_bhsp_1 X2) \wedge (m1_rusub_1 X2 X0)) \Rightarrow ((X2 = k3_rusub_5 X0 X1) \Leftrightarrow (\\
& u1_struct_0 X2 = ReplSep (toset (\lambda X3 : \iota.m1_subset_1 X3 (u1_struct_0 \\
& X0))) (\lambda X3 : \iota.\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& ((X4 \in X1) \Rightarrow (r1_bhsp_1 X0 X4 X3))) (\lambda X3 : \iota.X3))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.(m1_rusub_1 X1 X0) \Rightarrow \\
& (\forall X2.((v1_bhsp_1 X2) \wedge (m1_rusub_1 X2 X0)) \Rightarrow ((X2 = k2_rusub_5 \\
& X0 X1) \Leftrightarrow (u1_struct_0 X2 = ReplSep (toset (\lambda X3 : \iota.m1_subset_1 \\
& X3 (u1_struct_0 X0))) (\lambda X3 : \iota.\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow ((r1_struct_0 X1 X4) \Rightarrow (r1_bhsp_1 X0 X4 X3))) \\
& (\lambda X3 : \iota.X3))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.(l1_bhsp_1 X0) \Rightarrow ((v1_bhsp_1 X0) \Rightarrow (X0 = g1_bhsp_1 (u1_struct_0 X0) (u2_struct_0 X0) (u1_algstr_0 X0) (u1_rlvect_1 X0) (u1_bhsp_1 X0))) \tag{15}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (r1_tarski \\
& X1 (u1_struct_0 (k2_rusub_5 X0 (k3_rusub_5 X0 X1))))))
\end{aligned}$$