

t1_vectsp_8 (TMUwEvPxWvWgfx- UhJx7iRon8jPJvKi7Bmva)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_vectsp_8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_vectsp_8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_vectsp_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\neg (X1 \neq k1_xboole_0) \wedge (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\neg X2 \in X1))) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \Rightarrow ((X1 \neq k1_xboole_0) \Rightarrow (\forall X4. (\exists X5. (X5 \in X0) \wedge \\ & ((X5 \in X2) \wedge (X4 = k1_funct_1 X3 X5))) \Rightarrow (X4 \in k7_relset_1 X0 X1 X3 X2))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_zfmisc_1 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge \\ & ((v13_algstr_0 X0) \wedge (v33_algstr_0 X0) \wedge (v3_group_1 X0) \wedge (v5_group_1 \\ & X0) \wedge (v4_vectsp_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 X0) \wedge \\ & ((v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))) \wedge \\ & ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v7_vectsp_1 X1 X0) \wedge \\ & ((v8_vectsp_1 X1 X0) \wedge (v9_vectsp_1 X1 X0) \wedge (v10_vectsp_1 X1 X0) \wedge \\ & ((v11_vectsp_1 X1 X0) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge \\ & (v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))) \Rightarrow ((v1_funct_1 \\ & (k4_vectsp_8 X0 X1)) \wedge (v1_funct_2 (k4_vectsp_8 X0 X1) (k2_vectsp_8 \\ & X0 X1) (k9_setfam_1 (u1_struct_0 X1))) \wedge (m1_subset_1 (k4_vectsp_8 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_vectsp_8 X0 X1) (k9_setfam_1 \\ & (u1_struct_0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge \\ & ((v13_algstr_0 X0) \wedge (v33_algstr_0 X0) \wedge (v3_group_1 X0) \wedge (v5_group_1 \\ & X0) \wedge (v4_vectsp_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 X0) \wedge \\ & ((v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))) \wedge \\ & ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v7_vectsp_1 X1 X0) \wedge \\ & ((v8_vectsp_1 X1 X0) \wedge (v9_vectsp_1 X1 X0) \wedge (v10_vectsp_1 X1 X0) \wedge \\ & ((v11_vectsp_1 X1 X0) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge \\ & (v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))) \Rightarrow ((\neg v1_xboole_0 \\ & (k2_vectsp_8 X0 X1)) \wedge (m1_vectsp_8 (k2_vectsp_8 X0 X1) X0 X1)) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v7_vectsp_1 X1 X0) \wedge \\ & (v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge \\ & ((v11_vectsp_1 X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ & (v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_vectsp_8 \\ & X0 X1)))) \Rightarrow (\neg v1_xboole_0 (k7_relset_1 (k2_vectsp_8 X0 X1) (k9_setfam_1 \\ & (u1_struct_0 X1)) (k4_vectsp_8 X0 X1) X2)))) \end{aligned}$$