

t20_fvaluat1

(TMWsM6LbCN9jPDJ4eKxxAD5jLJu4eH5oZHL)

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 $v3_group_1 : \iota \Rightarrow o$ 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 $v1_realset2 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_fvaluat1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_fvaluat1 : \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_numbers : \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_vectsp_1 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_fvaluat1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $k4_numbers : \iota$ be given. Let $k1_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v2_vectsp_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
 & X0) \wedge ((v4_rlvect_1 X0) \wedge ((v1_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))) \Rightarrow \\
 & (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 \\
 & X2 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 X0 X1 (k4_algstr_0 X0 X2) = k4_algstr_0 \\
 & X0 (k6_algstr_0 X0 X1 X2))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v6_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ &X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\ &((v1_realset2 X0) \wedge (l6_algstr_0 X0))))))) \Rightarrow (\forall X1. (m1_subset_1 \\ &X1 (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X1 (k5_struct_0 X0) = X1) \wedge \\ &(k6_algstr_0 X0 (k5_struct_0 X0) X1 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v3_group_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ &(v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v1_realset2 X0) \wedge (l6_algstr_0 \\ &X0)))))))) \Rightarrow (\forall X1. (m1_fvaluat1 X1 X0) \Rightarrow ((v3_fvaluat1 \\ &X0) \Rightarrow (k3_funct_2 (u1_struct_0 X0) k7_numbers X1 (k4_algstr_0 X0 \\ &(k5_struct_0 X0)) = k6_numbers))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v3_group_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ &(v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v1_realset2 X0) \wedge (l6_algstr_0 \\ &X0)))))))) \Rightarrow (\forall X1. (m1_fvaluat1 X1 X0) \Rightarrow ((v3_fvaluat1 \\ &X0) \Rightarrow (k3_funct_2 (u1_struct_0 X0) k7_numbers X1 (k5_struct_0 X0) = \\ &k6_numbers))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. (&(\neg v1_xboole_0 X0) \wedge \\ &(((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ &(k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ &X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_vectsp_1 X0) \wedge (l4_algstr_0 X0))) \Rightarrow (k1_group_1 X0 = k5_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. (l6_algstr_0 X0) \Rightarrow (\forall X1. (m1_fvaluat1 X1 X0) \Rightarrow \\ &((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 X0) k7_numbers) \wedge \\ &((v2_fvaluat1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ &(u1_struct_0 X0) k7_numbers))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (m1_subset_1 (k1_group_1 X0) (u1_struct_0 X0)) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(l6_algstr_0 X0) \Rightarrow & ((v3_fvaluat1 X0) \Rightarrow (\forall X1.(\\ & (v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 X0) k7_numbers) \wedge \\ & ((v2_fvaluat1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) k7_numbers)))))) \Rightarrow ((m1_fvaluat1 X1 X0) \Leftrightarrow ((k1_funct_1 \\ & X1 (k4_struct_0 X0) = k1_xxreal_0) \wedge ((\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((X2 \neq k4_struct_0 X0) \Rightarrow (k1_funct_1 X1 X2 \in \\ & k4_numbers))) \wedge ((\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k1_funct_1 X1 \\ & (k6_algstr_0 X0 X2 X3) = k1_xxreal_3 (k1_funct_1 X1 X2) (k1_funct_1 \\ & X1 X3)))) \wedge ((\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_xxreal_0 \\ & k6_numbers (k1_funct_1 X1 X2)) \Rightarrow (r1_xxreal_0 k6_numbers (k1_funct_1 \\ & X1 (k1_algstr_0 X0 (k5_struct_0 X0) X2)))))) \wedge (\exists X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \wedge ((k1_funct_1 X1 X2 \neq k6_numbers) \wedge (k1_funct_1 \\ & X1 X2 \neq k1_xxreal_0)))))))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. (&l6_algstr_0 X0) \Rightarrow (((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ &((v5_vectsp_1 X0) \wedge (v1_realset2 X0)))))) \Rightarrow ((\neg v6_struct_0 X0) \wedge \\ &((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (v4_vectsp_1 \\ &X0)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0. (&l6_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v5_vectsp_1 \\ &X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_vectsp_1 X0) \wedge (v2_vectsp_1 X0)))) \end{aligned} \quad (18)$$

Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ &X0) \wedge ((v3_group_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ &(v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge ((v1_realset2 X0) \wedge (l6_algstr_0 \\ &X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ &(\forall X2. (m1_fvaluat1 X2 X0) \Rightarrow ((v3_fvaluat1 X0) \Rightarrow (k3_funct_2 \\ &(u1_struct_0 X0) k7_numbers X2 (k4_algstr_0 X0 X1) = k3_funct_2 \\ &(u1_struct_0 X0) k7_numbers X2 X1)))) \end{aligned}$$