

l17_jgraph_3 (TMYsTZUN- yZgNgiJZ8h3aMjV3eKq15CWJ5uT)

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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 $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_pscomp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_pscomp_1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v1_pscomp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow (u1_struct_0\ (k1_pre_topc\ X0\ X1) = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} (k1_relset_1\ (u1_struct_0\ (k15_euclid\ np_2))\ k4_pscomp_1 = u1_struct_0 \\ (k15_euclid\ np_2)) \wedge (k1_relset_1\ (u1_struct_0\ (k15_euclid\ np_2)) \\ k4_pscomp_1 = k1_euclid\ np_2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_relat_1\ X2) \wedge (v1_funct_1 \\ X2)) \Rightarrow ((X0 \in X1) \Rightarrow (k1_funct_1\ (k5_relat_1\ X2\ X1)\ X0 = k1_funct_1\ X2 \\ X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1\ X0\ X1) \Rightarrow ((v1_xboole_0\ X1) \vee \\ (X0 \in X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 \ X0) \wedge (l1_pre_topc \\ & X0)) \wedge (((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ (u1_struct_0 \ X0) \ k1_numbers) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (u1_struct_0 \ X0) \ k1_numbers)))))) \wedge \\ & (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0)))) \Rightarrow (k3_pscomp_1 \\ & X0 \ X1 \ X2 = k5_relat_1 \ X1 \ X2) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 \ X0) \wedge \\ & (((v1_funct_1 \ X2) \wedge ((v1_funct_2 \ X2 \ X0 \ X1) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))))) \wedge (m1_subset_1 \ X3 \ X0))) \Rightarrow (k3_funct_2 \ X0 \\ & X1 \ X2 \ X3 = k1_funct_1 \ X2 \ X3) \end{aligned} \quad (8)$$

Assume the following.

$$k1_relset_1 \ (u1_struct_0 \ (k15_euclid \ np_2)) \ k4_pscomp_1 = u1_struct_0 \ (k15_euclid \ np_2) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. v1_relat_1 \ (k2_zfmisc_1 \ X0 \ X1) \quad (10)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 \ k4_pscomp_1) \wedge ((v1_funct_2 \ k4_pscomp_1 \ (u1_struct_0 \\ & (k15_euclid \ np_2)) \ k1_numbers) \wedge (v1_pscomp_1 \ k4_pscomp_1 \ (k15_euclid \\ & np_2))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. ((v2_struct_0 \ X0) \wedge (l1_struct_0 \ X0)) \Rightarrow (v1_xboole_0 \ (u1_struct_0 \ X0)) \quad (12)$$

Assume the following.

$$\forall X0. (l1_rltopsp1 \ X0) \Rightarrow ((l1_rlvect_1 \ X0) \wedge (l1_pre_topc \ X0)) \quad (13)$$

Assume the following.

$$\forall X0. (l1_pre_topc \ X0) \Rightarrow (l1_struct_0 \ X0) \quad (14)$$

Assume the following.

$$(v1_funct_1\ k4_pscomp_1) \wedge ((v1_funct_2\ k4_pscomp_1\ (u1_struct_0\ (k15_euclid\ np_2))\ k1_numbers) \wedge (m1_subset_1\ k4_pscomp_1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ (k15_euclid\ np_2))\ k1_numbers)))))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0) \wedge (l1_pre_topc\ X0)) \wedge (((v1_funct_1\ X1) \wedge ((v1_funct_2\ X1\ (u1_struct_0\ X0)\ k1_numbers) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ k1_numbers)))))) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))))) \Rightarrow ((v1_funct_1\ (k3_pscomp_1\ X0\ X1\ X2)) \wedge ((v1_funct_2\ (k3_pscomp_1\ X0\ X1\ X2)\ (u1_struct_0\ (k1_pre_topc\ X0\ X2))\ k1_numbers) \wedge (m1_subset_1\ (k3_pscomp_1\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ (k1_pre_topc\ X0\ X2))\ k1_numbers)))))) \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((v5_rltopsp1\ (k15_euclid\ X0)) \wedge (l1_rltopsp1\ (k15_euclid\ X0))) \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1) \Rightarrow (v7_ordinal1\ X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1_relat_1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_relat_1\ X1)) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (20)$$

Theorem 1

$$\forall X0.((\neg v1_xboole_0\ X0) \wedge (m1_subset_1\ X0\ (k1_zfmisc_1\ (u1_struct_0\ (k15_euclid\ np_2)))))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k1_pre_topc\ (k15_euclid\ np_2)\ X0))) \Rightarrow (k3_funct_2\ (u1_struct_0\ (k1_pre_topc\ (k15_euclid\ np_2)\ X0))\ k1_numbers\ (k3_pscomp_1\ (k15_euclid\ np_2)\ k4_pscomp_1\ X0)\ X1 = k1_funct_1\ k4_pscomp_1\ X1))$$