

t27_bhsp_4

(TMJ9jvNcjwAqJAFeLEJt6SVYMNp99yCssby)

October 27, 2020

Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_bhsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_series_1 : \iota \Rightarrow o$ be given. Let $v2_bhsp_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k3_bhsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_series_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\ & X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (r1_xxreal_0 k6_numbers (k3_bhsp_1 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\
& (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k1_numbers) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\
& (((\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow ((r1_xreal_0 \\
& k6_numbers (k3_funct_2 k5_numbers k1_numbers X0 X2)) \wedge (r1_xreal_0 \\
& (k3_funct_2 k5_numbers k1_numbers X0 X2) (k3_funct_2 k5_numbers \\
& k1_numbers X1 X2)))) \wedge (v1_series_1 X1)) \Rightarrow ((v1_series_1 X0) \wedge (r1_xreal_0 \\
& (k4_series_1 X0) (k4_series_1 X1))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 \\
& X1 k5_numbers X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& X0)))))) \wedge (v7_ordinal1 X2)) \Rightarrow (k8_nat_1 X0 X1 X2 = k1_funct_1 X1 X2)
\end{aligned} \tag{4}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\
& X1 X2 X3 = k1_funct_1 X2 X3)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 \\
& X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_struct_0 \\
& X0)) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \wedge (m1_subset_1 X2 k5_numbers))) \Rightarrow (k1_normsp_1 X0 X1 X2 = \\
& k1_funct_1 X1 X2)
\end{aligned} \tag{8}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (9)$$

Assume the following.

$$v6_membered \ k4_ordinal1 \quad (10)$$

Assume the following.

$$v3_membered \ k1_numbers \quad (11)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (12)$$

Assume the following.

$$\forall X0. (l2_algstr_0 \ X0) \Rightarrow ((l2_struct_0 \ X0) \wedge (l1_algstr_0 \ X0)) \quad (13)$$

Assume the following.

$$\forall X0. (l1_rlvect_1 \ X0) \Rightarrow (l2_algstr_0 \ X0) \quad (14)$$

Assume the following.

$$\forall X0. (l1_bhsp_1 \ X0) \Rightarrow (l1_rlvect_1 \ X0) \quad (15)$$

Assume the following.

$$\forall X0. (l1_algstr_0 \ X0) \Rightarrow (l1_struct_0 \ X0) \quad (16)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge ((v13_algstr_0 \ X0) \wedge \\ & ((v2_rlvect_1 \ X0) \wedge (v3_rlvect_1 \ X0) \wedge (v4_rlvect_1 \ X0) \wedge (v5_rlvect_1 \\ & \ X0) \wedge (v6_rlvect_1 \ X0) \wedge (v7_rlvect_1 \ X0) \wedge (v8_rlvect_1 \ X0) \wedge \\ & ((v2_bhsp_1 \ X0) \wedge (l1_bhsp_1 \ X0)))))) \wedge ((v1_funct_1 \ X1) \wedge \\ & ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X1 \\ & \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \ X0)))))) \Rightarrow \\ & ((v1_funct_1 \ (k2_bhsp_2 \ X0 \ X1)) \wedge ((v1_funct_2 \ (k2_bhsp_2 \ X0 \ X1) \\ & \ k5_numbers \ k1_numbers) \wedge (m1_subset_1 \ (k2_bhsp_2 \ X0 \ X1) \ (k1_zfmisc_1 \\ & \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 \ X0) \wedge (l1_struct_0 \\ & \ X0)) \wedge (((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \\ & \ X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \\ & \ X0)))))) \wedge (m1_subset_1 \ X2 \ k5_numbers))) \Rightarrow (m1_subset_1 \ (k1_normsp_1 \\ & \ X0 \ X1 \ X2) \ (u1_struct_0 \ X0)) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 \ k5_numbers \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X1 \\
& (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \ X0)))))) \Rightarrow \\
& ((v2_bhsp_4 \ X1 \ X0) \Leftrightarrow (v1_series_1 \ (k2_bhsp_2 \ X0 \ X1))))
\end{aligned} \tag{20}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v2_bhsp_1 \\
& X0) \wedge (l1_bhsp_1 X0)))))))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 \ X1 \ k5_numbers \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X1 \\
& (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \ X0)))))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \ X2 \ k5_numbers \ k1_numbers) \wedge \\
& (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \Rightarrow \\
& ((X2 = k2_bhsp_2 \ X0 \ X1) \Leftrightarrow (\forall X3.(m1_subset_1 \ X3 \ k5_numbers \Rightarrow \\
& (k8_nat_1 \ k1_numbers \ X2 \ X3 = k3_bhsp_1 \ X0 \ (k1_normsp_1 \ X0 \ X1 \ X3))))))
\end{aligned} \tag{21}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \\
& (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_relat_1 \ X2)
\end{aligned} \tag{22}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (v3_membered \ X1) \Rightarrow (\forall X2. (m1_subset_1 \\
& X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v3_valued_0 \ X2))
\end{aligned} \tag{23}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (v6_membered \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow \\
& (v7_ordinal1 \ X1))
\end{aligned} \tag{24}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k1_numbers) \wedge \\
& (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 \ X1) \wedge ((v13_algstr_0 \ X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 \ X1) \wedge ((v4_rlvect_1 \ X1) \wedge ((v5_rlvect_1 \ X1) \wedge \\
& ((v6_rlvect_1 \ X1) \wedge ((v7_rlvect_1 \ X1) \wedge ((v8_rlvect_1 \ X1) \wedge ((v2_bhsp_1 \\
& X1) \wedge (l1_bhsp_1 \ X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \ X2) \wedge \\
& ((v1_funct_2 \ X2 \ k5_numbers \ (u1_struct_0 \ X1)) \wedge (m1_subset_1 \ X2 \\
& (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ (u1_struct_0 \ X1)))))) \Rightarrow \\
& (((\forall X3. (m2_subset_1 \ X3 \ k1_numbers \ k5_numbers) \Rightarrow (r1_xxreal_0 \\
& (k1_seq_1 \ (k2_bhsp_2 \ X1 \ X2) \ X3) \ (k1_seq_1 \ X0 \ X3))) \wedge (v1_series_1 \\
& X0)) \Rightarrow (v2_bhsp_4 \ X2 \ X1))))
\end{aligned}$$