

t107_group_9 (TMRuBkiBVQ-
MAc46beVqfyLsJUNhSMuPKcAH)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_group_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r5_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\neg v1_xboole_0 np_1 \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (\neg v1_xboole_0 (k2_xcmplx_0 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow ((v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (v3_group_1 X1) \wedge (v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \quad \forall X2. ((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge (v3_group_1 X2) \wedge (v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))) \Rightarrow (\forall X3. (\\ & \quad (v8_group_9 X3 X0 X1) \wedge (m2_finseq_1 X3 (k6_group_9 X0 X1))) \Rightarrow (\forall X4. \\ & \quad ((v8_group_9 X4 X0 X2) \wedge (m2_finseq_1 X4 (k6_group_9 X0 X2))) \Rightarrow ((\\ & \quad r5_group_9 X0 X1 X2 X3 X4) \Leftrightarrow ((k3_finseq_1 X3 = k3_finseq_1 X4) \wedge (\forall X5. \\ & \quad (v7_ordinal1 X5) \Rightarrow (\neg (k1_nat_1 X5 np_1 = k3_finseq_1 X3) \wedge (\forall X6. \\ & \quad ((v1_funct_1 X6) \wedge ((v1_funct_2 X6 (k2_finseq_1 X5) (k2_finseq_1 X5)) \wedge (v3_funct_2 X6 (k2_finseq_1 X5) (k2_finseq_1 X5)) \wedge (m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 (k2_finseq_1 X5) (k2_finseq_1 X5)))))) \Rightarrow \\ & \quad (\exists X7. (m1_group_9 X7 X0 X1) \wedge (\exists X8. (m1_group_9 X8 X0 X2) \wedge (\exists X9. ((v4_group_9 X9 X0 X7) \wedge (m1_group_9 X9 X0 X7)) \wedge (\exists X10. ((v4_group_9 X10 X0 X8) \wedge (m1_group_9 X10 X0 X8)) \wedge (\exists X11. (v7_ordinal1 X11) \wedge (\exists X12. (v7_ordinal1 X12) \wedge ((r1_xxreal_0 np_1 X11) \wedge (r1_xxreal_0 X11 X5) \wedge ((X12 = k1_funct_1 X6 X11) \wedge ((X7 = k1_funct_1 X3 X11) \wedge ((X8 = k1_funct_1 X4 X12) \wedge ((X9 = k1_funct_1 X3 (k1_nat_1 X11 np_1)) \wedge ((X10 = k1_funct_1 X4 (k1_nat_1 X12 np_1)) \wedge (\neg r3_group_9 X0 (k10_group_9 X0 X7 X9) (k10_group_9 X0 X8 X10))))))))))))))))))))))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (10)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_xboole_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_finseq_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_relat_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_funct_1 X0) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \quad \forall X2.((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 \\ & \quad X2) \wedge ((v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \Rightarrow (\forall X3.(\\ & (v8_group_9 X3 X0 X1) \wedge (m2_finseq_1 X3 (k6_group_9 X0 X1))) \Rightarrow (\forall X4. \\ & ((v8_group_9 X4 X0 X2) \wedge (m2_finseq_1 X4 (k6_group_9 X0 X2))) \Rightarrow ((\\ & (v1_xboole_0 X3) \wedge (v1_xboole_0 X4)) \Rightarrow (r5_group_9 X0 X1 X2 X3 X4)))) \end{aligned}$$