

t1_pepin (TMLjFMFwAeWCMGC-
cEVztkJJUgmtmnJg96Y)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_int_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_int_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k6_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k3_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1 X2) \Rightarrow (k3_int_2 (k2_xcmplx_0 X0 (k3_xcmplx_0 X1 X2)) \\ & X1 = k3_int_2 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \tag{2}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k6_nat_d X0 np_1 = np_1) \tag{3}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0) \wedge (v1_int_1 X1)) \Rightarrow ((r1_int_2 X0 X1) \Rightarrow (r1_int_2 X1 X0)) \tag{6}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & \ X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (v7_ordinal1 \ X1)) \Rightarrow (\\ & \ k6_nat_d \ X0 \ X1 = k3_int_2 \ X0 \ X1) \end{aligned} \quad (9)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (m1_subset_1 \ X1 \ k5_numbers)) \Rightarrow \\ & (k3_nat_1 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \\ & \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (m1_subset_1 \ X1 \ k5_numbers)) \Rightarrow \\ & (k1_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_int_1 \ X0) \wedge (v1_int_1 \ X1)) \Rightarrow (v1_int_1 \\ & \ (k2_xcmplx_0 \ X0 \ X1)) \end{aligned} \quad (15)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (m1_subset_1 \ X1 \ k5_numbers)) \Rightarrow \\ & (m2_subset_1 \ (k3_nat_1 \ X0 \ X1) \ k1_numbers \ k5_numbers) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow ((r1_int_2 X0 X1) \Leftrightarrow (k3_int_2 X0 X1 = np_1))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (k3_nat_1 X0 X1 = k3_nat_1 X1 X0) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (25)$$

Theorem 1 $\forall X0.(v7_ordinal1 X0) \Rightarrow (r1_int_2 X0 (k1_nat_1 X0 np_1)).$