

t9_int_1

(TMQ1W9bpRGbF3QbEnHd1wpD1zz8FX6eLwHS)

October 27, 2020

Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_square_1 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k6_square_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k7_square_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $np_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k4_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X1 (k3_xcmplx_0 X2 X0)) \Rightarrow ((r1_xxreal_0 \\ & k6_numbers X0) \vee (r1_xxreal_0 X2 (k7_xcmplx_0 X1 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((k3_xcmplx_0 X1 X0 = X0) \Rightarrow ((X0 = k6_numbers) \vee (X1 = np_1)))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((k3_xcmplx_0 X0 X1 = np_1) \Rightarrow (X0 = k7_xcmplx_0 np_1 X1))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0)))))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X1 (k4_xcmplx_0 X0)) \wedge (r1_xxreal_0 (k2_xcmplx_0 X1 X0) k6_numbers))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 (k4_xcmplx_0 X1) X0) \wedge (r1_xxreal_0 k6_numbers (k2_xcmplx_0 X0 X1)))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 k6_numbers) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow (r1_xxreal_0 X1 (k6_xcmplx_0 X2 X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((\neg r1_xxreal_0 np_1 (k3_square_1 X0)) \Rightarrow ((\neg r1_xxreal_0 X0 (k4_xcmplx_0 np_1)) \wedge (\neg r1_xxreal_0 np_1 X0))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r1_xxreal_0 (k3_square_1 X0) np_1) \Rightarrow ((r1_xxreal_0 (k4_xcmplx_0 np_1) X0) \wedge (r1_xxreal_0 X0 np_1))) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (r1_xxreal_0 (k6_xcmplx_0 X0 X1) k6_numbers))) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (((r1_xxreal_0 k6_numbers X0) \wedge (r1_xxreal_0 X0 np_1)) \Rightarrow (r1_xxreal_0 (k3_square_1 X0) X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_square_1 X0 = k3_square_1 (k4_xcmplx_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow ((r1_xxreal_0 k6_numbers X0) \Rightarrow (X0 \in k5_numbers)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((\neg r1_xxreal_0 X0 \ k6_numbers) \Rightarrow (k7_xcmplx_0 X0 (k6_square_1 X0) = k6_square_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (v3_xxreal_0 X1)) \Rightarrow (v3_xxreal_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 \ k6_numbers = k6_numbers) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 (k4_xcmplx_0 X1)) \Rightarrow (r1_xxreal_0 X1 (k4_xcmplx_0 X0)))) \quad (20)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((k3_xcmplx_0 X0 X1 = np_1) \Rightarrow (X0 = k5_xcmplx_0 X1))) \quad (21)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1))) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (23)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (v2_xxreal_0 X0)) \Rightarrow (v2_xxreal_0 X1))) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (((X0 = X1) \vee (X0 = k4_xcmplx_0 X1)) \Rightarrow (v1_int_1 X0))) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 \ k6_numbers = X0) \quad (26)$$

Assume the following.

$$k7_square_1 \ np_1 = np_1 \quad (27)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0) \Rightarrow (\neg(k3_xcmplx_0 \ X0 \ X0 = np_1) \wedge ((X0 \neq np_1) \wedge (X0 \neq k4_xcmplx_0 \ np_1))) \quad (28)$$

Assume the following.

$$k7_square_1 \ k6_numbers = k6_numbers \quad (29)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (\forall X1.(v1_xreal_0 \ X1) \Rightarrow (\neg(\neg r1_xxreal_0 \ X0 \ np_1) \wedge ((r1_xxreal_0 \ np_1 \ X1) \wedge (r1_xxreal_0 \ (k3_xcmplx_0 \ X0 \ X1) \ np_1)))) \quad (30)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (\neg(\neg r1_xxreal_0 \ np_1 \ X0) \wedge (r1_xxreal_0 \ (k6_xcmplx_0 \ np_1 \ X0) \ k6_numbers)) \quad (31)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (\forall X1.(v1_xreal_0 \ X1) \Rightarrow (\neg(r1_xxreal_0 \ X0 \ X1) \wedge (r1_xxreal_0 \ X1 \ (k6_xcmplx_0 \ X0 \ np_1)))) \quad (32)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (\forall X1.(v1_xreal_0 \ X1) \Rightarrow (\neg(\neg r1_xxreal_0 \ k6_numbers \ (k3_xcmplx_0 \ X0 \ X1)) \wedge ((\neg(\neg r1_xxreal_0 \ X0 \ k6_numbers) \wedge (\neg r1_xxreal_0 \ k6_numbers \ X1)) \wedge (\neg(\neg r1_xxreal_0 \ k6_numbers \ X0) \wedge (\neg r1_xxreal_0 \ X1 \ k6_numbers))))) \quad (33)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow ((\neg(\neg r1_xxreal_0 \ X0 \ k6_numbers) \wedge (r1_xxreal_0 \ (k5_xcmplx_0 \ X0) \ k6_numbers)) \wedge (\neg(\neg r1_xxreal_0 \ (k5_xcmplx_0 \ X0) \ k6_numbers) \wedge (r1_xxreal_0 \ X0 \ k6_numbers))) \quad (34)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0) \Rightarrow (\forall X1.(v1_xcmplx_0 \ X1) \Rightarrow (\neg(X0 \neq k6_numbers) \wedge ((X1 \neq k6_numbers) \wedge (k7_xcmplx_0 \ np_1 \ (k3_xcmplx_0 \ X0 \ X1) = k6_numbers)))) \quad (35)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (X1 = k3_xcmplx_0 (k3_xcmplx_0 X1 X0) (k7_xcmplx_0 np_1 X0)))) \quad (36)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 (k4_xcmplx_0 np_1) = k4_xcmplx_0 X0) \quad (37)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (38)$$

Assume the following.

$$\neg v1_xboole_0 np_1 \quad (39)$$

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \quad (40)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (41)$$

Assume the following.

$$k4_xcmplx_0 (k4_xcmplx_0 np_1) = np_1 \quad (42)$$

Assume the following.

$$k3_xcmplx_0 np_1 np_1 = np_1 \quad (43)$$

Assume the following.

$$k6_xcmplx_0 np_1 np_1 = np_0 \quad (44)$$

Assume the following.

$$\neg r1_xxreal_0 np_1 np_0 \quad (45)$$

Assume the following.

$$r1_xxreal_0 np_0 np_1 \quad (46)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k7_square_1 X0 = k6_square_1 X0) \quad (47)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (48)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (49)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 X0 = k4_xcmplx_0 X0) \quad (50)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xreal_0 X0))) \quad (51)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k7_xcmplx_0 X0 X0 = np_1)) \quad (52)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 np_1 X0 = k5_xcmplx_0 X0) \quad (53)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow ((\neg r1_xxreal_0 X0 k6_numbers) \Rightarrow (r1_xxreal_0 np_1 X0)) \quad (54)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k5_xcmplx_0 (k5_xcmplx_0 X0) = X0) \quad (55)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k4_xcmplx_0 (k4_xcmplx_0 X0) = X0) \quad (56)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 (k1_real_1 X0) = X0) \quad (57)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v1_xboole_0 X0) \wedge (v1_xcmplx_0 X0)) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge (v1_xcmplx_0 X1))) \Rightarrow (\neg v1_xboole_0 (k7_xcmplx_0 \\ & X0 X1)) \end{aligned} \quad (58)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v1_xreal_0 (k6_xcmplx_0 X0 X1)) \quad (59)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0)\wedge(v1_int_1 X1))\Rightarrow(v1_int_1 (k6_xcmplx_0 X0 X1)) \quad (60)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(v1_xreal_0 (k4_xcmplx_0 X0))) \quad (61)$$

Assume the following.

$$\forall X0.(v1_int_1 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(v1_int_1 (k4_xcmplx_0 X0))) \quad (62)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v3_xxreal_0 X0)\wedge(v1_xreal_0 X0))\wedge((\neg v2_xxreal_0 X1)\wedge(v1_xreal_0 X1)))\Rightarrow(\neg v2_xxreal_0 (k7_xcmplx_0 X0 X1)) \quad (63)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0)\wedge(v1_int_1 X1))\Rightarrow(v1_int_1 (k3_xcmplx_0 X0 X1)) \quad (64)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(v1_xcmplx_0 (k3_square_1 X0)) \quad (65)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (66)$$

Assume the following.

$$\forall X0.((\neg v3_xxreal_0 X0)\wedge(v1_xreal_0 X0))\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(\neg v2_xxreal_0 (k4_xcmplx_0 X0))) \quad (67)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xreal_0 (k6_square_1 X0)) \quad (68)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(v1_xcmplx_0 (k5_xcmplx_0 X0)) \quad (69)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (v1_xcmplx_0 (k4_xcmplx_0 X0)) \quad (70)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (m1_subset_1 (k1_real_1 X0) k1_numbers) \quad (71)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k7_xcmplx_0 X0 X1 = k3_xcmplx_0 X0 (k5_xcmplx_0 X1))) \quad (72)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((\\ (X0 \neq k6_numbers) \Rightarrow ((X1 = k5_xcmplx_0 X0) \Leftrightarrow (k3_xcmplx_0 X0 X1 = np_1))) \wedge \\ ((X0 = k6_numbers) \Rightarrow ((X1 = k5_xcmplx_0 X0) \Leftrightarrow (X1 = k6_numbers)))))) \wedge \end{aligned} \quad (73)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow ((r1_xxreal_0 k6_numbers X0) \Rightarrow (\forall X1. \\ (v1_xreal_0 X1) \Rightarrow ((X1 = k6_square_1 X0) \Leftrightarrow ((r1_xxreal_0 k6_numbers \\ X1) \wedge (k3_square_1 X1 = X0)))))) \end{aligned} \quad (74)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Leftrightarrow (X0 \in k4_numbers) \quad (75)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_square_1 X0 = k3_xcmplx_0 X0 X0) \quad (76)$$

Assume the following.

$$\begin{aligned} \forall X0.(X0 = k4_numbers) \Leftrightarrow (\forall X1.(X1 \in X0) \Leftrightarrow (\neg \forall X2. \\ (m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow ((X1 \neq X2) \wedge (X1 \neq k1_real_1 \\ X2)))))) \end{aligned} \quad (77)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Leftrightarrow (X0 \in k4_ordinal1) \quad (78)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge ((\neg v2_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \Rightarrow ((v1_xboole_0 X0) \wedge (v1_xxreal_0 X0)) \quad (79)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (80)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (81)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (82)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (83)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v7_ordinal1 X0) \wedge (\neg v3_xxreal_0 X0)) \quad (84)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (85)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xxreal_0 X0) \quad (86)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (87)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (88)$$

Theorem 1

$$\forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow ((k3_xcmplx_0 X0 X1 = np_1) \Leftrightarrow (((X0 = np_1) \wedge (X1 = np_1)) \vee ((X0 = k1_real_1 np_1) \wedge (X1 = k1_real_1 np_1))))))$$