

t13\_lopban\_4 (TMQhDpA-  
PJwUE1s8qCZNnV8WxgTRxknLGwEH)

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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  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_newton : \iota \Rightarrow \iota$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  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  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X0) \vee ((v2\_xreal\_0 X1) \vee (v3\_xreal\_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow ((\neg(\neg r1\_xreal\_0 X0 np\_1) \wedge (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\neg(X0 = k2\_nat\_1 X1 np\_1) \wedge (\neg r1\_xreal\_0 X1 k6\_numbers)))) \wedge (\neg(\exists X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \wedge ((X0 = k2\_nat\_1 X1 np\_1) \wedge (\neg r1\_xreal\_0 X1 k6\_numbers)))) \wedge (r1\_xreal\_0 X0 np\_1))) \quad (2)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow ((r1\_xreal\_0 X0 X1) \Rightarrow (k7\_nat\_d (k2\_xcmplx\_0 X1 X2) X0 = k2\_nat\_1 (k7\_nat\_d X1 X0) X2)))) \quad (3)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (k7\_nat\_d (k2\_xcmplx\_0 X0 X1) X1 = X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (((\neg r1\_xreal\_0 X0 k6\_numbers) \Rightarrow \\ & (k3\_nat\_1 (k3\_newton (k7\_nat\_d X0 np\_1)) X0 = k3\_newton X0)) \wedge ( \\ & (r1\_xreal\_0 X0 X1) \Rightarrow (k8\_real\_1 (k3\_newton (k7\_nat\_d X1 X0)) (k9\_real\_1 \\ & (k2\_nat\_1 X1 np\_1) X0) = k3\_newton (k7\_nat\_d (k2\_nat\_1 X1 np\_1) \\ & X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xreal\_0 \\ & X0 X1) \Rightarrow (k1\_xreal\_0 X1 X0 = k6\_xcmplx\_0 X1 X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & (k2\_nat\_1 (k7\_nat\_d X0 np\_1) np\_2 = k2\_nat\_1 X0 np\_1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (( \\ & \neg r1\_xreal\_0 (k1\_nat\_1 X1 np\_1) X0) \Leftrightarrow (r1\_xreal\_0 X0 X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & (m2\_subset\_1 np\_0 k1\_numbers k5\_numbers) \wedge ((m1\_subset\_1 np\_0 \\ & k5\_numbers) \wedge (m1\_subset\_1 np\_0 k1\_numbers)) \end{aligned} \quad (11)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (12)$$

Assume the following.

$$k2\_xcmplx\_0 np\_1 np\_1 = np\_2 \quad (13)$$

Assume the following.

$$k2\_xcmplx\_0 np\_0 np\_1 = np\_1 \quad (14)$$

Assume the following.

$$r1\_xreal\_0 \ np\_1 \ np\_2 \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ X2 \ X0 \ X1) \Leftrightarrow (m1\_subset\_1 \ X2 \ X1)) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (k9\_real\_1 \ X0 \ X1 = k6\_xcmplx\_0 \ X0 \ X1) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge (v7\_ordinal1 \ X1)) \Rightarrow (k7\_nat\_d \ X0 \ X1 = k1\_xreal\_0 \ X0 \ X1) \quad (18)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k5\_numbers) \wedge (v7\_ordinal1 \ X1)) \Rightarrow (k2\_nat\_1 \ X0 \ X1 = k2\_xcmplx\_0 \ X0 \ X1) \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. ((v7\_ordinal1 \ X0) \wedge (m1\_subset\_1 \ X1 \ k5\_numbers)) \Rightarrow (k1\_nat\_1 \ X0 \ X1 = k2\_xcmplx\_0 \ X0 \ X1) \quad (21)$$

Assume the following.

$$\exists X0. (v1\_xboole\_0 \ X0) \wedge ((v1\_xcmplx\_0 \ X0) \wedge ((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X0))) \quad (22)$$

Assume the following.

$$\forall X0. (m2\_subset\_1 \ X0 \ k1\_numbers \ k5\_numbers) \Rightarrow ((\neg r1\_xreal\_0 \ np\_1 \ X0) \Rightarrow (X0 = k6\_numbers)) \quad (23)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (24)$$

Assume the following.

$$v6\_membered \ k4\_ordinal1 \quad (25)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(v7\_ordinal1\ (k2\_xcmplx\_0\ X0\ X1)) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(m1\_subset\_1\ (k7\_nat\_d\ X0\ X1)\ k5\_numbers) \quad (29)$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow((r1\_xxreal\_0\ X0\ X1)\vee(r1\_xxreal\_0\ X1\ X0)) \quad (31)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0)\wedge(v1\_xcmplx\_0\ X1))\Rightarrow(k2\_xcmplx\_0\ X0\ X1 = k2\_xcmplx\_0\ X1\ X0) \quad (32)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(v7\_ordinal1\ X1))\Rightarrow(k2\_nat\_1\ X0\ X1 = k2\_nat\_1\ X1\ X0) \quad (33)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (34)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers))\Rightarrow(v3\_membered\ X0) \quad (35)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v7\_ordinal1\ X0) \quad (36)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (37)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (v2\_membered X0) \quad (38)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0) \wedge (v2\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v3\_xxreal\_0 X0))) \quad (39)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (40)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (41)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (42)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 X0) \quad (43)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (44)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (45)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (46)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (47)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xxreal\_0 X1)) \quad (48)$$

**Theorem 1**

$$\begin{aligned} & (\forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow ((\neg r1\_xxreal\_0 \\ & X0 k6\_numbers) \Rightarrow (k8\_real\_1 (k3\_newton (k7\_nat\_d X0 np\_1)) X0 = \\ & k3\_newton X0))) \wedge (\forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow \\ & (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow ((r1\_xxreal\_0 \\ & X1 X0) \Rightarrow (k8\_real\_1 (k3\_newton (k7\_nat\_d X0 X1)) (k9\_real\_1 (k2\_nat\_1 \\ & X0 np\_1) X1) = k3\_newton (k7\_nat\_d (k2\_nat\_1 X0 np\_1) X1)))))) \end{aligned}$$