

t10\_topalg\_1  
(TMK7c7FU3FXXJ4RjnDvQdmxpCD6D6uBPq5b)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  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  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k10\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k16\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 X1) \wedge ((\neg v2\_xxreal\_0 X0) \wedge (\neg v3\_xxreal\_0 X1)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\forall X3.(v1\_xreal\_0 X3) \Rightarrow (((r1\_xxreal\_0 \\ & k6\_numbers X0) \wedge ((r1\_xxreal\_0 X0 X1) \wedge ((r1\_xxreal\_0 k6\_numbers \\ & X2) \wedge (r1\_xxreal\_0 X2 X3)))) \Rightarrow (r1\_xxreal\_0 (k3\_xcmplx\_0 X0 X2) ( \\ & k3\_xcmplx\_0 X1 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 np\_1 X0 = X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v1\_finseq\_1 X1) \wedge (v3\_valued\_0 X1)))) \Rightarrow (k12\_euclid (k10\_rvsum\_1 \\ X1 X0) = k8\_real\_1 (k18\_complex1 X0) (k12\_euclid X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (7)$$

Assume the following.

$$k4\_xcmplx\_0 np\_0 = np\_0 \quad (8)$$

Assume the following.

$$k6\_xcmplx\_0 np\_1 np\_1 = np\_0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7\_ordinal1 X0) \wedge ((m1\_subset\_1 \\ X1 (k1\_euclid X0)) \wedge (v1\_xreal\_0 X2))) \Rightarrow (k9\_euclid X0 X1 X2 = k24\_valued\_1 \\ X1 X2) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k8\_real\_1 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (14)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (15)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k18\_complex1 X0 = k16\_complex1 X0) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (( \\ v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k10\_rvsum\_1 \\ X0 X1 = k24\_valued\_1 X0 X1) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k4\_xcmplx\_0 (k4\_xcmplx\_0 X0) = X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 \\ (k6\_xcmplx\_0 X0 X1)) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge \\ (v1\_xreal\_0 (k4\_xcmplx\_0 X0))) \quad (21)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (22)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finseq\_1 \\ X0) \wedge (v3\_valued\_0 X0)))) \Rightarrow (\neg v3\_xxreal\_0 (k12\_euclid X0)) \quad (23)$$

Assume the following.

$$\forall X0.((\neg v3\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0)) \Rightarrow ((v1\_xcmplx\_0 \\ (k4\_xcmplx\_0 X0)) \wedge (\neg v2\_xxreal\_0 (k4\_xcmplx\_0 X0))) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2 X1 X0) \Rightarrow (\forall X2.(m2\_finseq\_2 \\ X2 X0 X1) \Rightarrow (m2\_finseq\_1 X2 X0)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (27)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \quad (28)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(m1\_finseq\_2 (k1\_euclid X0) k1\_numbers) \quad (29)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(m1\_subset\_1 (k18\_complex1 X0) k1\_numbers) \quad (30)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge((v1\_finseq\_1 X0)\wedge(v3\_valued\_0 X0))))\Rightarrow(m1\_subset\_1 (k12\_euclid X0) k1\_numbers) \quad (31)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(((r1\_xxreal\_0 k6\_numbers X0)\Rightarrow(k16\_complex1 X0 = X0))\wedge((\neg r1\_xxreal\_0 k6\_numbers X0)\Rightarrow(k16\_complex1 X0 = k4\_xcmplx\_0 X0))) \quad (32)$$

Assume the following.

$$\forall X0.((v1\_xreal\_0 X0)\wedge(v3\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xreal\_0 X0)\wedge(\neg v2\_xxreal\_0 X0))) \quad (33)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xreal\_0 X0) \quad (34)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (35)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (36)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))\Rightarrow(v3\_valued\_0 X2))) \quad (37)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (m2\_finseq\_2 X2 k1\_numbers (k1\_euclid X1)) \Rightarrow ((r1\_xxreal\_0 k6\_numbers \\ & X0) \wedge (r1\_xxreal\_0 X0 np\_1)) \Rightarrow (r1\_xxreal\_0 (k12\_euclid (k9\_euclid \\ & X1 X2 X0)) (k12\_euclid X2)))))) \end{aligned}$$