

# t11\_moebius1

(TMb9BhF3FgXURjGdvSRsQm2r1GRAfuQF1xS)

October 27, 2020

Let  $v1\_int\_2 : \iota \Rightarrow o$  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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r1\_int\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k13\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k4\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  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  $k3\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $v5\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow ((k1\_newton X0 np\_2 = k3\_xcmplx\_0 \\ & X0 X0) \wedge (k1\_newton (k4\_xcmplx\_0 X0) np\_2 = k1\_newton X0 np\_2)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7\_ordinal1 X2) \Rightarrow (((r1\_int\_2 X0 X1) \wedge (r1\_int\_2 X2 X1)) \Rightarrow ((X0 = k6\_numbers) \vee \\ & ((X1 = k6\_numbers) \vee (r1\_int\_2 (k3\_xcmplx\_0 X0 X2) X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7\_ordinal1 X2) \Rightarrow (((r1\_nat\_d X0 (k3\_xcmplx\_0 X1 X2)) \wedge (r1\_int\_2 \\ & X1 X0)) \Rightarrow (r1\_nat\_d X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v1\_int\_1 X1)) \Rightarrow ((r1\_int\_2 \\ & X0 X1) \Rightarrow (r1\_int\_2 X1 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \text{ np\_2}) \wedge (m2\_subset\_1 \text{ np\_2 } k1\_numbers \text{ k5\_numbers})) \wedge \\ & ((m1\_subset\_1 \text{ np\_2 } k5\_numbers) \wedge (m1\_subset\_1 \text{ np\_2 } k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \text{ X0}) \wedge (v7\_ordinal1 \text{ X1})) \Rightarrow ( \\ & (r1\_nat\_d \text{ X0 X1}) \Leftrightarrow (r1\_int\_1 \text{ X0 X1})) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 \text{ X0}) \wedge ((\neg v1\_xboole\_0 \text{ X1}) \wedge \\ & (m1\_subset\_1 \text{ X1 } (k1\_zfmisc\_1 \text{ X0})))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & \text{ X2 X0 X1}) \Leftrightarrow (m1\_subset\_1 \text{ X2 X1})) \end{aligned} \quad (8)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (9)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 \text{ X0 } k5\_numbers) \wedge (v7\_ordinal1 \\ & \text{ X1})) \Rightarrow (k4\_nat\_1 \text{ X0 X1} = k3\_xcmplx\_0 \text{ X0 X1}) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 \text{ X0 } k5\_numbers) \wedge (m1\_subset\_1 \\ & \text{ X1 } k5\_numbers)) \Rightarrow (k13\_newton \text{ X0 X1} = k1\_newton \text{ X0 X1}) \end{aligned} \quad (12)$$

Assume the following.

$$(\neg v1\_xboole\_0 \text{ k4\_ordinal1}) \wedge (v3\_ordinal1 \text{ k4\_ordinal1}) \quad (13)$$

Assume the following.

$$v6\_membered \text{ k4\_ordinal1} \quad (14)$$

Assume the following.

$$v3\_membered \text{ k1\_numbers} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \text{ X0}) \wedge (v7\_ordinal1 \text{ X1})) \Rightarrow ( \\ & v7\_ordinal1 \text{ (k3\_xcmplx\_0 X0 X1)}) \end{aligned} \quad (16)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \quad (17)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 \ X0 \ X1) \Rightarrow (m1\_subset\_1 \ X2 \ X0)) \end{aligned} \quad (19)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 \ X0) \Rightarrow (\forall X1.(v7\_ordinal1 \ X1) \Rightarrow (\forall X2. \\ (v7\_ordinal1 \ X2) \Rightarrow ((X2 = k3\_int\_2 \ X0 \ X1) \Leftrightarrow ((r1\_nat\_d \ X2 \ X0) \wedge ((r1\_nat\_d \\ X2 \ X1) \wedge (\forall X3.(v7\_ordinal1 \ X3) \Rightarrow (((r1\_nat\_d \ X3 \ X0) \wedge (r1\_nat\_d \\ X3 \ X1)) \Rightarrow (r1\_nat\_d \ X3 \ X2)))))))))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 \ X0) \Rightarrow ((v1\_int\_2 \ X0) \Leftrightarrow ((\neg r1\_xxreal\_0 \ X0 \\ np\_1) \wedge (\forall X1.(v7\_ordinal1 \ X1) \Rightarrow (\neg (r1\_int\_1 \ X1 \ X0) \wedge ((X1 \neq \\ np\_1) \wedge (X1 \neq X0))))))) \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_int\_1 \ X0) \Rightarrow (\forall X1.(v1\_int\_1 \ X1) \Rightarrow ((r1\_int\_2 \\ X0 \ X1) \Leftrightarrow (k3\_int\_2 \ X0 \ X1 = np\_1))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 \ X0) \Rightarrow (\forall X1.(v7\_ordinal1 \ X1) \Rightarrow (( \\ r1\_int\_2 \ X0 \ X1) \Leftrightarrow (\forall X2.((v7\_ordinal1 \ X2) \wedge (v1\_int\_2 \ X2)) \Rightarrow \\ (\neg (r1\_nat\_d \ X2 \ X0) \wedge (r1\_nat\_d \ X2 \ X1)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Leftrightarrow (X0 \in k4\_ordinal1) \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1\_subset\_1 \ X0 \ k5\_numbers) \wedge (v7\_ordinal1 \\ X1)) \Rightarrow (k4\_nat\_1 \ X0 \ X1 = k4\_nat\_1 \ X1 \ X0) \end{aligned} \quad (26)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k4\_ordinal1) \Rightarrow (v7\_ordinal1 \ X0) \quad (27)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v7\_ordinal1 X0) \quad (28)$$

Assume the following.

$$\forall X0.((v7\_ordinal1 X0) \wedge (v1\_int\_2 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X0) \wedge (v1\_int\_2 X0))) \quad (29)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (v5\_membered X0) \quad (30)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (31)$$

Assume the following.

$$\forall X0.(v5\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_int\_1 X1)) \quad (32)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (33)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_int\_2 X0) \wedge (m2\_subset\_1 X0 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (m2\_subset\_1 X1 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\forall X2.((\neg v1\_xboole\_0 X2) \wedge (m2\_subset\_1 X2 k1\_numbers k5\_numbers)) \Rightarrow \\ & (\neg(r1\_int\_2 X1 X2) \wedge ((r1\_nat\_d (k13\_newton X0 np\_2) (k4\_nat\_1 \\ & X1 X2)) \wedge ((\neg r1\_nat\_d (k13\_newton X0 np\_2) X1) \wedge (\neg r1\_nat\_d (k13\_newton \\ & X0 np\_2) X2)))))) \end{aligned}$$